DAAD

Global Centres

Deutscher Akademischer Austauschdienst
German Academic Exchange Service

Global Centres for Health and Pandemic Prevention

GLOBAL CENTRES CONFERENCE

Conference Book

Global Actions for Sustainable Health for People and Planet

10 - 12 September 2024

Tagungswerk

Lindenstraße 85, 10969 Berlin

Version: 6 September 2024

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Preface

Dear Conference Guests,

In response to global challenges, the German Academic Exchange Service (DAAD) has launched the Global Centres programme to promote international scientific collaboration across disciplines. The programme funds the establishment of four Global Centres for Health & Pandemic Prevention and Climate & Environment, funded by the German Federal Foreign Office. These centres, located in higher education institutions in the Global South, aim to bridge the gap between knowledge generation and implementation of sustainable climate change mitigation measures.

The DAAD is hosting the second interdisciplinary conference, "Global Actions for Sustainable Health for People and Planet," to promote collaboration and knowledge exchange among Global Centres. The conference was designed with support from the Academic Advisory Board, Global Centre representatives, and DAAD-funded projects, ensuring a comprehensive and up-to-date conference program.

The COVID-19 pandemic has presented significant social, economic, and environmental challenges, but also provided an opportunity to work towards the Sustainable Development Goals (SDGs). A multidisciplinary, collaborative global effort is crucial for addressing 'Sustainable Health for People and Planet'. The four Global Centres for Health and Pandemic Preparedness are accelerating international partnerships to strengthen health systems, ensure equitable resource distribution, and advance innovative technologies.

The DAAD is looking forward to an exciting conference program featuring diverse formats, junior scientist contributions, and networking opportunities. The conference book provides an overview, speakers, and contact information. The DAAD would like to thank everybody for their active involvement, together we will make this to a valuable event for all!

Dr Kai Sicks

Secretary General

German Academic Exchange Service (DAAD)

Conference Programme

Participation in the workshops requires prior registration.
If you haven't registered before the conference for the workshops, please contact the registration desk to ask for availabilities.
Workshops take place on Wednesday, 4:15 p.m. (open for everyone) and Thursday, 3.30 p.m. (PhD-students only)

Please also take a look at the programme of the conference of the **Global Centres for Climate and Environment "Imaginaries of Climate Futures - Cross Regional Insights to get from Knowledge to Action"** taking place at the same time in the same location. You are cordially invited to participate in this conference as well! Sessions that are part of both conferences are written in blue.

Tuesday, 10 September 2024

10.30 – 11.30 a.m.	**REGISTRATION**
11.30 a.m. –1.00 p.m. Saal Gesamt	**OPENING WORDS** By the German Academic Exchange Service (DAAD) and the Academic Advisory Board of the Conference **ROUND TABLE: SUSTAINABLE DEVELOPMENT GOALS AND A GLOBAL SOUTH-SOUTH-PARTNERSHIP** *This session aims to explore frameworks, alliances, and barriers to diversifying academic and research culture in the Global South. Panellists will discuss their experiences and lessons on inclusive, equitable, and collaborative solutions to common challenges in interdisciplinary topics.* CHAIRED BY **Prof Dr Thirumalaisamy Velavan**, PACE-UP, Professor at the University of Tübingen **Dr Philip El-Duah**, G-WAC, Junior Research Group Leader at the Charité – Universitätsmedizin Berlin PANELLISTS **Stefan Bienefeld**, Head of Division "Transnational Education and Cooperation Programmes", DAAD **Dr Andrea Chaves**, GLACIER, Academic at the University of Costa Rica **Prof Dr Francine Ntoumi**, CAIDERA/Humbold Research Hub, President of the Congolese Foundation for Medical Research and Professor at University of Tübingen **Prof Dr Kartika Senjarani**, PACE-UP, Lecturer and Researcher at the University of Jember
1.00 – 2.00 p.m.	Lunch Break

2.00 – 3.30 p.m.	**PARALLEL SESSIONS**
Seminar 3	**ROUND TABLE: BETTER DATA FOR PANDEMIC PREVENTION AND CONTROL: THE ROLE OF DIGITAL SURVEILLANCE** *The session will take the format of a round table discussion with 5 discussants initially providing brief (5-7 mins) input presentations before engaging in discussions with other panel members and the audience about the role of digital surveillance tools, particularly the Surveillance, Outbreak Response Management and Analysis System (SORMAS).* **CHAIRED BY** **Dr John Amuasi**, G-WAC, Head of Department of Global Health at the Kwame Nkrumah University of Science and Technology **Prof Dr Wilm Quentin**, G-WAC, Professor at the University of Bayreuth **PANELLISTS** **Fortress Aku**, G-WAC, PhD student at the KNUST **Sylvia Annang**, G-WAC, PhD student at the KNUST **Dr Pilar Hernandez**, Managing Director of the SORMAS Foundation gGmbH **Prof Dr Gérard Krause**, Director of Surveillance Systems Department, World Health Organization (WHO)
Saal Nord	**ROUND TABLE: STRENGTHENING ONE HEALTH THINKING AND INFECTIOUS DISEASE RESEARCH IN LATIN AMERICA AND GERMANY** *Short presentations on key topics within GLACIER lead to guided discussions and exchange between GLACIER-members and the participants. The session is an extended round table with workshop character, since the expected output will be joint key points to strengthen Latin American disease emergence response.* **CHAIRED BY** **Prof Dr Jan Felix Drexler**, GLACIER, Professor at the Charité – Universitätsmedizin Berlin **PANELLISTS** **Dr Andrea Chaves**, GLACIER, Academic at the University of Costa Rica **Prof Dr Bert Hoffmann**, GLACIER, Lead Researcher at the German Institute for Global and Area Studies (GIGA) **Prof Dr Barbara Seliger**, GLACIER, Professor at the UK Halle and Martin-Luther-University Halle-Wittenberg **Dr Andres Moreira-Soto**, GLACIER, Postdoc at the Charité – Universitätsmedizin Berlin **Prof Dr Ludger Wessjohann**, GLACIER, Director of the Department Bioorganic Chemistry at the Leibniz Institute of Plant Biochemistry
3.30 – 3.45 p.m.	Coffee Break **on the 2nd floor**

3.45-4.30 p.m.	POSTERSESSION
Seminar 4	**POSTERS ON BIOSAFETY/BIOSECURITY AND EPIDEMIOLOGY/SURVEILLANCE/ZOONOTIC DISEASES**

During the poster sessions, the authors will be available to answer questions and hold discussions by maintaining a presence directly at their posters. We invite all academics participating in the conference whose research topics correspond to those of the posters to enter into discussions. Thank you.

PRESENTERS

George Agyei, G-WAC: Molecular Epidemiology and Immunological Responses to SARS-CoV-2 and Other Respiratory Viruses in Selected Urban and Rural Areas of Ghana

Ahmed Alhassan, G-WAC: Viral Etiological Agents Associated with Febrile Illness among Patients Presenting to Hospitals in the Savanna Region of Ghana

Dr Esther Ama Amemor, G-WAC: Evaluation of COVID-19 and Brucellosis Infections in Dogs, Owners and Contact Veterinarians in Ashanti and Greater Accra Regions of Ghana

Sherihane Aryeetey, G-WAC: Potential Zoonotic Viruses in Game Animals from Selected Communities in Ghana

Dr Katja Branitzki-Heinemann, GLACIER: Validated Inactivation of High Risk Pathogens to Handle Samples in Environments with Lower Biosafety Level

Dr Nangkuu Deberu, G-WAC: Animal Meat as a Potential Carrier of SARS-CoV-2, Pathogenic Respiratory Viruses and Re-Emerging Viruses in the Northern Part of Ghana

Prof Dr Jorge Gonzalez-Bacerio, GLACIER: Parasite Metalo-Aminopeptidases as Targets in Human Infectious Diseases

Gideon Kwarteng Acheampong, G-WAC: Determinants of 2020 – 2022 COVID-19 Mortality in Ghana; Evidence from Routine Surveillance Data

Yvette Montcho, Humboldt Research Hub: Assessing the Impact of Vaccination on the Dynamics of COVID-19 in Africa: A Mathematical Modeling Study

Séphora Jiré Mougany, PACE-UP: Identification and Characterization of Malaria Parasites, Specific Diarrheal Viruses, and Arboviruses Causing Acute Febrile Illness in Congolese Children

Adedolapo Olorunfemi, Humboldt Research Hub: Performance of Microscopy and Rapid Diagnostic Tests and Genetic Diversity of Plasmodium Falciparum in People Living with HIV in Nigeria

Itunuoluwa Oyelayo, Humboldt Research Hub: Enteropathogenic Bacteria with Zoonotic Potential: Prevalence and Antibiotic Resistance in Pigs from Farms and Slaughterhouses in Ogbomoso, Nigeria

4.30 – 4.45	Coffee Break **on the 2nd floor**

4.45 - 6.15 p.m. **PARALLEL SESSIONS**

Seminar 3

INDIVIDUAL PRESENTATIONS: LABORATORY ADVANCED DIAGNOSTICS, TREATMENT, DISEASE MONITORING, VACCINATION AND INFECTION CONTROL (AMR) 1

CHAIRED BY

Prof Dr Ludger Wessjohann, GLACIER, Director of the Department of Bioorganic Chemistry at the Leibniz Institute of Plant Biochemistry

PRESENTERS

Dr Sylvia Dreyer, GLACIER: Supporting the Implementation of One Health AMR NAP Activities in Africa Using the Example of Namibia

Prof Dr Olusola Ojurongbe, Humboldt Research Hub: Investigation of Oral Ciprofloxacin Sensitivity from Authorised and Unauthorised Pharmacies in Nigeria and Vietnam

Prof Dr Dennis Nurjadi, PACE-UP: Exploring Last-Resort Antibiotics Against Multi-Drug-Resistant Gram-Negative Bacteria in Vietnam – Do We Have Enough Options?

Dr Ludger Ständker, GLACIER: Natural Antimicrobial Peptides as Effective new Tools for Infection Control: Optimized Sequences to Fight Against Antimicrobial Resistance

Saal Nord

INDIVIDUAL PRESENTATIONS: EPIDEMIOLOGY AND SURVEILLANCE OF EMERGING AND RE-EMERGING INFECTIOUS AND ZOONOTIC DISEASES (PREPAREDNESS, RESPONSE AND POST-CRISIS CARE) 1

CHAIRED BY

Prof Dr Thirumalaisamy Velavan, PACE-UP, Professor at the University of Tübingen

PRESENTERS

Hetsron Legrace Nyandjo Bamen, DAAD Research Grant, AIMS: Dynamics of Infectious Diseases: Unraveling the Interplay Between Imperfect Vaccines, Trade-offs and Population Turnover

Dr Duc Anh Do, PACE-UP: Continuous Monitoring of Arboviruses and Circulating Dengue Serotypes in Vietnamese Patients Diagnosed with Viral Hemorrhagic Fever

Huy Loc Do, PACE-UP: Spatial and Temporal Distribution of Vectors and Associated Arboviruses in Vietnam

Jonathan Mawutor Gmanyami, G-WAC: Factors Associated with Excess Mortality in Healthcare Facilities During the COVID-19 Pandemic: Preliminary Findings from Ghana

Dr Nat Beryl Musundi, Alumni Kenyan - German Postgraduate Training Programme: Enhancing Cholera Modelling Through the Integration of Multi-Scale Mathematical Models

Wednesday, 11 September 2024

9.00 – 10.30 a.m.

Saal Gesamt

WELCOME

Dr Kai Sicks, Secretary General, German Academic Exchange Service (DAAD)

Anke Reiffenstuel, Director for Education and Science Diplomacy, German Federal Foreign Office

POLICY DIALOGUE: HOW (PROJECTS LIKE) THE GLOBAL CENTRES CONTRIBUTE TO BETTER HEALTH AND BETTER CLIMATE

What is the contribution of programmes like the Global Centres to overcome the climate crisis and to reach better health worldwide? What further support can German policymakers provide to strengthen international scientific cooperation? What can the DAAD and the Global Centres do to make the Centres even more politically and socially relevant in their second funding phase?

CHAIRED BY

Dr Christina Berndt, Süddeutsche Zeitung

PANELLISTS

Dr John Amuasi, Head of Department of Global Health at the Kwame Nkrumah University of Science and Technology (KNUST) and Ghanaian Principal Investigator of the Global Health Centre G-WAC

Prof Dr Mukand Babel, Professor for Water Engineering and Management (WEM) at the Asian Institute of Technology (AIT) and Thai Principal Investigator of the Global Climate Centre ABCD

Anke Reiffenstuel, Director for Education and Science Diplomacy, German Federal Foreign Office

Dr Kai Sicks, Secretary General, DAAD

Ruppert Stüwe, Member of the German Parliament and Member of the Parliamentarian Sub-Committee for Global Health, SPD

10.30 – 11.00 a.m. Coffee Break

11.00 – 12.30 p.m.

Saal Süd

ROUND TABLE: STRENGTHENING SYNERGIES IN GERMANY-FUNDED GLOBAL HEALTH INITIATIVES

Different German donors fund various initiatives on Global Health: How do they relate to each other? And how do they relate to international initiatives? What synergies, coordination and cooperation already exist, which could still be promoted in order to effectively tackle global health challenges?

CHAIRED BY

Prof Dr Achim Hörauf, G-WAC, Director of the Institute of Medical Microbiology, Immunology und Parasitology at the University of Bonn

	PANELLISTS **Dr Wolfram Morgenroth-Klein**, Head of Division for Prevention and Pandemic Preparedness, One Health; Federal Ministry for Economic Cooperation and Development (BMZ), Germany **Prof Dr Francine Ntoumi**, CAIDERA/Humbold Research Hub, President of the Congolese Foundation for Medical Research and Professor at University of Tübingen **Andrea Spelberg**, Head of Division for Global Health Research, Federal Ministry of Education and Research (BMBF), Germany **Prof Dr Andrew Ullmann**, Member of the German Parliament and Chairman of the Parliamentarian Sub-Committee for Global Health, FDP
12.30-2.00 p.m.	Lunch Break
2.00-3.00 p.m.	**PARALLEL SESSIONS**
Saal Süd	**ROUND TABLE: PERSPECTIVES ON PATHOGEN SPILLOVER & PANDEMIC PREPAREDNESS** *A moderated panel discussion beginning with opening responses to common questions, followed by invitations to each panellist to provide contributions on specific topics and comment on responses provided by other panellists. This session will highlight different perspectives on pandemic preparedness and prevention influenced by research discipline and regional experiences.* **CHAIRED BY** **Dr Michael Owusu**, G-WAC, Senior Lecturer at the Kwame Nkrumah University of Science and Technology (KNUST) **PANELLISTS** **Dr Linda Batsa Debrah**, G-WAC, Senior Lecturer at the KNUST **Prof Dr Benjamin Emikpe**, G-WAC, Dean at the School of Veterinary Medicine at the KNUST **Dr Andres Moreira-Soto**, GLACIER, Postdoc at the Charité – Universitätsmedizin Berlin **Dr Jesse Owino**, AFAS, Research Fellow at the University of Nairobi **Prof Dr Le Huu Song**, PACE-UP, Director at the 108 Military Central Hospital
Saal Nord	**ROUND TABLE: NEXUS APPROACH: BRIDGING WATER, CLIMATE ADAPTATION, AND HEALTH IN THE FACE OF EMERGING BACTERIAL AND PARASITIC INFECTIOUS DISEASES** *The session aims to explore the interconnectedness of water resources, climate change adaptation, and public health with a specific focus on the rise of bacterial and parasitic infectious diseases. As climate change intensifies and water-related challenges become more pronounced, understanding the nexus between these factors is crucial for effective public health interventions.* **CHAIRED BY** **Dr Firas Aljanabi**, ABCD-Centre, Project Manager at Technische Universität Dresden

	PANELLISTS **Prof Dr Dr Ayola Akim Adegnika**, CAIDERA, Director of the Centre de Recherches Médicales de Lambaréné (CERMEL) **Prof Dr Mukand Babel**, ABCD-Centre, Professor for Water Engineering and Management (WEM) at the Asian Institute of Technology (AIT) **Prof Dr Steffen Borrmann**, CAIDERA, Research Group Leader at the Institute of Tropical Medicine at the University of Tübingen **Prof Dr Daniel Karthe**, Head of Research Programme – Resource Nexus for Regions in Transformation, UNU-FLORES
Seminar 2	**ROUND TABLE: UNVEILING THE FUTURE CLIMATE CHANGE-INDUCED HEAT STRESS EFFECTS ON HUMAN HEALTH** *Panel discussion with Q&A to shed light on the perceived and foreseen heat effects on human health (theories and case studies), available methods/tools to assess heat stress effects, and adapting and mitigating actions to future climate change-induced heat stress.* CHAIRED BY **Dr Zuhal Elnour**, Senior Researcher at the Humboldt-Universität zu Berlin PANELLISTS **Dr Fred Hattermann**, Senior Researcher at the Institute for Climate Impact Research **Martial Houessou**, Research Assistant at the Humboldt-Universität zu Berlin **Dr Prasad Liyanage**, Senior Researcher at the Heidelberg Institute of Global Health **Dr Martina Maggioni**, Lead Scientist and Co-PI of the Center for Space Medicine and Extreme Environments Berlin, Charité – Universitätsmedizin Berlin
3.00-3.15 p.m.	Coffee Break **on the 2nd floor**
3.15-4.00 p.m. Seminar 4	**POSTERS ON DIGITAL HEALTH, COMMUNITY ENGAGEMENT/ ETHICS/ SOCIAL SCIENCES AND DIAGNOSTICS/ MONITORING/ TREATMENT/ AMR** *During the poster sessions, the authors will be available to answer questions and hold discussions by maintaining a presence directly at their posters. We invite all academics participating in the conference whose research topics correspond to those of the posters to enter into discussions. Thank you.* PRESENTERS **Fortress Aku**, G-WAC: Effect of an mIVRS on Tuberculosis Case Detection Among Community-Based Surveillance Volunteers in the Western Region of Ghana **Daniel Alpízar Pedraza**, GLACIER: Insights into the Mechanism of Interaction of the Antimicrobial Peptide CIDEM-501 with E. coli Membranes **Sylvia Annang,** G-WAC: Digital Technology-Based Surveillance Systems for Pandemic Response and Control: Assessment of SORMAS Towards Scale-up and Integration into Existing Health Systems **Prof Dr M. Osman Babury**, Philipps-Universität Marburg: Medicinal and Aromatic Plants of Afghanistan: Status and Challenges

Osmany Jose Diaz Bravo, GLACIER: Expression in Escherichia coli, Purification and Characterization of Domine III of the Dengue Virus 3 Envelope Protein for Vaccine Formulation

Vincent Findeiss, G-WAC: The Impact of the COVID-19 Pandemic on the Utilization of HIV/AIDS-related Services in Ghana

Amanda Menéndez Garcés, GLACIER: Peptide Modifications Through C and N-terminus Lipidation via Simple Couplings and Multicomponent Ugi Reactions

Ernesto Manuel Martell Huguet, GLACIER: Anticancer Activity of the Antimicrobial Peptide Cm-p5 Derived from the Marine Mollusk Cenchritis Muricatus

Valeria Morales Rivera, GLACIER: Shock and Public Policy: Political-Institutional Determinants of COVID19 Vaccination in Central America

Barbara Mouyama, CAIDERA: Study of Plasmodium Malariae Infection Dynamics ex vivo, and in vivo in a New Model of Humanized Mice. Advanced Laboratory Diagnostics, Treatment, Disease Monitoring, Vaccination and Infection Control (AMR)

Felipe Adonis Escalona Rodríguez, GLACIER: Tailoring an Adenoviral Protein VI-Derived Membranotropic Peptide Through pH-responsive Modifications for Enhanced Intracellular Release of Nucleic Acids

4.00 -4.15 p.m.	Coffee Break **on the 2nd floor**
4.15-5.45 p.m.	PARALLEL SESSIONS
Saal Nord 90 min	**INDIVIDUAL PRESENTATIONS: LABORATORY ADVANCED DIAGNOSTICS, TREATMENT, DISEASE MONITORING, VACCINATION AND INFECTION CONTROL (AMR) 2** CHAIRED BY **Prof Samuel Newton**, G-WAC, Dean of the School of Public Health at the Kwame Nkrumah University of Science and Technology (KNUST) PRESENTERS **John Boateng**, G-WAC: Filarial Lymphoedema Microbiome Profiling: Implications on the Immune System and Antimicrobial Therapy in Acute Adenolymphangitis Attacks **Thi Kieu Linh Le**, PACE-UP: Whole Genome Sequencing of Drug Resistant Klebsiella Pneumoniae in Vietnamese Patients **Macqueen Ngum Mbencho,** PACE-UP: Prevalence and Genotype Characteristics of Occult Hepatitis B Infection among Blood **Ilianet Palmero Álvarez**, GLACIER: Immune Response after Vaccination with SOBERANA® 02 and SOBERANA® Plus Heterologous Scheme in Young Children

Seminar 5

60 min

Registration required

WORKSHOP: GLOBAL PARTNERSHIPS IN GRADUATE TRAINING: STRATEGIES FOR LASTING IMPACT

In this 60-minute workshop, participants will explore strategies to build effective global partnerships in graduate training. Focused discussions and interactive activities will provide insights into practical approaches that both graduate students and higher education institutions can adopt to ensure a lasting impact on graduate training programs worldwide.

CHAIRED BY

Ana Diogo de Oliveira, CAIDERA, Project Manager at the University of Tübingen
Theresa Kahl, CAIDERA, Degree Programme Coordinator at the University of Tübingen

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Seminar 2

90 min

INDIVIDUAL PRESENTATIONS: EPIDEMIOLOGY AND SURVEILLANCE OF EMERGING AND RE-EMERGING INFECTIOUS AND ZOONOTIC DISEASES (PREPAREDNESS, RESPONSE AND POST-CRISIS CARE) 2

CHAIRED BY

Dr Ludger Ständker, GLACIER, Head of Core Facility Functional Peptidomics at the University of Ulm

PRESENTERS

Dr Nourhane Hafza, PACE-UP: Seroprevalence of Hepatitis E Virus in Blood Donors and in the High-Risk Population in South-West Cameroon

Dr Cao Le Chi, PACE-UP: Zoonotic Hepatitis E Virus in Domestic Pigs and Farmed Wild Boars in Vietnam

Brice Armel Nembot Fogang, G-WAC: Impact of Helminth Co-Infections on the Clinical Spectrum of SARS-CoV-2 Infection in Africa: A Retrospective Cohort Analysis

Theophilus Odoom, G-WAC: The Status of Marburg Virus in Bats and Domestic Animals in Ghana

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6.00 –9.30 p.m.

DRINKS AND RECEPTION AT THE CONFERENCE VENUE

Thursday, 12 September 2024

9.00 – 10.15 a.m.

Saal Nord

ROUND TABLE: YOUNG SCIENTISTS IN THE GLOBAL SOUTH – WHAT ARE THEIR CAREER NEEDS AND HOW CAN THEY CONTRIBUTE TO STRENGTHENING THE GLOBAL CENTRES?

Young scientists from each Global Health Centre will have the opportunity to share their experiences and present their views on the respective education and health systems, their experiences with the centre's activities and the next funding phase in order to actively participate in shaping the future of the centres.

CHAIRED BY

Prof Dr Wilm Quentin, G-WAC, Professor at the University of Bayreuth

Dr Alexa Purgreth, PACE-UP, Project Manager at the University of Tübingen

PANELLISTS

Fortress Aku, G-WAC, PhD Student at the Kwame Nkrumah University of Science and Technology (KNUST)

Sylvia Annang, G-WAC, PhD Student at the KNUST

Duc Anh Do, PACE-UP, PhD Student at the University of Tübingen

Dr Cao Le Chi, PACE-UP, PhD Student at the University of Tübingen

Barbara Mouyama, CAIDERA, PhD Student at the Institut Pasteur Paris and the University of Tübingen

Felipe Adonis Escalona Rodriguez, GLACIER, PhD Student at the University of Havana

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10.30 – 11.00 a.m. Coffee Break

11.00 – 12.30 p.m. PARALLEL SESSIONS

Seminar 2

INDIVIDUAL PRESENTATIONS: LABORATORY ADVANCED DIAGNOSTICS, TREATMENT, DISEASE MONITORING, VACCINATION AND INFECTION CONTROL (AMR) 3

CHAIRED BY

Dr Linda Batsa Debrah, G-WAC, Senior Lecturer at the Kwame Nkrumah University of Science and Technology (KNUST)

PRESENTERS

Dr Nicole de Buhr, GLACIER: A Daily Gladiator Fight – Neutrophil Granulocytes and Oxidative Burst in Infectious Diseases of Animals and Humans

Dr Dong Van Do, PACE-UP: BioFire® FilmArray® Meningitis/Encephalitis Panel for the Aetiological Diagnosis of Central Nervous System Infections in Vietnamese Patients

Prof Dr Le Huu Song, PACE-UP: Diagnosis of Pathogens Causing Bacterial Meningitis Using Nanopore Sequencing in a Resource-Limited Setting

Maradona Daouda Agbanrin, CAIDERA: Analysis of the Assembly of a Virulence Associated-Salmonella Type III Secretion System

Seminar 4	**INDIVIDUAL PRESENTATIONS: COMMUNITY ENGAGEMENT, ETHICS AND SOCIAL SCIENCES** CHAIRED BY **Emmanuel Ngang Nkembo**, CAIDERA, PhD Student at the University of Tübingen PRESENTERS **Prof Dr Enrique Beldarraín Chaple,** GLACIER: Vaccination Campaigns in the Control of Epidemics in Cuba, 1962 – 2023 **Gyesi Razak Issahaku,** G-WAC: Exploring the Facilitators and Barriers to Community Engagement during the COVID-19 Response in Ghana: A Qualitative Study **Prof Dr Michael Knipper,** GLACIER: History Counts: Social Medicine, Community Participation and the Relevance of Trust in Infectious Disease Control in Cuba, 1962 – 2023. **Caroline Namubiru,** CAIDERA: The Nexus of Numerical Skills and Behavioural Patterns in Malaria Control **Dr Elliot Koranteng Tannor,** G-WAC: The Impact of COVID-19 on Health Service Utilization in Sub-Saharan Africa – a Scoping Review
12.45-2.00 p.m.	Lunch Break
2.00-3.00 p.m. Saal Nord	**CLOSING SESSION** CHAIRED BY **Stefan Bienefeld**, Head of Division “Transnational Education and Cooperation Programmes”, DAAD RAPPORTEURS **Theresa Kahl**, CAIDERA, Degree Program Coordinator at the University of Tübingen **Esmeralda Osejo Brito**, GLACIER, Project and Communications Manager at the Universidad Autonoma de Mexico (UNAM) **Prof Dr Wilm Quentin**, G-WAC, Professor at the University of Bayreuth **Prof Dr Thirumalaisamy P. Velavan,** PACE-UP, Professor at the University of Tübingen
3.00-3.30 p.m.	Coffee Break

END OF THE OFFICIAL CONFERENCE

START OF THE INTERNAL PART FOR THE GLOBAL CENTRES: PHD-SEMINARS AND MEETING OF PROJECT TEAMS AND DAAD

Short Profiles of Speakers and Moderators of Sessions

SUSTAINABLE DEVELOPMENT GOALS AND A GLOBAL SOUTH-SOUTH-PARTNERSHIP

This session aims to explore frameworks, alliances, and barriers to diversifying academic and research culture in the Global South. Panellists will discuss their experiences and lessons on inclusive, equitable, and collaborative solutions to common challenges in interdisciplinary topics.

CHAIRS

Prof Dr Thirumalaisamy Velavan
Member of the Academic Advisory Board

Professor at the University of Tübingen
PACE-UPContact: t.velavan@uni-tuebingen.de

Prof. Dr. Thirumalaisamy P. Velavan is a Professor and Akademischer Oberrat at the University of Tübingen, Germany, and an expert in infectious disease research. He is founder and director of the Vietnamese-German Centre for Medical Research (VG-CARE; www.vgcare.org) in Vietnam and coordinator of the global health hub 'PAN ASEAN Coalition for Epidemic and OUtbreak Preparedness (PACE-UP; www.paceup.org)', which aims to bring together multidisciplinary experts from the South-South to combat emerging and remerging infectious diseases.
Prof. Velavan has trained and mentored many younger generation scientists in low- and middle-income countries with a vision to increase, strengthen and sustain individual and institutional capacity in infectious diseases research. Prof Velavan has published more than 200 peer-reviewed publications with an h-index of 47. He is also the recipient of the 2021 Tropical Medicine Award of the German Society for Tropical Medicine and Global Health.
Prof. Velavan is a member of the Scientific Advisory Board and the Review Panel of the German Federal Ministry of Health (GHPP-BMG), the German Society for International Cooperation (GIZ), the German Academic Exchange Service (DAAD), UNESCO-The World Academy of Sciences (TWAS) and the National Foundation for Science and Technology Development (NAFOSTED) and the Ministry of Science and Technology (MOST) Vietnam.

Dr Philip El-Duah
Junior Research Group Leader,
G-WAC
Contact: philip.el-duah@charite.de

I am a junior research group leader at the Institute of Virology, Charité – Universitätsmedizin, Berlin of the Charité Centre for Global Health. I am also affiliated with the Kumasi Centre for Collaborative Research into Tropical Medicine (KCCR) of the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. My PhD studies at KNUST delved into the role of livestock as intermediate hosts for the transmission of Coronaviruses with zoonotic potential. Presently, my research involves diagnostic solutions and acquisition of epidemiological knowledge on viruses of clinical importance in Africa. I am presently leading a research team at KCCR undertaking training and capacity building for pandemic preparedness in a project funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) through the German Agency for International Cooperation GmbH (GIZ). I am a Scientific Coordinator in the DAAD-funded German-West African Centre for Global Health and Pandemic Preparedness (G-WAC) and a Co-Principal investigator in a Berlin University Alliance (BUA) - funded project studying pandemic non-pharmaceutical interventions in the global South. I also hold a position as deputy lead for diagnostics and research reagents for the Centre for Research in Emerging Infectious Diseases, East and Central Africa (CREID-ECA).

PANELLISTS

Stefan Bienefeld
Head of Division “Transnational Education and Cooperation Programmes”, DAAD

Contact: bienefeld@daad.de

Stefan Bienefeld is Head of Division P2, Transnational Education and Cooperation Programmes at the German Academic Exchange Service (DAAD) since 2020.
Mr. Bienefeld holds a degree in psychology from the University of Bielefeld, Germany. He worked for the German Rectors Conference, the national Association of German universities, as a programm manager on issues linked to the Bologna process and as a head of a project dealing with Quality Assurance in Germany and Europe prior to joining DAAD in 2009.
2009 he started at DAAD as head of division 435, responsible for large scale university cooperation programmes between German universities and partner HEIs in developing countries as well as programmes for the worldwide mobility of German university teaching staff. From 2011 to 2015 he was head of division 43 and in this capacity held the responsibility for all DAAD programmes with funding from the German Federal Ministry for Economic Cooperation and Development, including financial and strategic issues with the Ministry as well as cooperation with external partners such as GIZ, KfW, UNESCO, the World Bank and civil society organizations.
From 2015 to 2019 he was head of division P3, Development Co-operation and transregional programmes dealing with project funding programmes in development cooperation, alumni, German studies and the German language as well as research mobility.

Dr Andrea Chaves
Academic at the University of Costa Rica
GLACIER
Contact: andrea.chavesramirez@ucr.ac.cr

Andrea Chaves is a Tropical Biologist and has a Masters in Disease Ecology from the National University of Costa Rica, with a PhD in Animal Biology from The University of Justus Liebig, Germany and a Post-Doctorate in Disease Ecology and One Health developed at the National Autonomous University of Mexico (UNAM) and the University of California, Davis. Andrea is professor at the Biology School, University of Costa Rica. The unifying theme of Dr Chaves' research is to understand the general variables favoring the presence of infectious diseases in diverse communities across multiple spatial scales affected by anthropogenic activities. These consider the ecological interactions of parasites, humans, domestic and wild animals, and the intrinsic risk of zoonotic transmissions. She has developed her research and scientific publications in several taxa, and with a wide spectrum of infectious agents mainly from Latin American wild environments: Mexico, Guatemala, El Salvador and Costa Rica. She has participated in the development of foundational and academic programs in Costa Rica, and in other international initiatives. She is principal investigator for Costa Rica of the PREACTS-ASAMCO Initiative, PREZODE; of the ZOE project funded by Horizon Europe; and of the GLACIER Consortium with funding from the DAAD.

Prof Dr Francine Ntoumi
President of the Congolese Foundation for Medical Research and Professor at University of Tübingen
CAIDERA/Humbold research Hub
Contact: fntoumi@fcrm-congo.com

Francine Ntoumi, Ph.D., FRCP serves as the President and co-founder of the Congolese Foundation for Medical Research and leads its Research Center for infectious diseases in Brazzaville, Republic of Congo. She is Professor of molecular epidemiology of infectious diseases at the Institute of Tropical medicine, University of Tübingen. She has a long-standing record of research investigations on malaria in Senegal, Cameroon, Gabon and rep of Congo.
Since 2009, Ntoumi has been highly involved in developing health research capacities in Central Africa through the coordination of the Central Africa clinical research network (CANTAM) and since 2018 leading the Pan-African Network for Rapid Research, Response, Relief and Preparedness for Infectious Diseases Epidemics consortium (PANDORA-Id-Net). She is also highly engaged in promoting gender balance in science in the African region through an important program, "To make Science, a female ambition."
Ntoumi is member of several scientific and advisory committees and is involved in many international scientific networks in Africa, Europe, and the United States. She is a fellow of the African Academy of Science.
In recognition of her efforts in developing research capacities in Africa, Prof. NTOUMI received many awards including the prestigious African Union Kwame Nkrumah Regional Scientific Award for women (2012), The Georg Forster Prize (Germany, 2015), the Christophe Merieux Prize (France), the Congolese Gold Medal in Science (2016) and the German federal Cross of Merit (2022).she has been acknowledged as Officer of Congolese Merit (2022) and in August 2023, she has been recognized as the Public health Champion by the World Health Organization. Currently , she is the National Ambassador for UNICEF in Rep of Congo.

Prof Dr Kartika Senjarini
Lecturer and Researcher at the University of Jember
PACE-UP
Contact: senjarini@unej.ac.id

Prof. Dr. rer. Nat. Kartika Senjarini is a lecturer in the Department of Biology at the Faculty of Mathematics and Natural Sciences, University of Jember (UNEJ), Indonesia. She completed her PhD (Dr. rer. Nat) at the University of Rostock-Germany, with a DAAD scholarship in 2007. She was also a DAAD postdoctoral fellow at the University of Kassel in 2010. In 2011, under the Indonesian Ministry of Higher Education program, she had the opportunity to deepen vaccinology at the International Vaccine Institute, Seoul – South Korea. Prof. Senjarini is currently also a senior scientist in the Vector Biology research group within her department. The research focuses on the molecular study of the interaction between mosquito vectors and their human host, with the main objective of molecular surveillance and the development of vector-based vaccines against malaria and dengue. She was one of the initiators of the Indonesian-German Network for Teaching, Training and Research (IGN-TTRC) and also a UNEJ's project coordinator of the DAAD subject-related partnership between the University of Jember and the University of Applied Sciences Flensburg, Germany, from 2015-2022. In 2009, she was awarded the "L'oreal – UNESCO, For Women in Science Program" in the field of life sciences. Currently, she is UNEJ's project coordinator of 2 ongoing international grants, i.e., the Erasmus+ KA171 Grant, which has been funded by EU & DAAD since 2023, as well as PACE UP (PAN ASEAN Coalition for Epidemic and Outbreak Preparedness), 1 out of 4 Global Centres in Health funded by DAAD since 2022.

BETTER DATA FOR PANDEMIC PREVENTION AND CONTROL: THE ROLE OF DIGITAL SURVEILLANCE

The session will take the format of a roundtable discussion with 5 discussants initially providing brief (5-7 mins) input presentations before engaging in discussions with other panel members and the audience about the role of digital surveillance tools, particularly the Surveillance, Outbreak Response Management and Analysis System (SORMAS).

CHAIRS

Dr John Amuasi
Head of Department of Global Health at the Kwame Nkrumah University of Science and Technology (KNUST)
G-WAC
Contact: amuasi@kccr.de

John AMUASI is based at the Kwame Nkrumah University of Science and Technology, where Heads the Global Health Department of the School of Public Health and Leader of the Global One Health Research Group at the Kumasi Center for Collaborative Research in Tropical Medicine (KCCR). He holds a W2 Professorship of Global One Health at the Bernhard Nocht Institute of Tropical Medicine and the University of Eppendorf in Hamburg, Germany, is an adjunct Professor at the University of Minnesota School of Public Health in the USA, and an Honorary Visiting Research Fellow in Tropical Medicine at the University of Oxford in the UK. For over 20 years, he has engaged in Tropical Medicine and Global Health research – including in malaria, NTDs, AMR and One Health. He has also consulted for several Global Health-focused organizations and supported civil society organizations with technical expertise on matters related to access to drugs, vaccines, and diagnostics, as well as strategic advice related to Global Health research. He further serves as Co-Chair of The Lancet One Health Commission, and as a regular technical advisor/contributor to several Global Health organizations. He is passionate about mentorship and sustainably building health research capacities in Africa.

Prof Dr Wilm Quentin
Professor at the University of Bayreuth
G-WAC
Contact: wilm.quentin@uni-bayreuth.de

Wilm Quentin is Prof. of Planetary & Public Health at the university of Bayreuth. He is leading the German West-African Centre for Global Health and Pandemic Prevention (G-WAC), is editor-in-chief of the Journal "Health Policy" and editor of the European Observatory'sHealth Care Systems in Transition Series. He has been a consultant for international Organisations (WHO EURO, WHO AFRO, World Bank), national governments (e.g. Ghana, Belgium, Slovenia) and other actors (national health insurance in Poland and South Korea). Wilm is a medical doctor and holds an MSc in Health Policy, Planning & Financing (HPPF) from the London School of Hygiene and Tropical Medicine (LSHTM) and the London School of Economics (LSE). He studied medicine and political sciences in Würzburg, Munich, Madrid, Leipzig and Marburg. He worked almost 15 years at the Department of Health Care Management at the TechnischeUniversität Berlin, where he received his formal lecturer qualification (Habilitation) in Public Health in 2017. He was a visiting fellow at the InstitutNational de SantéPubliquein Abidjan and holds a Visiting Professor position at the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi, Ghana.

PANELLISTS

Fortress Aku
PhD student at the Kwame Nkrumah University of Science and Technology (KNUST)
G-WAC
Contact: fortressfay@yahoo.com

Fortress holds a bachelors degree in medical laboratory technology at the Kwame Nkrumah University of Science and Technology and a masters degree in applied epidemiology and disease control at the University of Ghana. She is currently a PhD student in Public Health at the Kwame Nkrumah University of Science and Technology, Ghana. Her research interest areas include infectious disease epidemiology, antibiotic resistance, surveillance system evaluation, and digital health.

Sylvia Annang
PhD student at the Kwame Nkrumah University of Science and Technology (KNUST)
G-WAC
Contact: sylviaaannang@gmail.com

I am Sylvia Amartekai Annang, a PhD Public health student at the KNUST School of Public Health and a G-WAC scholar. The use of SORMAS for surveillance and outbreak response management in Ghana is the focus of my doctoral research in the field of digital health. I hold a BSc in Medical Laboratory Technology from KNUST and an Mphil in Health Systems Research and Management. During my Mphil, I researched on innovations in chronic disease care with a focus on the concept of integrated care for persons living with chronic multi-morbidity. I have experience working for the eHealth Research Partner Group (eHRPG) as a research assistant. During that period, I was a part of the team that co-authored Ghana's Health Policy Brief on the referral and gatekeeping system, and Ghana's Health System In Transition (HIT) among others. I have a keen interest in digital innovations in healthcare and hope to undertake more research in this area.

Pilar Hernandez
Managing Director of the SORMAS Foundation gGmbH

Contact: pilar.hernandez@sormas.org

Dr Pilar Hernandez is managing director at the SORMAS Foundation. She has over 15 years' experience working on programmes for the control of infectious diseases, with special focus in Pandemic Prevention and Response, Digital Health, and Neglected Tropical Diseases. She has provided technical assistance to ministries of health and regional institutions across several countries in Africa and Latin America and led international teams for effective implementation.
She is currently responsible for the project's portfolio and business development at the SORMAS Foundation. She holds a bachelor's degree in human biology from the University of Barcelona, Spain, an MSc in Control of Infectious Diseases from the London School of Hygiene and Tropical Medicine, UK, and a PhD in molecular diagnostic methods for infectious diseases from the Justus-Liebig-Universität Giessen, Germany.

Prof Dr Gérard Krause
Director of Surveillance Systems Department, World Health Organization (WHO)
Contact: krauseg@who.int

Gérard Krause is a medical doctor and received his research doctorate in Tropical Hygiene from the University of Heidelberg. After was Epidemic Intelligence Service officer (EIS) at the Centres for Disease Control and Prevention in Atlanta, was Germany's "state epidemiologist" as director of the Department for Infectious Disease Epidemiology at the Robert Koch Institute in Berlin (RKI). In 2011, Gérard became full Professor (W3) for Infectious Disease Epidemiology at the Hannover Medical School (MHH) and head of the Department for Epidemiology at the Helmholtz Centre for Infection Research (HZI), Braunschweig. He also served as deputy scientific director of the HZI, president of the German Society for Epidemiology and advisory board member of various scientific organisations in Europe. He is inventor of three patents related to digital health and diagnostics. Gérard Krause initiated the development of the open-source digital Surveillance Outbreak Response Management and Analysis System (SORMAS) in 2015 and led the creation of the non-profit SORMAS Foundation. Since March 2023 he is based in Geneva as director for the Department of Surveillance Systems (SRV) within the WHO Health Emergencies Programme (WHE). Priority activities of his department are the development of global digital standards for disease surveillance and strengthening of field epidemiology capacity.

STRENGTHENING ONE HEALTH THINKING AND INFECTIOUS DISEASE RESEARCH IN LATIN AMERICA AND GERMANY

Short presentations on key topics within GLACIER lead to guided discussions and exchange between GLACIER-members and the participants. The session is an extended round table with workshop character, since the expected output will be joint key points to strengthen Latin American disease emergence response.

CHAIR

Prof Dr Jan Felix Drexler
Professor at the Charité – Universitätsmedizin Berlin
GLACIER
Contact: felix.drexler@charite.de

PANELLISTS

Dr Andrea Chaves
Academic at the University of Costa Rica
GLACIER
Contact: andrea.chavesramirez@ucr.ac.cr

Andrea Chaves is a Tropical Biologist and has a Masters in Disease Ecology from the National University of Costa Rica, with a PhD in Animal Biology from The University of Justus Liebig, Germany and a Post-Doctorate in Disease Ecology and One Health developed at the National Autonomous University of Mexico (UNAM) and the University of California, Davis. Andrea is professor at the Biology School, University of Costa Rica. The unifying theme of Dr Chaves' research is to understand the general variables favoring the presence of infectious diseases in diverse communities across multiple spatial scales affected by anthropogenic activities. These consider the ecological interactions of parasites, humans, domestic and wild animals, and the intrinsic risk of zoonotic transmissions. She has developed her research and scientific publications in several taxa, and with a wide spectrum of infectious agents mainly from Latin American wild environments: Mexico, Guatemala, El Salvador and Costa Rica. She has participated in the development of foundational and academic programs in Costa Rica, and in other international initiatives. She is principal investigator for Costa Rica of the PREACTS-ASAMCO Initiative, PREZODE; of the ZOE project funded by Horizon Europe; and of the GLACIER Consortium with funding from the DAAD.

Prof Dr Bert Hoffmann
Lead Researcher at the German Institute for Global and Area Studies (GIGA)
GLACIER
Contact: bert.hoffmann@giga-hamburg.de

Bert Hoffmann is a German political scientist specialising in Latin America and the Caribbean. He is the director of the German Institute of Global and Area Studies (GIGA) office in Berlin, co-director of the GIGA Institute of Latin American Studies, and a professor at the Free University of Berlin. Additionally, he chairs the European Council for Social Research in Latin America (CEISAL). Currently, he is involved in the German-Latin American Centre for Infection and Epidemiology Research and Training (GLACIER), funded by the DAAD, where he leads a comparative study on COVID-19 vaccination policies in Mexico, Cuba, and the six Central American states.

Prof Dr Barbara Seliger
Member of the Academic Advisory Board

Professor at the UK Halle and Martin-Luther-University Halle-Wittenberg
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Dr Andres Moreira-Soto
Postdoc at the Charité – Universitätsmedizin Berlin
GLACIER
Contact: andres.moreira-soto@charite.de

Prof Dr Ludger Wessjohann
Director of the Department Bioorganic Chemistry at the Leibniz Institute of Plant Biochemistry
GLACIER
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STRENGTHENING SYNERGIES IN GERMANY-FUNDED GLOBAL HEALTH INITIATIVES

Different German donors fund various initiatives on Global Health: How do they relate to each other? And how do they relate to international initiatives? What synergies, coordination and cooperation already exist, which could still be promoted in order to effectively tackle global health challenges?

CHAIR

Prof Dr Achim Hörauf
Director of the Institute of Medical Microbiology, Immunology and Parasitology at the University of Bonn
G-WAC
Contact: achim.hoerauf@ukbonn.de

Prof. Achim Hoerauf is a neglected tropical disease expert researching filarial diseases: parasite-induced immune responses, immunogenetics, and diagnostic and drug development. He discovered the Wolbachia-filaria endosymbiotic relationship and conducted a clinical trial confirming that using antibiotics, e.g. doxycycline, targeting the essential Wolbachia could be used to treat filariasis. These results led to subsequent clinical trials using other registered antibiotics and development of novel anti-wolbachial antibiotics. With German Center for Infection Research (www.dzif.de) funding, he and his team are developing Corallopyronin-A to phase 1. Additionally, he worked closely with companies (Bayer, Abbvie, Cellgene) to develop new anthelminthics, resulting in 5 patents/patents-pending. He was a member of the Gates Foundation Macrofilaricidal Development Accelerator (MacDA) program, repeatedly served on the WHO Expert Advisory Panels on Parasitic Diseases (Filarial Infections), and been an advisor to the Carter Center and the German Ministry for Research and Education (BMBF). He is chair of the German Network against Neglected Tropical Diseases (www.dntds.de), advising the ministries implementing the German government's commitments to UN SDGs, and the Global Health Strategy. For over 20 years, he has collaborated with key African filariasis scientists and been PI of numerous clinical trials funded by the BMBF, EU, Volkswagen Foundation, and Gates Foundation.

PANELLISTS

Dr Wolfram Morgenroth-Klein
Head of Division for Prevention and Pandemic Preparedness, One Health;
Federal Ministry for Economic Cooperation and Development (BMZ),
Germany

Wolfram Morgenroth-Klein has a university degree and a PhD in political sciences and economy, and over 30 years' experience in the international development context, with special focus on Latin America and Asia.
He has been working at the Federal Ministry for Economic Cooperation and Development (BMZ) since 2003 in different key roles. Since 2020, he is the head of the division Pandemic Prevention and One Health at the BMZ. In this position, he is responsible, among others, for the Pandemic Fund, the Pandemic Agreement and the conceptual work and implementation monitoring of programmes for Pandemic Prevention, Preparedness and Response as well as for One Health programmes in German development cooperation.

Prof Dr Francine Ntoumi
President of the Congolese Foundation for Medical Research and Professor at University of Tübingen
CAIDERA/Humbold research Hub
Contact: fntoumi@fcrm-congo.com

Francine Ntoumi, Ph.D., FRCP serves as the President and co-founder of the Congolese Foundation for Medical Research and leads its Research Center for infectious diseases in Brazzaville, Republic of Congo. She is Professor of molecular epidemiology of infectious diseases at the Institute of Tropical medicine, University of Tübingen. She has a long-standing record of research investigations on malaria in Senegal, Cameroon, Gabon and rep of Congo.
Since 2009, Ntoumi has been highly involved in developing health research capacities in Central Africa through the coordination of the Central Africa clinical research network (CANTAM) and since 2018 leading the Pan-African Network for Rapid Research, Response, Relief and Preparedness for Infectious Diseases Epidemics consortium (PANDORA-Id-Net). She is also highly engaged in promoting gender balance in science in the African region through an important program, "To make Science, a female ambition."
Ntoumi is member of several scientific and advisory committees and is involved in many international scientific networks in Africa, Europe, and the United States. She is a fellow of the African Academy of Science.
In recognition of her efforts in developing research capacities in Africa, Prof. NTOUMI received many awards including the prestigious African Union Kwame Nkrumah Regional Scientific Award for women (2012), The Georg Forster Prize (Germany, 2015), the Christophe Merieux Prize (France), the Congolese Gold Medal in Science (2016) and the German federal Cross of Merit (2022).she has been acknowledged as Officer of Congolese Merit (2022) and in August 2023, she has been recognized as the Public health Champion by the World Health Organization. Currently , she is the National Ambassador for UNICEF in Rep of Congo.

Andrea Spelberg
Head of Division for Global Health Research, Federal Ministry of Education and Research (BMBF), Germany

Andrea Spelberg is head of division for global and public health research at the German Federal Ministry of Education and Research (BMBF). She joined the ministry in 2002, and from 2009 to 2017 served as head of division for higher education policy. Prior to joining the ministry, she worked as program officer at the Deutsche Forschungsgemeinschaft, the main German research funding organization. Andrea Spelberg received a Master of Laws from the Washington College of Law at American University in Washington, DC. She received her legal training in Cologne and at the University of Augsburg, Germany.

Prof Dr Andrew Ullmann
Member of the German Parliament and chairman of the parliamentarian Sub-Committee for Global Health, FDP

Andrew Ullmann is in his second term as an elected member of the German Bundestag. He is a physician by training. Ullmann is a member of the health committee and serves as the spokesperson on health of the Free Democratic Party (FDP) parliamentary group. Ullmann is also the chair of the sub-committee on Global Health of the German Bundestag and regional chair for Western & Central Europe of the global parliamentarians' Network UNITE.
Ullmann has a background in Infectious Diseases from Harvard Medical School and was trained in hematology and oncology at the University of Mainz. He holds a full professor of Infectious Diseases at the Julius-Maximilian University of Wuerzburg, Germany, where he also was elected to the City Council.

PERSPECTIVES ON PATHOGEN SPILLOVER & PANDEMIC PREPAREDNESS

A moderated panel discussion beginning with opening responses to common questions, followed by invitations to each panellist to provide contributions on specific topics and comment on responses provided by other panellists. This session will highlight different perspectives on pandemic preparedness and prevention influenced by research discipline and regional experiences.

CHAIR

Dr Michael Owusu
Member of the Academic Advisory Board

Senior Lecturer at the Kwame Nkrumah University of Science and Technology (KNUST)
G-WAC
Contact: michaelowusu80@gmail.com

Dr Michael Owusu is a Senior Lecturer at the Faculty of Allied Health Sciences, KNUST and Senior Research Fellow at the Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR). He completed his PhD Clinical Microbiology through a sand-witch programme between KNUST and the University of Bonn Medical Center, Germany. Prior to joining the University, he worked as a Biomedical Scientist at the Komfo Anokye Teaching Hospital for 10 years, where he engaged in the use of classical microbiological techniques for identification of microbiological agents. His research interest is to understand the interactions among microbial agents in the respiratory and gastrointestinal niches using both classical microbiological and molecular based techniques. His research arears include viral zoonosis, microbial genomics and epidemiology of epidemic prone infectious diseases. He is one of the lead scientists in virological diagnostics at the Kumasi Centre for Collaborative Research in Tropical Medicine and contributed immensely towards supervision and laboratory diagnosis of SARS-CoV-2.
Dr Owusu has published over 70 papers in peer-reviewed journals and contributed to 4 book publications. He has served a member or secretary on over 30 committees of the University and international community. Dr Owusu is a reviewer of high impact journals including BMC Medicine, BMC infectious disease journal, Plosone, Plos Neglected Tropical Diseases and International Journal of Tropical Disease and Hygiene. He has recently been appointed as member of the Board of Reviewers of the American Society of Microbiology.

PANELLISTS

Dr Linda Batsa Debrah
Senior Lecturer at the KNUST
G-WAC
Contact: lbdebrah.chs@knust.edu.gh

Dr. (Mrs.) Linda Batsa Debrah is a Senior Lecturer of Medical Parasitology in the Department of Clinical Microbiology at the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. She is also a Senior Research Fellow and currently the Principal Investigator on the TAKeOFF project that seeks to tackle the obstacles of lymphatic filariasis (LF) and podoconiosis sponsored by the German Ministry of Education and Research (BMBF) [http://takeoff-ntd.net]. She has enormous experience in the conduct of clinical trials especially on NTDs with filariasis as the main focus.
She has several ongoing research activities sponsored by German Centre for Infection Research (DZIF), German Research Foundation (DFG), European and Developing Countries Clinical Trials Partnership (EDCTP) among others.
Dr. (Mrs.) Linda Batsa Debrah is the Scientific Coordinator of the German West African Centre for Global Health and Pandemic Prevention (G-WAC). She is a reviewer of many reputable funding agencies and journals including Wellcome Trust, BioMed Central (BMC) infectious diseases, DAAD in-country/in-regions applications, and a Peer Review Editor of Neglected Tropical Diseases (specialty section of Frontiers in Tropical Diseases). Dr. (Mrs.) Linda Batsa Debrah was adjourned the Best Mid-Career Researcher at KNUST in 2023 and the Best Senior Member in teaching at School of Medical Sciences,KNUST in 2024. She has over 60 publications to her credit (ORCID ID: orcid.org/0000-0001-9620-3408).
LinkedIn: lbdebrah

Prof Dr Benjamin Emikpe
Dean at the School of Veterinary Medicine at the KNUST
G-WAC
Contact: Boemikpe.chs@knust.edu.gh

Emikpe Benjamin Obukowho, Professor of Diagnostic and Toxicological Pathology (2014), Former Chair of the Department of Veterinary Pathology at the University of Ibadan in Nigeria, and Visiting Professor to Pan African University of Life and Earth Science in Ibadan, University of Developmental studies, Ghana, Njala University, Sierra Leone and University of Buea, Cameroon. Currently, the Dean of the School of Veterinary Medicine of the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. My research has focused on detecting and controlling diseases affecting livestock, zoos, and wildlife, with a particular interest in One Health and Pandemic preparedness. I have published extensively and have been a plenary speaker at international conferences, workshops on livestock, wildlife disease diagnosis and AMR Surveillance Systems in humans, animals and the environment, highlighting the One-Health concept and efforts in Ghana. I have also engaged with FAO in developing an AMR training manual for veterinarians in Ghana, reporting on One Health monitoring tool, Training of Trainers (TOT) training for ISA-VET and FAO, USAID, WHO resource person and consultants on One Health, Zoonoses and AMR.

Dr Andres Moreira-Soto
Postdoc at the Charité – Universitätsmedizin Berlin
GLACIER
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Dr Jesse Owino
Research Fellow at the University of Nairobi
AFAS
Contact: owinojesse@gmail.com

Dr. Jesse Owino is a distinguished expert in climate change adaptation, mitigation, regreening, and natural resource management, actively involved in the restoration of degraded ecosystems across the African landscapes. He has postdoctoral experience through the University of Nairobi-DAAD-AFAS program in 2023-2024, he holds a Ph.D. in Climate Change and Adaptation (CCA) from the University of Nairobi (2020). Dr. Owino earned a Master of Science degree in Natural Resources Management from Egerton University, along with a Bachelor of Science in Natural Resources Management from the same institution. His scholarly contributions extend beyond academia; he has served as a visiting researcher at Oxford-Brookes and is a seasoned trainer on biodiversity themes in various universities. Dr. Owino is an accredited ecologist affiliated with prestigious organizations, including the Africa Forest Forum, East Africa Natural History Society, Nature Kenya, Forestry Society of Kenya, and the British Ecological Society. Furthermore, he serves as an environmental expert for the National Environment Management Authority. With over two decades of experience, Dr. Jesse Owino stands out as a renowned research scientist, demonstrating expertise in collaborating with diverse communities and successfully leading consulting programs and projects on REDD+ in various community systems, including pastoralist landscapes.

Prof Dr Le Huu Song
Director at the 108 Military Central Hospital
PACE-UP
Contact: songlh@benhvien108.vn

Prof. Dr. Le Huu Song is a leading infectious disease physician and the Director of 108 Military Central Hospital in Hanoi, Vietnam. He founded the Vietnamese-German Centre for Medical Research (VG-CARE) and co-coordinates the global health hub PAN ASEAN Coalition for Epidemic and
Outbreak Preparedness (PACE-UP).
Prof. Song earned his doctorate from the University of Tübingen, Germany, supported by a DAAD scholarship. He later founded the Institute for Clinical Infectious Diseases at 108 Hospital. With over 25 years of experience, his research focuses on viral hepatitis, emerging infectious diseases, and antimicrobial resistance.
He has led several bilateral projects with the University of Tübingen, funded by the German Federal Ministry of Education and Research, DAAD, EU and other agencies. Prof. Song has published over 80 peer-reviewed articles with an h-index of 30. Prof. Song has received numerous awards, including the Ho Chi Minh Prize for Hepatitis, the Alexandre Yersin Prize, and the World Intellectual Property Organization Prize. He also received a Certificate of Merit from the Vietnamese Prime Minister.

NEXUS APPROACH: BRIDGING WATER, CLIMATE ADAPTATION, AND HEALTH IN THE FACE OF EMERGING BACTERIAL AND PARASITIC INFECTIOUS DISEASES

The session aims to explore the interconnectedness of water resources, climate change adaptation, and public health with a specific focus on the rise of bacterial and parasitic infectious diseases. As climate change intensifies and water-related challenges become more pronounced, understanding the nexus between these factors is crucial for effective public health interventions.

CHAIR

Dr Firas Aljanabi
Project Manager at Technische Universität Dresden
ABCD-Centre
Contact: firas.aljanabi@tu-dresden.de

Dr. Firas Aljanabi is currently serving as the coordinator of the Global Water and Climate Adaptation Centre. With a long-standing affiliation with TU Dresden in Germany, he has held the position of senior lecturer for several years, accumulating extensive expertise in capacity building and projects management within the international landscape. Prior to this, Dr. Aljanabi served as an expert and scientific officer at the world meteorological organization in Switzerland, Mozambique and Myanmar, while also holding a significant role as a department head at the Ministry of Environment in Iraq. Dr. Aljanabi's academic background includes a Ph.D. in Climate Change and Water Resources Management, which he obtained in 2014. He also holds an M.Sc. in Hydro Science and Engineering from TU Dresden, Germany, achieved in 2009, and a BSc in Civil Engineering from Babylon University, Iraq, acquired in 2002. His diverse educational journey has equipped him with a well-rounded understanding of various disciplines related to water, climate change, early warning systems , and engineering. Dr. Aljanabi's comprehensive experience and academic accomplishments position him as a respected professional in the field of global water and climate adaptation.

PANELLISTS

Prof Dr Dr Ayola Akim Adegnika
Director of the Centre de Recherches Médicales de Lambaréné (CERMEL)
CAIDERA
Contact: ayola-akim.adegnika@uni-tuebingen.de

Prof. Dr. Ayola Akim ADEGNIKA obtained his medical degree from the Medical University of Libreville and his Ph.D. in Immuno-Epidemiology at the University of Tübingen, Germany, and a Master in Epidemiology at the London School of Hygiene & Tropical Medicine. As director of the Centre de Recherches Médicales de Lambaréné, (CERMEL), Gabon and Full Professor (W3) at the University of Tübingen, Germany, he leads numerous research projects including applied (clinical trials), and basic research (immunological, and epidemiological studies) as well as clinical epidemiology of infectious diseases. He is involved in lecturing and training of students and young scientists. He is a member of various national and international research networks and initiatives, including ARNTD, NTD-OCEAC, CANTAM, WANETAM, DZIF, DTG, GLOHRA, ESR, CAIDERA, ARRIGE etc.

Prof Dr Mukand Babel
Professor for Water Engineering and Management (WEM)
at the Asian Institute of Technology (AIT)
ABCD-Centre
Contact: msbabel@ait.ac.th

Dr. Mukand S. Babel is a Professor of Water Engineering and Management (WEM) and Director of the Centre for Water and Climate Adaptation (CWCA) at the Asian Institute of Technology (AIT), Thailand. He is also an Adjunct Professor at UNU-FLORES, Germany, an Honorary Professor at the University of Exeter, UK, an Honorary Professor at IIT Guwahati, India, and a Visiting Professor at IIT Roorkee, India. His professional experience in teaching, research, and consultancy spans 40 years, mainly in Asia in the fields of hydrological and water resources modeling; integrated water resources management; water supply and sanitation; climate change impact and adaptation; flood and drought analysis, forecasting, and management and water-energy-food nexus. He has co-authored more than 200 journal articles in high impact factor international journals with the current h-index of 46. He was recognized among the top 2% of influential scientists globally in Environmental Engineering in the annual rankings published by Stanford University in October 2023. He was among the world's top 1000 influential climate scientists in the Reuters Hot List published in April 2021. He appeared in the top 2% list of scientists worldwide for research impact based on 2019 achievements in Engineering. Dr.
Babel received the 2018 International Award from the Japan Society of Hydrology and Water Resources.

Prof Dr Steffen Borrmann
Research group leader at the Institute of Tropical
Medicine at the University of Tübingen
CAIDERA
Contact: steffen.borrmann@uni-tuebingen.de

I studied medicine in Berlin, Vienna, Bern and Paris, graduating with both German and US state examinations in 1998. Since then, I have acquired substantial experience in leading multidisciplinary teams, including between 2004-2012 at the KEMRI/Wellcome Trust Research Programme, Kilifi, Kenya – first with an affiliation at University of Oxford and since 2005 via a DFG-funded junior group at University of Heidelberg. Following a short professorship position in Magdeburg, I have re-joined the Institute for Tropical Medicine, University of Tübingen where I had started my career in 1998. Recently, I was appointed full professor in Tübingen.
My research interests centre around a desire to contribute to the development of novel interventions against malaria using the full range of pre-clinical to phase I-III clinical studies. Currently, I am directing a 2-year M.Sc. in "Infection Biology and Control" by Tübingen in Gabon targeting African students and funded through the DAAD Global Health Centres initiative (https://uni-tuebingen.de/ibc). I am currently also leading the preparation of a first-in-Africa controlled human infection trial using local P. falciparum-infected mosquitoes as a new platform to dissect naturally acquired immunity at the Centre de Recherches Médicales de Lambaréné, Gabon (DZIF). In addition, I am leading two large DFG multicentre projects between German and African partner institutions on arbovirus transmission and the biology of neglected, non-falciparum human malaria parasites, co-leading an ARUA-Guild initiative for scaling up PhD training on the African continent (https://www.the-guild.eu/africa-europe-core/Advanced-infectious-diseases-research-and-training.html), co-leading a new EDCTP/EU programme on early and mid-career training in the Central African region that is based on the DAAD CAIDERA programme (https://www.medizin.uni-tuebingen.de/en-de/das-klinikum/pressemeldungen/610) and several other infectious diseases-related research projects.

Prof Dr Daniel Karthe
Head of Research Programme – Resource Nexus for Regions in Transformation at the UNU-FLORES ABCD-Centre
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Prof. Karthe heads the Programme "Resource Nexus for Sustainability Transformations" at United Nations University - Institute for Integrated Management of Material Fluxes and of Resources in Dresden, Germany. Prof. Karthe's main research interest is in integrated approaches to the management of environmental resources and their contribution to sustainable development. He has substantial experience in working in the Global South (particularly Central Asia, India and West Africa). Before joining UNU in 2020, Prof. Karthe established the chair of Environmental Engineering at the German-Mongolian Institute for Resources and Technology (GMIT) in Ulaanbaatar, Mongolia and served as the university's first Vice-Rector for Research. Prior to that, he led and coordinated several national and international research and development projects at the Helmholtz-Centre for Environmental Research in Magdeburg, Germany.

UNVEILING THE FUTURE CLIMATE CHANGE-INDUCED HEAT STRESS EFFECTS ON HUMAN HEALTH

Panel discussion with Q&A to shed light on the perceived and foreseen heat effects on human health (theories and case studies), available methods/tools to assess heat stress effects, and adapting and mitigating actions to future climate change-induced heat stress.

CHAIR

Dr Zuhal Elnour
Senior Researcher at the Humboldt-Universität zu Berlin

Contact: zuhal.elnour@hu-berlin.de

Dr. Zuhal Elnour is a Senior Research Fellow at the International Agricultural Trade and Development Group at Humboldt-Universität zu Berlin. She also serves as a Senior Researcher at the Agricultural Economics and Policy Research Center of the Agricultural Research Corporation in Sudan. Her expertise is further underscored by her consultancy work for esteemed institutions such as the World Bank and the European Commission.
She is an agricultural and development economist specializing in economic and agricultural development, economy-wide simulation modelling and the economics of development and labour. Her research interests focus on addressing the challenges of poverty alleviation and sustainable development. Her current work involves using and developing economy-wide simulation modelling to analyze climate change impacts on human health in Sub-Saharan Africa. Besides, she is experienced in offering professional training on economy-wide modelling, e.g., in Sudan, Germany, Benin, Kenya, and Jordan.

PANELLISTS

Dr Fred Hattermann
Senior Researcher at the Institute for Climate Impact Research

Contact: hattermann@pik-potsdam.de

Martial Houessou
Research Assistant at the Humboldt-Universität zu Berlin
Contact: martial.houessou@hu-berlin.de

Martial Houessou is an Agricultural Economist based in Berlin, Germany. With over four years of experience in socio-economic research and development initiatives, he is dedicated to addressing socioeconomic challenges like climate change, poverty, and food insecurity. Martial currently pursues his Ph.D. in Agricultural Economics at Humboldt University, Berlin.
His professional journey includes significant roles such as Research Assistant at Humboldt University, Regional Monitoring and Evaluation Advisor for GIZ Nigeria, and Research Assistant Consultant for 3IE. Martial holds an International M.S. in Rural Development from Ghent University, a M.S. in Agricultural Economics from the University of Ibadan, and a B.S. in both Agricultural Economics and Sociology-Anthropology from the University of Abomey-Calavi.
Martial has contributed to numerous projects across Africa, focusing on market-oriented value chains, and project impact evaluations. His technical expertise spans general economic modeling, data analysis and visualization, and survey design. Fluent in French and English, and with intermediate German, Martial is recognized for his collaborative mindset and exceptional communication skills.
He has presented his research at international conferences and has been honored with several academic scholarships and awards. His publications include studies on sustainable rice cultivation in sub-Saharan Africa and the relationship between remittances and household expenditure in Benin.

Dr Prasad Liyanage
Senior Researcher at the Heidelberg Institute of Global Health
Contact: prasad.liyanage@uni-heidelberg.de

Dr. Prasad Liyanage is a medical doctor and epidemiologist originally from Sri Lanka. With over 15 years of experience as a public health specialist, he has focused on the surveillance, prevention, and control of vector-borne diseases in tropical countries. Currently, he is a postdoctoral research scientist attached to the Climate Change and Health Intervention Working Group at the Heidelberg Institute of Global Health, Heidelberg University Hospital. His work involves developing climate change adaptation interventions for the most vulnerable populations in sub-Saharan Africa.
Dr. Liyanage employs experimental and quasi-experimental designs to conduct large-scale causal impact evaluations of interventions in the housing, urban design, infrastructure, and food sectors. His goal is to understand how these interventions affect outcomes, including infectious diseases. In Burkina Faso, he supports a randomized controlled trial under the DFG-funded program on climate change and health. This trial tests the effectiveness of passive housing interventions, such as cool roofs, and examines their impact on health, environmental, and economic outcomes in a rural sub-Saharan African setting.

Dr Martina Maggioni
Lead Scientist and Co-PI of the Center for Space Medicine
and Extreme Environments Berlin, Charité – Universitätsmedizin Berlin
Contact: martina.maggioni@charite.de

Martina A. Maggioni is a physiologist who focuses on human adaptations to extreme environments. She has accumulated experience in the development of methods of cardiovascular biosignal analysis. She is especially knowledgeable in the interpretation of the response of physiological control mechanisms to different conditions, in autonomic diseases, ageing, or living in extreme environments, including space-missions.
She is habilitated as a full Professor of Physiology at the Charité - Universitätsmedizin Berlin, where she is currently working as a senior research associate. Martina A. Maggioni is leading several projects granted by different institutions including for example European Space Agency (ESA), German Aerospace Center (DLR), Wellcome trust foundation and the German Research Foundation (DFG). Specifically, in the frame of the DFG-established Research Unit 2936 (2020-2025), she is leading as a co-PI the individual project "Climate change, heat stress and their effects on health and work capacity in vulnerable groups". During her career she developed extensive experience in exercise physiology, studying the effects of exercise on the cardio-respiratory and metabolic profiles in healthy, athletic, older and pathological subjects, with many studies on the autonomic control of heart rate and blood pressure. Martina A. Maggioni has also history of active collaboration in the design, validation and realisation of advanced miniaturised devices for recording the individual level in real-life settings physiological parameters in a variety of environmental conditions.

YOUNG SCIENTISTS IN THE GLOBAL SOUTH – WHAT ARE THEIR CAREER NEEDS AND HOW CAN THEY CONTRIBUTE TO STRENGTHENING THE GLOBAL CENTRES?

Young scientists from each Global Health Centre will have the opportunity to share their experiences and present their views on the respective education and health systems, their experiences with the centre's activities and the next funding phase in order to actively participate in shaping the future of the centres.

CHAIRS

Prof Dr Wilm Quentin
Professor at the University Bayreuth
G-WAC
Contact: wilm.quentin@uni-bayreuth.de

Wilm Quentin is Prof. of Planetary & Public Health at the university of Bayreuth. He is leading the German West-African Centre for Global Health and Pandemic Prevention (G-WAC), is editor-in-chief of the Journal "Health Policy" and editor of the European Observatory'sHealth Care Systems in Transition Series. He has been a consultant for international Organisations (WHO EURO, WHO AFRO, World Bank), national governments (e.g. Ghana, Belgium, Slovenia) and other actors (national health insurance in Poland and South Korea). Wilm is a medical doctor and holds an MSc in Health Policy, Planning & Financing (HPPF) from the London School of Hygiene and Tropical Medicine (LSHTM) and the London School of Economics (LSE). He studied medicine and political sciences in Würzburg, Munich, Madrid, Leipzig and Marburg. He worked almost 15 years at the Department of Health Care Management at the TechnischeUniversität Berlin, where he received his formal lecturer qualification (Habilitation) in Public Health in 2017. He was a visiting fellow at the InstitutNational de SantéPubliquein Abidjan and holds a Visiting Professor position at the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi, Ghana.

Dr Alexa Purgreth
Project Manager at the University of Tübingen
PACE-UP
Contact: alexa.purgreth@klinikum.uni-tuebingen.de

Dr. Alexa Purgreth obtained her Master's degree in Nutritional Sciences and completed her doctoral studies at the University of Hohenheim, Germany, focusing on phytochemicals, their bioavailability and impact on aging. Since 2019, she has been working as a project coordinator for several projects of Prof. Velavan at the Institute of Tropical Medicine, University of Tübingen, who also leads the Vietnamese-German Center for Medical Research, in Hanoi (VG-CARE).
Dr. Purgreth coordinate projects between Vietnam and Germany, including the PAN ASEAN Coalition for Epidemic and Outbreak Preparedness (PACE-UP), a global health hub in Asia led by a multidisciplinary consortium of North-South and South-South collaborations. Furthermore, Dr. Purgreth is actively engaged in coordination of several projects such as the EDCTP – funded Pan African Network PANDORA-ID-NET and Central African Clinical Research Network-CANTAM, and EU-JPIMAR projects on Antimicrobial Resistance.
Dr. Purgreth possesses exceptional skills in organizing and coordinating workshops, symposia, bilateral events, as well as project team and consortia meetings. Her focus extends to enhancing and nurturing the skills of interns, master's students, and PhD candidates from LMICs during their tenure in Germany. Particularly noteworthy are her numerous initiatives aimed at cross-sectoral collaboration, fostering sustainable, long-term networks among young scientists to support their academic endeavors.

PANELLISTS

Fortress Aku
PhD student at the Kwame Nkrumah University of Science and Technology (KNUST)
G-WAC
Contact: fortressfay@yahoo.com

Fortress holds a bachelors degree in medical laboratory technology at the Kwame Nkrumah University of Science and Technology and a masters degree in applied epidemiology and disease control at the University of Ghana. She is currently a PhD student in Public Health at the Kwame Nkrumah University of Science and Technology, Ghana. Her research interest areas include infectious disease epidemiology, antibiotic resistance, surveillance system evaluation, and digital health.

Sylvia Annang
PhD student at the KNUST
G-WAC
Contact: sylviaaannang@gmail.com

I am Sylvia Amartekai Annang, a PhD Public health student at the KNUST School of Public Health and a G-WAC scholar. The use of SORMAS for surveillance and outbreak response management in Ghana is the focus of my doctoral research in the field of digital health.I hold a BSc in Medical Laboratory Technology from KNUST and an MPhil in Health Systems Research and Management. During my MPhil, I researched on innovations in chronic disease care with a focus on the concept of integrated care for persons living with chronic multi-morbidity.
I have experience working for the eHealth Research Partner Group (eHRPG) as a research assistant. During that period, I was a part of the team that co-authored Ghana's Health Policy Brief on the referral and gatekeeping system, and Ghana's Health System In Transition (HIT) among others. I have a keen interest in digital innovations in healthcare and hope to undertake more research in this area.

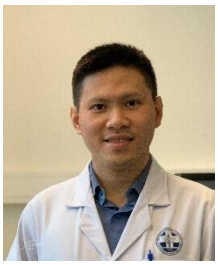
Dr Duc Anh Do
PhD student at the University of Tübingen
PACE-UP

Contact: doducanh216@gmail.com

Presenter biography:
- Medical degree (2014-2021) in Havana, Cuba
- PhD candidate from 2022 on in Tuebingen, Germany

Dr Cao Le Chi
PhD student at the University of Tübingen
PACE-UP

Contact: lccao@huemed-univ.edu.vn



I graduated from the University of Medicine and Pharmacy in Hue (HUMP) in 2016 with a degree in medicine. Since September 2016, I have been working as a lecturer in the Department of Parasitology at HUMP. During this time, I participated in the joint Master's program between HUMP and the University of Sassari, Italy. In 2019, I completed my Master's degree with a project on sexually transmitted diseases, focusing on Trichomonas vaginalis infection and its sensitivity to metronidazole. Since 1 January 2022, I have been successfully enrolled as a PhD student in the Experimental Medicine program at the Medical Faculty of the University of Tübingen as part of the PAN ASEAN Coalition for Epidemic and Outbreak Preparedness (PACE-UP) project funded by the German Academic Exchange Service (DAAD). I am currently working in the research group of Prof Velavan TP and will write my PhD thesis on "Zoonotic hepatitis E virus and its burden on human and public health".

Barbara Mouyama
PhD student at the Institut Pasteur Paris and the University
of Tübingen
CAIDERA
Contact: barbara.mouyama@pasteur.fr

SCIENTIFIC THESIS - CAIDERA, University of Tübingen - Institut Pasteur Paris - Centre de Recherche Médicales de Lambaréné (since 2022) –

PhD student "Study of Plasmodium malariae infection dynamics ex vivo, and in vivo in a new model of humanized mice"
PHARMACEUTIC THESIS DEFENSE - Health Unit, University of Angers (2023) –

Graduate State diploma of doctor of pharmacy "Status report and pharmacological issues associated with antimalarial treatments in 2023 : Interest in innovative approaches for establishing reinforced therapeutic strategies"

MASTER 2 HEALTH-BIOLOGY - Orsay Sciences Unit, University of Paris-Saclay (2020-2021) - Graduate M2 Fundamental microbiology, School Life Science and Health
- Specializations : Genome stability & evolution, Cellular and molecular virology

MASTER 1 RESEARCH - Health Unit, University of Angers (2018) - Graduate M1 Drugs sciences
- Specializations : Physiopathology of infectious human diseases

FACULTY OF PHARMACY - Health Unit, University of Angers (2015-2021) - Pharmaceutical sciences course
- Specializations : Microbiology, Immunology & bio-reactants, Health ecology

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Felipe Adonis Escalona Rodriguez
PhD student at the University of Havana
GLACIER
Contact: adonisrodrguez@gmail.com

I am a biochemist and researcher hailing from Cuba. With a Master's degree in Biochemistry, with a Biotechnology Mention, from the Biology Faculty of the University of Habana, I graduated with Summa Cum Laude. My academic journey has been marked by a relentless pursuit of scientific exploration, delving into the intricate mechanisms of protein function and cellular interactions.
My research endeavors have centered around the characterization of various biomolecules, with a particular focus on poreforming toxins and their potential applications in gene delivery systems. From my early days as a student, where I delved into the pore-forming capacity of proteins from sea anemones, to my current role as a researcher at the Center for Protein Study (CEP) in Cuba, I have been dedicated to pushing the boundaries of scientific knowledge.
With a robust background in cell culture, molecular biology techniques, and advanced microscopy, I have contributed to numerous scientific events and international conferences, presenting my findings on platforms ranging from atomic force microscopy to the development of non-viral vectors for gene delivery. Awards such as the ELAP scholarship and participation in prestigious projects like the Marie Curie - RISE 2017-2021 H2020 Project underscore my commitment to excellence in scientific inquiry.

POLICY DIALOGUE: HOW (PROJECTS LIKE) THE GLOBAL CENTRES CONTRIBUTE TO BETTER HEALTH AND BETTER CLIMATE

What is the contribution of programmes like the Global Centres to overcome the climate crisis and to reach better health world-wide? What further support can German policymakers provide to strengthen international scientific cooperation? What can the DAAD and the Global Centres do to make the Centres even more politically and socially relevant in their second funding phase?

WELCOME AND PANELLISTS

Anke Reiffenstuel
Director for Education and Science Diplomacy, German Federal Foreign Office

(born on 7 October 1968 in Halle, married, 3 children)
Director for Education and Science Diplomacy at the Federal Foreign Office in Berlin since August 2023.
From 2019 to 2023 she was Ambassador at the German Embassy in Manila.
From 2012 to 2019 she was first Deputy and then Head of the Division of Humanitarian Assistance, Crisis Prevention, Humanitarian Demining (Operations), Stabilization and Post-Conflict reconstruction at the Federal Foreign Office in Berlin.
Anke Reiffenstuel has worked in the diplomatic service since 1993; her postings included the German embassies in London, New Delhi, Cairo and Manila.
During her first two years as German Ambassador in the Philippines she had the chance to get to know different places, where she met with Representatives and Officials to not only strengthen the bilateral relationship between both countries, but also to get to know better its people and their culture. Her journey lead her to Mindanao, Iloco South & North, Cebu, Palau, Cavite, Negros, Bohol, Zamboanga, Davao and Mindoro.
Anke Reiffenstuel studied German and English studies at the Martin-Luther-University Halle and has a MA . in German and Literature studies.

Dr Kai Sicks
Secretary General, DAAD

Kai Sicks, born 1976, studied German Studies and Political Sciences in Frankfurt/Main, Cologne and Vienna. In 2008 he completed his Ph.D. in German Literary Studies. He was a research scholarship holder at the German Historic Institute in Washington, D.C. and at Cornell University (USA).
From 2008 until 2013 Dr Sicks acted as coordinator of the European PhD Network in Literary and Cultural Studies (PhDnet) at the International Graduate Center for the Study of Culture (University of Giessen) with partner organizations in Bergamo, Helsinki, Lissabon and Stockholm.
In 2013 Dr Sicks became managing director of the Bonn Graduate Center, the central service unit for early-career researchers at the University of Bonn. As of 2017, he was appointed as director of the University of Bonn's International Office. In this position, Dr Sicks co-authored the University of Bonn's Excellence Strategy and acted as Bonn's project manager of the European University of Brain and Technology (NeurotechEU).
In April 2021 Dr Kai Sicks was appointed as Secretary General of the German Academic Exchange Service (DAAD).

CHAIR

Dr Christina Berndt
Süddeutsche Zeitung

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Dr Christina Berndt works as an author, journalist and speaker on topics like medicine, psychology and life sciences. Since 2000 she has been part of the editorial staff of the Süddeutsche Zeitung. After studying biochemistry in Hanover and Witten/Herdecke, she wrote her doctoral thesis at the German Cancer Research Centre in Heidelberg, for which she received the doctoral prize of the German Society for Immunology. She has also received numerous awards for her journalistic work, including the European Science Writers Award, the Wächterpreis der Tagespresse (Guard Prize of the Daily Press) for her revelations of the transplantation scandals, the Media Award of the Stiftung Gesundheit (Health Foundation), the Dr. Georg Schreiber Award for Science Journalism and an honorary award from the German Association for Psychiatry, Psychotherapy and Psychosomatics for sustained good reporting on mental health. She has been named Journalist of the Year several times, most recently Science Journalist of the Year 2021. Her books on "Resilience", "Contentment" and "Individuation" have become bestsellers.

PANELLISTS

Dr John Amuasi
Head of Department of Global Health at the Kwame Nkrumah University of Science and Technology (KNUST)
G-WAC
Contact: amuasi@kccr.de

John AMUASI is based at the Kwame Nkrumah University of Science and Technology, where Heads the Global Health Department of the School of Public Health and Leader of the Global One Health Research Group at the Kumasi Center for Collaborative Research in Tropical Medicine (KCCR). He holds a W2 Professorship of Global One Health at the Bernhard Nocht Institute of Tropical Medicine and the University of Eppendorf in Hamburg, Germany, is an adjunct Professor at the University of Minnesota School of Public Health in the USA, and an Honorary Visiting Research Fellow in Tropical Medicine at the University of Oxford in the UK. For over 20 years, he has engaged in Tropical Medicine and Global Health research - including in malaria, NTDs, AMR and One Health. He has also consulted for several Global Health-focused organizations and supported civil society organizations with technical expertise on matters related to access to drugs, vaccines, and diagnostics, as well as strategic advice related to Global Health research. He further serves as Co-Chair of The Lancet One Health Commission, and as a regular technical advisor/contributor to several Global Health organizations. He is passionate about mentorship and sustainably building health research capacities in Africa.

Prof Dr Mukand Babel
Professor for Water Engineering and Management (WEM)
at the Asian Institute of Technology (AIT)
ABCD-Centre
Contact: msbabel@ait.ac.th

Dr. Mukand S. Babel is a Professor of Water Engineering and Management (WEM) and Director of the Centre for Water and Climate Adaptation (CWCA) at the Asian Institute of Technology (AIT), Thailand. He is also an Adjunct Professor at UNU-FLORES, Germany, an Honorary Professor at the University of Exeter, UK, an Honorary Professor at IIT Guwahati, India, and a Visiting Professor at IIT Roorkee, India. His professional experience in teaching, research, and consultancy spans 40 years, mainly in Asia in the fields of hydrological and water resources modeling; integrated water resources management; water supply and sanitation; climate change impact and adaptation; flood and drought analysis, forecasting, and management and water-energy-food nexus. He has co-authored more than 200 journal articles in high impact factor international journals with the current h-index of 46. He was recognized among the top 2% of influential scientists globally in Environmental Engineering in the annual rankings published by Stanford University in October 2023. He was among the world's top 1000 influential climate scientists in the Reuters Hot List published in April 2021. He appeared in the top 2% list of scientists worldwide for research impact based on 2019 achievements in Engineering. Dr. Babel received the 2018 International Award from the Japan Society of Hydrology and Water Resources.

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Ruppert Stüwe
Member of the German Parliament and Member of the parliamentarian Sub-committee for Global Health, SPD

Since 2021, Ruppert Stüwe is serving as member of parliament in the German Bundestag, rep-resenting the Social Democratic Party. In the Committee on Education, Research and Technology Assessment, he acts as rapporteur for international education and research policy, health re-search, digitalization and research data infrastructures. Furthermore, he serves in the Subcom-mittee on Global Health, the Petition Committee and as a substitute member in the Budget Committee and the Transport Committee. Mr Stuewe is an economist by training, and studied at the University of Passau, the Masaryk University in Brno/Czech Republic and the Freie Universität Berlin. Before joining the German parliament, he was inter alia acting as head of strategy for the Berliner Verkehrsbetriebe, Germany's largest public transport company.

WORKSHOP: GLOBAL PARTNERSHIPS IN GRADUATE TRAINING: STRATEGIES FOR LASTING IMPACT

In this 60-minute workshop, participants will explore strategies to build effective global partnerships in graduate training. Focused discussions and interactive activities will provide insights into practical approaches that both graduate students and higher education institutions can adopt to ensure a lasting impact on graduate training programs worldwide.

CHAIRS

Ana Diogo de Oliveira
Project Manager at the University of Tübingen
CAIDERA
Contact: ana-luiza.diogo-de-oliveira@uni-tuebingen.de

My passion for life sciences has accompanied me for over 10 years and led me to a doctorate in Biology, which I have just completed.
As I continue to contribute to the scientific community, I am enthusiastic about the opportunities to collaborate, innovate, and make impactful contributions to the advancement of academic knowledge.

Theresa Kahl
Degree Programme Coordinator at the University of Tübingen
CAIDERA
Contact: theresa.kahl@med.uni-tuebingen.de

For about two years now, I have been the program coordinator of the Master's program in Infection Biology and Control, which is part of the DAAD-funded CAIDERA project.

CLOSING SESSION

CHAIR

Stefan Bienefeld
Head of Division “Transnational Education and Cooperation Programmes”, DAAD,
Contact: bienefeld@daad.de

Stefan Bienefeld is Head of Division P2, Transnational Education and Cooperation Programmes at the German Academic Exchange Service (DAAD) since 2020.
Mr. Bienefeld holds a degree in psychology from the University of Bielefeld, Germany. He worked for the German Rectors Conference, the national Association of German universities, as a programm manager on issues linked to the Bologna process and as a head of a project dealing with Quality Assurance in Germany and Europe prior to joining DAAD in 2009.
2009 he started at DAAD as head of division 435, responsible for large scale university cooperation programmes between German universities and partner HEIs in developing countries as well as programmes for the worldwide mobility of German university teaching staff. From 2011 to 2015 he was head of division 43 and in this capacity held the responsibility for all DAAD programmes with funding from the German Federal Ministry for Economic Cooperation and Development, including financial and strategic issues with the Ministry as well as cooperation with external partners such as GIZ, KfW, UNESCO, the World Bank and civil society organizations.
From 2015 to 2019 he was head of division P3, Development Co-operation and transregional programmes dealing with project funding programmes in development cooperation, alumni, German studies and the German language as well as research mobility.

RAPPORTEURS

Theresa Kahl
Degree Programme Coordinator at the University of Tübingen
CAIDERA
Contact: theresa.kahl@med.uni-tuebingen.de

For about two years now, I have been the program coordinator of the Master's program in Infection Biology and Control, which is part of the DAAD-funded CAIDERA project.

Esmeralda Osejo Brito
Project and Communications Manager at the Universidad Autonoma de Mexico (UNAM)

Project and Communications Manager at GLACIER DAAD Centre. Bilingual storyteller with over 12 years of experience in creative writing and content edition, along with lifelong experience in illustration She does her best to contribute to human well-being and environmental sustainability. Through her work, she aims to encourage the values and ethical changes needed to improve the global situation and welfare of both humans and non-humans.

Prof Dr Wilm Quentin

Professor at the University of Bayreuth
G-WAC

Contact: wilm.quentin@uni-bayreuth.de

Wilm Quentin is Prof. of Planetary & Public Health at the university of Bayreuth. He is leading the German West-African Centre for Global Health and Pandemic Prevention (G-WAC), is editor-in-chief of the Journal "Health Policy" and editor of the European Observatory'sHealth Care Systems in Transition Series. He has been a consultant for international Organisations (WHO EURO, WHO AFRO, World Bank), national governments (e.g. Ghana, Belgium, Slovenia) and other actors (national health insurance in Poland and South Korea). Wilm is a medical doctor and holds an MSc in Health Policy, Planning & Financing (HPPF) from the London School of Hygiene and Tropical Medicine (LSHTM) and the London School of Economics (LSE). He studied medicine and political sciences in Würzburg, Munich, Madrid, Leipzig and Marburg. He worked almost 15 years at the Department of Health Care Management at the TechnischeUniversität Berlin, where he received his formal lecturer qualification (Habilitation) in Public Health in 2017. He was a visiting fellow at the InstitutNational de SantéPubliquein Abidjan and holds a Visiting Professor position at the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi, Ghana.

Prof Dr Thirumalaisamy Velavan
Member of the Academic Advisory Board

Professor at the University of Tübingen
PACE-UP
Contact: t.velavan@uni-tuebingen.de

Prof. Dr. Thirumalaisamy P. Velavan is a Professor and Akademischer Oberrat at the University of Tübingen, Germany, and an expert in infectious disease research. He is founder and director of the Vietnamese-German Centre for Medical Research (VG-CARE; www.vgcare.org) in Vietnam and coordinator of the global health hub 'PAN ASEAN Coalition for Epidemic and OUtbreak Preparedness (PACE-UP; www.paceup.org)', which aims to bring together multidisciplinary experts from the South-South to combat emerging and remerging infectious diseases.
Prof. Velavan has trained and mentored many younger generation scientists in low- and middle-income countries with a vision to increase, strengthen and sustain individual and institutional capacity in infectious diseases research. Prof Velavan has published more than 200 peer-reviewed publications with an h-index of 47. He is also the recipient of the 2021 Tropical Medicine Award of the German Society for Tropical Medicine and Global Health.
Prof. Velavan is a member of the Scientific Advisory Board and the Review Panel of the German Federal Ministry of Health (GHPP-BMG), the German Society for International Cooperation (GIZ), the German Academic Exchange Service (DAAD), UNESCO-The World Academy of Sciences (TWAS) and the National Foundation for Science and Technology Development (NAFOSTED) and the Ministry of Science and Technology (MOST) Vietnam.

Short Profiles and Abstracts of Individual Presenters

LABORATORY ADVANCED DIAGNOSTICS, TREATMENT, DISEASE MONITORING, VACCINATION AND INFECTION CONTROL (AMR) 1

CHAIR

Prof Dr Ludger Wessjohann
Director of the Department of Bioorganic
Chemistry at the Leibniz Institute of Plant Biochemistry
GLACIER
Contact: wessjohann@ipb-halle.de

PRESENTERS

Supporting the Implementation of One Health AMR NAP Activities in Africa Using the Example of Namibia

Dr Sylvia Dreyer
Scientist at the Friedrich-Loeffler-Institut, GLACIER
Contact: sylvia.dreyer@fli.de

Dr. Dreyer studied biology with a specialisation in microbiology at the Eberhard Karls University, Tübingen, from 2007 to 2012. In 2017, she finished her PhD in Infection Biology at the Hannover Medical School. From 2017 to 2021, she studied Public Health at Hannover Medical School, finishing an MSc in Public Health. From 2017 to 2019, she worked as a postdoc at Hannover Medical
School in the Division of Immunodermatology and Allergy Research. There, she worked on antimicrobial peptides (AMPs) and how they influence the host immune system, focusing on skin diseases. Since September 2019, she has been working as a postdoc at the Friedrich-Loeffler-Institut at the Institute of International Animal Health/One Health, Greifswald. Here, she focuses on AMR-related capacity building in countries beyond the European border and intends to establish a group on antibiotic-resistant bacteria and AMP-derived treatment options.

Abstract:
Background. Antimicrobial Resistance (AMR) is listed among the top 10 global health threats and among the 13 urgent health challenges for the next decade by WHO. To tackle AMR, the WHO released the Global Action Plan (GAP) on AMR in 2015. Subsequently, countries started to launch National Action Plans (NAP) in 2017. However, in many countries, little progress has been made to implement NAP activities since then, which underlines the need for capacity building.
Objective. The AMR component of the Global Health Protection Programme (GHPP)-funded project " Enhancing the Institutionalisation of One Health in Namibia" intends to support the implementation of NAP activities in the veterinary sector while strengthening the One Health approach through intersectoral collaboration.
Method. Implemented activities are based on the country-specific NAP. A consultative process with the involved authorities guides the decisions about the specifications and mode of implementation.
Results. Since 2021, the following activities have been implemented: (1) national AMR stakeholder workshops, (2) laboratory workshops, and (3) field studies. The first activity is being held annually with a report as a result. The latter two resulted in the development of laboratory protocols, the establishment of laboratory methods, and better cooperation between different Namibian institutes.
Conclusions. Considering the lack of systematically collected AMR data in the veterinary and environmental sectors, the project has built essential capacity, enabling Namibia to successfully address the challenges of combating AMR within the NAP framework. Our experiences showed that AMR work benefits from long-term investment to implement activities sustainably. Especially when using a One Health approach, which is inevitable for tackling AMR, the sustained guidance of a NAP is essential in building a trustful cooperation over time that enables a satisfactory outcome for all.

Investigation of Oral Ciprofloxacin Sensitivity From Authorised and Unauthorised Pharmacies in Nigeria and Vietnam

Prof Dr Olusola Ojurongbe
Humboldt Research Hub Leader, Ladoke Akintola University of Technology
Humboldt Research Hub
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Olusola Ojurongbe is a Professor of Medical Parasitology in the Department of Medical Microbiology and Parasitology, Ladoke Akintola University of Technology (LAUTECH), Ogbomoso, Nigeria. He is the head of the Humboldt Research Hub-Center for Emerging and Reemerging Infectious Diseases (HRH-CERID) LAUTECH. He holds a Bachelor of Science in Microbiology from the University of Ibadan and a master's and Ph.D. in Medical Parasitology from the University of Lagos. He has a broad background in microbiology and parasitology, with specific training and expertise in parasite genomics and host genetics. He has worked extensively on the molecular basis of malaria drug resistance and host genetics of schistosomiasis. He has won many, travel grants, awards and honours, including the best Ph.D. thesis at the College of Medicine University of Lagos in 2009. He is a fellow of the prestigious Alexander von Humboldt Foundation and also the German Academic Exchange Service (DAAD). He has won several research grants, including establishing the HRH-CERID LAUTECH, a well-equipped genomic laboratory funded by Bayer Foundation, Germany. His current research is on malaria, neglected tropical diseases, and emerging infectious diseases.
He has successfully supervised many master's and Ph.D. students. He has published over ninety research articles in peerreviewed journals.

Abstract:
Background and objectives:
The rise in antimicrobial resistance (AMR), particularly in low- and middle-income countries (LMICs), is alarming. Substandard and counterfeit medicines play a role in the emergence and spread of AMR. This joint HRH-CERID and PACE-UP project aimed to determine the antimicrobial efficacy of different/identical brands of ciprofloxacin from Vietnam and Nigeria and the purity of the antibiotic.
Methods:
In the study, questionnaires were collected to identify various factors that could influence the quality of antibiotics. Oral ciprofloxacin tablets from 26 licensed and unlicensed pharmacies (13 each from Nigeria and Vietnam, respectively) were tested for antimicrobial efficacy using a modified Kirby-Bauer disc diffusion method with standard strains (E. coli ATCC®25922 and S. aureus ATCC®25923, P. aeruginosa®27853 and E. cloacae®13047). The purity of ciprofloxacin was determined using Highperformance liquid chromatography (HPLC).
Results:
The number of licensed pharmacies was higher in Vietnam than in Nigeria. While there were no unlicensed pharmacies in Vietnam, 46.2% of unlicensed pharmacies were in Nigeria. In Vietnam, all sales staff had a good level of education (bachelor's in pharmacy 61.5%; College degree 38.5%) compared to Nigeria (bachelor's in pharmacy 23.1%; college degree 15.4%; diploma 30.8%; no degree 30.8%%). Antimicrobial susceptibility testing showed that 26 and 19 ciprofloxacin brands from Nigeria and Vietnam, respectively, were within the tolerated range of inhibition zone diameter of 29-38 mm for E. coli ATCC®25922, 22-30 mm for S. aureus ATCC®25923 and 25-33 mm for P. aeruginosa®27853 according to CLSI standards, confirming their antimicrobial activity. The purity of ciprofloxacin is currently being determined using HPLC.
Conclusion:
This study addresses whether substandard and counterfeit medicines could catalyze antimicrobial resistance in a sub-Saharan African region and a Southeast Asian study region. The Nigerian government may need to enforce a policy that only allows qualified individuals to dispense drugs.

Exploring Last-resort Antibiotics Against Multidrug-resistant Gram-negative Bacteria in Vietnam – Do We Have Enough Options?

Prof Dr Dennis Nurjadi
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Prof. Dr. Dennis Nurjadi is a physician with board certification in medical microbiology, virology and epidemiology of infectious diseases. After the completion of his specialist training at the Department of Medical Microbiology and Hygiene of the Heidelberg University Hospital, he was appointed Professor for Diagnostic and Clinical Infection Epidemiology at the Department of Infectious Diseases and Microbiology at the University of Lübeck and University Medical Center Schleswig Holstein in 2022.
Apart from heading the microbiological diagnostics, the research group led by Dennis Nurjadi works on bacterial genomics and antimicrobial resistance. In this context, his group focuses on molecular epidemiology and genome sequencing to understand the dynamics of the transmission and spread of multidrug-resistant bacteria as well as the underlying mechanisms mediating antibiotic resistance in clinically relevant pathogens. In PACE-UP, he contributes to various projects revolving around microbiological diagnostics and antimicrobial resistance. His involvement extends to various research consortia, such as the German Center for Infection Research, dedicated to advancing antimicrobial resistance (AMR) research.

Abstract:
Introduction: This study evaluates the efficacy of last-resort antibiotics against multidrug-resistant (MDR) Gram-negative bacteria in Vietnam. Given the escalating threat of antibiotic resistance, particularly in Gram-negative infections, we assess the availability and effectiveness of these crucial options. Our research provides insights into Vietnam's current antibiotic landscape, addressing limitations and suggesting areas for improvement in combating MDR strains.
Methods 105 carbapenem-resistant (CR) Klebsiella pneumoniae, 22 CR-Pseudomonas aeruginosa and 31-CR Acinetobacter baumannii isolates from Hanoi, Vietnam, underwent extended antibiotic susceptibility testing using the MRGN panel Bruker and broth microdilution method. The antibiotics tested included ceftazidime/avibactam, ceftolozan/tazobactam, colistin and cefiderocol. Isolate characterisation was performed by WGS sequencing using Illumina short-read sequencing.
Results: For CR-K. pneumoniae, resistance rates were observed as follows: 21% (22/105) to cefiderocol, 39% (41/105) to colistin, 44% (44/99) to ceftazidime/avibactam, and 96% (95/99) to ceftolozan/tazobactam. Among colistin-resistant CR-K. pneumoniae, 3 out of 41 isolates carried IncX4_1 mcr-1.1 plasmids, while the predominant resistance mechanism involved mgrB mutations (61%, 25/41). A statistical trend suggested an association between colistin exposure and the detection of colistin and CR-K. pneumoniae (16/34; 47.1% vs. 22/67; 23.8%, p=0.2). Three CR-K. pneumoniae isolates were pan-resistant. For CR-P. aeruginosa, resistance rates were 77% (17/22) to cefiderocol, 86% (19/22) to ceftazidime/avibactam, 91% (20/22) to ceftolozan/tazobactam and 9% (2/22) to colistin. No pan-resistant CR-P. aeruginosa isolates were identified. For CR-A. baumannii, 32% (10/31) were resistant to cefiderocol and 6% (2/31) were resistant to colistin. One A. baumannii isolate was pan-resistant. WGS for P. aeruginosa and A. baumannii isolates is ongoing.
Conclusion: Our study unveils a concerning trend in Vietnam, where clinically relevant MDR Gram-negatives display resistance to reserve antibiotics. The prevalence of chromosomal mgrB mutation, particularly in colistin-resistant CR-K. pneumoniae, strongly implies that antibiotic overuse may be the primary driver of colistin resistance. The emergence of pan-resistant strains is alarming, emphasizing the need for heightened genomic surveillance.

Natural Antimicrobial Peptides as Effective new Tools for Infection Control: Optimized Sequences to Fight Against Antimicrobial Resistance

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Medical Faculty, University of Ulm, Germany
University education, degree:
Studies of Biochemistry (10/1987 – 06/1994), Leibniz University of Hannover, Diploma
Advanced academic qualifications:
Habilitation, Hannover Medical School 2001, mentor: Prof. Dr. W.G. Forssmann ;
Dr. rer. nat. (Ph.D): Hannover Medical School 1996
Postgraduate professional career:
since 2016: Head of Core Facility Functional Peptidomics (CFP), University of Ulm
since 2012: Laboratory Head of Ulm Peptide Pharmceuticals (U-PEP) center, University of Ulm
2007-2016: Scientific Director, Pharis Biotec GmbH, Hannover, Germany
2007-2008: Guest Professor for Bioanalytics at the Hochschule Köthen, Germany
2007-2011: Laboratory Head, Peptide Research Group, Hannover Medical School,Germany
2005-2006: Marie-Curie Fellow at the Center for Biological Investigation (CIB, CSIC), Madrid
2001-2004: Member of the Steering Committee of IPF GmbH/TAP Pharma (IL, USA)
2001: Habilitation diploma. Hannover Medical School, Germany
2001-2004: Laboratory Head, IPF PharmaCeuticals GmbH, Hannover
1997-2000: Postdoc, Lower Saxony Institute of Peptide Research (IPF), Hannover

Abstract:
Background: the WHO has defined most threatening pathogens for which an urgent need of action exists to develop new powerful antibiotics, e.g. the carbapenem-resistant strains of the opportunistic bacterium Pseudomonas aeruginosa or methicillin-resistant Staphylococcus aureus (MRSA). Antimicrobial peptides (AMPs) are a promising class of new drug molecules with a wide range of activity against viruses, bacteria, fungi, and parasites. Due to their special mechanism of action, AMPs generally show robustness against development of antimicrobial resistance.
Objectives: identify, synthesize, test, and optimize new AMPs active against the main protagonists of antimicrobial resistance
Methods: as invertebrates do not possess an aquired immunity, they produce an impressive variety of AMPs. We use invertebrates as a source to identify novel AMPs through bioscreening and bioinformatics approaches.
Results and Conclusions: in collaboration with partners in Latin America, we were able to identify and optimize new selective AMPs from different coastal and marine invertebrates. These peptides were chemically synthesized, their structure and function was optimized by iterative and bioinformatical steps, and they were broadly tested on reference strains and clinical isolates. Our AMP derivatives potently inhibit multidrug-resistant strains of e.g. Mycobacteria, Candida, Pseudomonas, Listeria, and Klebsiella. They inhibit planktonic cells as well as biofilm formation. We aim to develop selected AMPs as clinical drug candidates.

EPIDEMIOLOGY AND SURVEILLANCE OF EMERGING AND RE-EMERGING INFECTIOUS AND ZOONOTIC DISEASES (PREPAREDNESS, RESPONSE AND POST-CRISIS CARE) 1

CHAIR

Prof Dr Thirumalaisamy Velavan
Member of the Academic Advisory Board

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Prof. Dr. Thirumalaisamy P. Velavan is a Professor and Akademischer Oberrat at the University of Tübingen, Germany, and an expert in infectious disease research. He is founder and director of the Vietnamese-German Centre for Medical Research (VG-CARE; www.vgcare.org) in Vietnam and coordinator of the global health hub 'PAN ASEAN Coalition for Epidemic and OUtbreak Preparedness (PACE-UP; www.paceup.org)', which aims to bring together multidisciplinary experts from the South-South to combat emerging and remerging infectious diseases.
Prof. Velavan has trained and mentored many younger generation scientists in low- and middle-income countries with a vision to increase, strengthen and sustain individual and institutional capacity in infectious diseases research. Prof Velavan has published more than 200 peer-reviewed publications with an h-index of 47. He is also the recipient of the 2021 Tropical Medicine Award of the German Society for Tropical Medicine and Global Health.
Prof. Velavan is a member of the Scientific Advisory Board and the Review Panel of the German Federal Ministry of Health (GHPP-BMG), the German Society for International Cooperation (GIZ), the German Academic Exchange Service (DAAD), UNESCO-The World Academy of Sciences (TWAS) and the National Foundation for Science and Technology Development (NAFOSTED) and the Ministry of Science and Technology (MOST) Vietnam.

PRESENTERS

AIMS: Dynamics of Infectious Diseases: Unraveling the Interplay Between Imperfect Vaccines, Trade offs and Population Turnover

Hetsron Legrace Nyandjo Bamen

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DAAD Research Grant

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I'm Hetsron Legrace NYANDJO BAMEN, a PhD candidate in applied mathematics from the University of Rwanda. I am interested in how we can use stochasticity to better understand the influence of climate change on the outbreak of infectious epidemics and the coevolution of host-parasite systems. In my research I want to make key advances in improving the abilities of epidemiological models to forecast future epidemics in human, animal and plant populations. I'm usually conducting my research at the African Institute for Mathematical Sciences(AIMS), Ghana.
Actually, I'm doing a research stay at the Professorship of Population Genetics of Technical University of Munich(TUM) sponsored by the Deutscher Akademischer Austauschdienst(DAAD) one year grants for doctoral candidates. There, I'm working on the influence of climate on Malaria disease.

Abstract:

Background and objectives: Vaccination is essential for the management of infectious diseases, many of which continue to pose devastating public health and economic challenges across the world. However, many vaccines are imperfect having only a partial protective effect in decreasing disease transmission and/or favoring recovery of infected individuals, and possibly exhibiting tradeoff between these two properties. Furthermore, population turnover, that is the rate at which individuals enter and exit the population, is another key factor determining the epidemiological dynamics. While these factors have yet been studied separately, we aim to investigate the interplay between the efficiency and property of an imperfect vaccine and population turnover.

Methods: We build a mathematical model with frequency incidence rate, a recovered compartment, and an heterogeneous host population with respect to vaccination. We first compute the basic reproduction number R0 and study the global stability of the equilibrium points. Using a sensitivity analysis, we then assess the most influential parameters determining the total number of infected and R0 over time. We derive analytically and numerically conditions for the vaccination coverage and efficiency to achieve disease eradication ($R0 < 1$) assuming different intensity of the population turnover (weak and strong), vaccine properties (transmission and/or recovery) and trade-off between the latter.

Results and conclusion: We show that the minimum vaccination coverage increases with lower population turnover, decreases with higher vaccine efficiency (transmission or recovery), and is increased/decreased by up to 15% depending on the trade-off between the vaccine properties. We conclude that the coverage target for vaccination campaigns should be evaluated based on the interplay between these factors.

Continuous Monitoring of Arboviruses and Circulating Dengue Serotypes in Vietnamese Patients Diagnosed with Viral Hemorrhagic Fever

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Presenter biography:
- Medical degree (2014-2021) in Havana, Cuba
- PhD candidate from 2022 on in Tuebingen, Germany

Abstract:
Background and Objectives: Arboviruses play a significant role in the emergence and re-emergence of vector-borne diseases, underscoring their important role in the Global One Health framework. In northern Vietnam, from 2020 to 2022, we (i) longitudinally assessed the prevalence of Dengue/Zika/Chikungunya viruses in patients with hemorrhagic fever and (ii) investigated the associations of the clinical and laboratory data of patients with dengue serotypes and varying infection severity.
Methods: Hospitalized patients diagnosed with viral hemorrhagic fever were included (n=426; 2020=120; 2021=165; 2022=141), clinically stratified as follows: dengue without warning signs (DF, n=272), dengue with warning signs (DWS, n=138), and severe dengue (SD, n=13). The extracted RNA was analyzed for Dengue/Zika/Chikungunya viruses using multiplex real-time PCR. Patient plasma samples were subjected to dengue rapid tests (NS1, IgM, IgG). Additionally, 48 chemokines and cytokines were measured and analyzed.
Results: While Zika and Chikungunya were not observed, the Dengue virus (DENV) was the most common circulating arbovirus and remained the primary contributor to hemorrhagic fever. DENV-2 was the most prevalent (61%), followed by DENV-1 (31%) and DENV-4 (7%). A relatively low proportion of DENV-3 serotype was observed in 2020, but not in 2021 and 2022. Secondary infections are associated with increased severity and the presentation of warning signs. Several cytokines were modulated in patients with respect to varying severities.
Conclusion: For three consecutive years, DENV-1 and DENV-2 were the predominant serotypes circulating in the northern region, with no other arboviruses detected in the context of viral hemorrhagic fever. Host inflammatory markers are significantly modulated in patients with varying degrees of severity and could potentially be considered as prognostic biomarkers.

Spatial and Temporal Distribution of Vectors and Associated Arboviruses in Vietnam

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2013-2017: Degree of Bachelor in Biotechnology (advance programme), Vietnam National University of Agriculture, Hanoi, Vietnam
2018-2020: Degree of Master of Science in Applied Life Science with the Major of Molecular Biology, Gyeongsang National University,
Jinju, South Korea.
2022-now: Ph.D student at the Institute of Tropical Medicine, University of Tübingen, Tübingen, Germany

Abstract:
Background and objectives: Vietnam has a tropical climate that provides a favourable environment for mosquitoes and associated arboviruses (arthropod-borne viruses), which cause a significant health burden. On a spatial and temporal scale, we aimed to (i) investigate the abundance, richness and diversity of vectors; (ii) characterise the ecology of vectors; (iii) determine the infection rate of arboviruses with a focus on the Flaviviridae family.
Methods: Mosquitoes and other vectors (biting midges and sand flies) were collected with BG-Pro traps at urban, rural and natural habitats in four different geographical regions (North, South, Central and Highlands), which represent different climatic conditions and environments. Sampling was conducted in 2022 (North and South: July to December) and 2023 (Central and Highlands: May to October). The mosquitoes were identified by morphology, which was confirmed by DNA-barcoding. In addition, the identified mosquitoes are analyzed for Flaviviridae using reverse transcription PCR.
Results: A total of 19,962 mosquitoes were caught. So far, 7,806 mosquitoes (from the North and South) have been identified. Among them, Culex tritaeniorhynchus (6077 specimens, 77.8% of all identified specimens), Culex quinquefasciatus (650 specimens, 8.3%) and Culex pseudovishnui (299 specimens, 3.8%) were the most common species. Culex tritaeniorhynchus was the most dominant species for all land-uses including urban (713 specimens, 78% of collected specimens for this land-use category), rural (1,154, 89%) and natural (4,160, 87%) sampling sites. Culex quinquefasciatus was second frequent species in urban (373 specimens, 28%) and rural (205 specimens, 15%) areas, but was rarely found in natural area, where Culex pseudovishnui (214 specimens, 4%) was the second common species.
Conclusion: Further molecular tests for Flaviviridae using reverse transcription PCR and morphometric wing analysis as an identification tool in the future are in progress. Given global change processes, it is important to understand the geographical distribution of vectors and associated viruses.

Factors Associated with Excess Mortality in Healthcare Facilities During the COVID-19 Pandemic: Preliminary Findings from Ghana

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Jonathan Mawutor Gmanyami studied Environmental Health before completing a master's in Applied Epidemiology. He worked as a Teaching Assistant at the School of Public Health, University of Health and Allied Sciences (UHAS) and later as a research assistant at the Institute of Health Research, UHAS in Ghana. Since 2021, he has worked as field and call center supervisor at the Global Health and Infectious Diseases Research Group, at the Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR).
As part of his dissertation, he has conducted a systematic review of published literature on excess mortality related to the COVID-19 pandemic in low and lower middle-income countries with the aim of contributing to a better understanding of the impact of the pandemic on mortality, and to estimate excess mortality in Ghana, and determine factors that might have influenced the estimated excess mortality.

Abstract:
Background: Estimating excess mortality in Ghana is crucial for understanding the true impact of the COVID-19 pandemic beyond confirmed COVID-19 deaths only.
Objective: To determine excess mortality in Ghanaian health facilities between 2020 and 2021 and associations with societal, healthcare, and non-pharmaceutical intervention factors.
Methods: A 5-year (2015 to 2019) moving average was used to predict expected deaths for 2020 and 2021, to calculate excess mortality. Linear regression was used to determine the association between excess mortality and various independent variables,
with significance at a p-value of of <0.05.
Results: Recorded deaths were 11% (4,259) above the five-year moving average in 2020 and 21% (9,337) above the average in 2021, resulting in estimated excess mortality rates of 13.8 and 30.3 per 100,000 population, respectively. Excess mortality was highest in Greater Accra, Ashanti, and Northern regions. Population size, urban settings, household size, age group, population density, and number of households showed significant associations with excess mortality in both years. COVID-19 deaths and the number of doctors per 1000 population had a significant positive impact on excess mortality in 2020 [p=0.006, CI: 7.61092, 37.56881] and [p=0.030, CI: 374.2115, 6443.223] respectively, while non-COVID deaths and the number of doctors per 1000 population had a significant positive impact in 2021 [p=0.030, CI: 0.02565, 0.43524] and [p<0.001, CI: 4412.978, 10545.38] respectively. The lockdown significantly impacted excess mortality in both 2020 and 2021.
Conclusion: This study provides insights into temporal trends, regional variations, and factors that influenced excess mortality in health facilities during 2020 and 2021in Ghana. A major limitation of the study is that it is based only on deaths recorded in health facilities. Further analyses will be conducted also with data from Health and Demographic Surveillance (HDSS) sites in Ghana. Understanding excess mortality is crucial for understanding the full effect of the pandemic and of control measures during outbreaks.

Enhancing Cholera Modelling Through the Integration of Multi-Scale Mathematical Models

Dr Nat Beryl Musundi

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Postgraduate Training Programme
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Prior to undertaking her doctoral studies, Beryl earned an MSc in Applied Mathematics from Moi University, Kenya. Subsequently, she served as a Graduate Assistant in the Department of Mathematics at the same institution. Her academic journey culminated in the completion of a Ph.D. in Mathematics at the Technical University of Munich, Germany, where she pursued her studies as a DAAD scholar, successfully graduating in 2023. During her doctorate, she undertook a research stay at the Department of Mathematics, Purdue University, USA, enriching her academic experience with an international perspective. Following the attainment of her doctorate, she transitioned to the Institute of Medical Epidemiology, Biometrics, and Informatics at Martin-Luther-University, Halle-Wittenberg. Currently, she holds the position of a postdoctoral researcher at the institute. Beryl's research interests primarily revolve around the mathematical modelling of infectious diseases. Her scholarly contributions manifest in publications across various esteemed scientific journals.

Abstract:

Cholera, a severe gastrointestinal infection, continues to pose a significant risk to public health, contributing to an annual estimated global burden of 2.9 million cases. The majority of cholera cases are reported in Sub-Saharan Africa and South-East Asia, where the lack of access to safe drinking water and inadequate sanitation are the primary drivers of the disease. Mathematical models have been useful in providing insights into the dynamics of the disease. While many models for the disease primarily concentrate on its population-level spread, it's crucial to recognise that the dynamics of the disease transition from an individual level to the population, with the environment playing a significant role as a driving factor. Consequently, employing multiscale models that connect the disease dynamics across various scales can offer enhanced perspectives on the spread of the disease. In this presentation, I introduce an approach to multi-scale modelling of the disease. Within an individual, the pathogen interacts with the host immune system, and at the population level, the dynamics of the disease are shaped by individual immune dynamics. Additionally, the environment contributes to disease transmission in the population. Through model analysis, we explore the impact of immunological dynamics on epidemiological parameters, including the basic reproduction number.

LABORATORY ADVANCED DIAGNOSTICS, TREATMENT, DISEASE MONITORING, VACCINATION AND INFECTION CONTROL (AMR) 2

CHAIR

Prof Samuel Newton
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Prof. Sam Newton is a Professor and Dean of the School of Public Health of the Kwame Nkrumah University of Science and Technology (KNUST) in Kumasi. He completed his medical education at KNUST in 1993 and joined the Kintampo Health Research Centre in June 1996 as a clinician.
In 2000 he was awarded a fellowship by the Nestle Foundation to undertake an MSc in Public Health in Developing Countries at the London School of Hygiene and Tropical Medicine, University of London and completed in 2001 and later completed a PhD in Epidemiology at the same school completing in 2007.
He has carried out numerous field trials in malaria, iron and vitamin A as well as vaccine trials mainly in the area of polio, tetanus, hepatitis B and Haemophilus influenzae type b. He also has an interest in issues on Maternal and Child Health and has been involved in a number of field trials in that area. He joined KNUST in 2012, as a Senior Lecturer and is now a Professor of Epidemiology and Global Health. He is currently a member of the GWAC management team.

PRESENTERS

Filarial Lymphoedema Microbiome Profiling: Implications on the Immune System and Antimicrobial Therapy in Acute Adenolymphangitis Attacks

John Boateng

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Mr. John Boateng is currently pursuing his PhD at the Kwame Nkrumah University of Science and Technology (KNUST) and the Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR) in Ghana. His academic background spans Biological Sciences, Clinical Microbiology, and Molecular Biology. As a G-WAC Scholar, he is investigating how the microbiome profile in filarial lymphoedema patients influences episodic attacks commonly experienced by such patients. His research employs microbiological and molecular approaches to study antimicrobial resistance, aiming to guide appropriate antibiotic therapy and promote antimicrobial stewardship in treatment protocols, thereby informing policy on morbidity management of the condition. Mr Boateng's interests encompass genomics, bioinformatics, antibiotic resistance (AMR), immunopathogenesis of diseases, and data science. He is eager to engage in collaborations and training opportunities that can significantly impact his research career and personal development.

Abstract:

Filarial lymphoedema (LE) is a chronic, debilitating disease caused by lymphatic filariasis (LF) infection with the nematodes Wuchereria bancrofti, Brugia malayi, or Brugia timori, affecting over 15 million people globally. LE leads to systemic inflammation, resulting in episodic fevers, chills, retrograde lymphangitis, and lymphadenitis. Secondary bacterial infections can compromise wounds and cracks often present on the lower limbs of some patients. Understanding the role of microbial composition and diversity, as well as the remodeling of the extracellular matrix in LE patients during acute adenolymphangitis (ADL) attacks, can significantly enhance the care and management of LE. This knowledge can also open new treatment avenues, aiding in the achievement of the second objective of the World Health Organization's (WHO) Global Programme to Eliminate Lymphatic Filariasis (GPELF) strategy against LF morbidity. This study aims to characterize the microbial composition, diversity, and antibiogram patterns, as well as perturbations in systemic immune profiles, during acute ADL attacks in filarial LE patients.

Methodology: A case-control, longitudinal study will be conducted in endemic communities within the Upper East of Ghana. Participants with LE (150) and those without LE (50) will be recruited for microbiome assessment using skin and wound swabs, as well as blood samples to identify potential infections. Microbial culture, antimicrobial sensitivity testing, next-generation sequencing, and immunological assays will be used to establish the primary endpoints of the study. All assessments will be repeated following an acute ADL attack and after treatment is received.

Expected Outcome: By identifying microbial profiles associated with filarial LE, triggers for acute ADL attacks, and the ensuing perturbations in immunological profiles, this study aims to inform policy on current hygiene management practices and elucidate the management of ADL through effective antimicrobial treatments, thereby contributing to antimicrobial stewardship.

Whole Genome Sequencing of Drug Resistant Klebsiella Pneumoniae in Vietnamese Patients

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B.Sc. in Biotechnology; currently doing M.Sc. in Clinical Microbiology and Infectious Diseases
At the same time, I am working in Institute of Tropical Medicine. My research focus on using next generation sequencing (Illumina and Oxford Nanopore Technology) for rapid diagnosis and genetic epidemiology of viral hepatitis, SARS-CoV-2 virus, bacterial infection and antimicrobial resistance and optimize its usage in low-resources settings.

Abstract:
Background and objectives: While Illumina-based sequencing remains a powerful tool for genomics, the emergence of new lowcost methods such as Oxford Nanopore Technology (ONT) opens up the possibility of genomic investigation of drug-resistant bacteria in resource-poor settings. This study investigated whether an ONT-based platform can be equally resourceful for whole genome sequencing of isolates with antibiotic resistance (AMR).
Methods: Samples from hospitalised patients were collected between 1 January and 31 December 2021. A total of n=105 isolates of Klebsiella pneumoniae were sequenced using two different methods, namely Oxford Nanopore Technology (ONT) MinION (long-read) and Illumina MiSeq (short-read). ONT reads were generated using the R.9.4.1 flow cell and base called using the MinKNOW Super Accuracy model. Genome assembly was performed with Flye and polished with Medaka for long reads.
Unicycler was used for assembly and polished with Medaka for short and long reads. The complete K. pneumoniae genomes from the hybrid sequencing were used as references. The quality of the draft genomes was checked with Quast (v5.0.2). Antimicrobial resistance (AMR) determinants, serotypes (ST types), virulence genes and plasmids carried by the isolates were analysed using the Kleborate tool v2.4.1. In addition, screening was carried out using Abricate V1.0 (Github) to confirm antibiotic resistance, virulence factors and plasmids that the isolates may carry.
Results: The clinical K. pneumoniae were phenotypically carbapenem (100%) and colistin (41%) resistance. Multi-locus sequence typing (MLST) revealed 14 different STs among 105 K. pneumoniae isolates, with ST16 (65/105, 62%) being predominant, followed by ST11 (9/105, 9%), ST15 (8/105, 8%), ST231 (4/105, 4%) and ST656 (4/105, 4%). The downstream analyses with the various tools matched the phenotype results 100% in terms of acquired genes, and lower if chromosomal mutations. A hypervirulent K. pneumoniae genotype carrying three virulence factors aerobactin, salmochelin and colibactin was identified. We found that the ONT reads were not accurate for SNP clustering, due to high base-call errors.
Conclusion: With minor optimisations, ONT-based methods can be an alternative for bacterial sequencing and can have a significant impact on the molecular characterisation of AMR pathogens.

Prevalence and Genotype Characteristics of Occult Hepatitis B Infection among Blood

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Macqueen is currently pursuing a PhD in Experimental Medicine at the Faculty of Medicine, University of Tübingen, Germany, since 2022. She holds an MSc degree in Molecular Epidemiology and Diagnostic Sciences and a BSc degree in Medical Laboratory Sciences from the University of Buea, Cameroon. As a young scientist, she is passionate about the enormous challenges posed by infectious diseases in developing countries. Her ongoing PhD project focuses on the molecular surveillance of hepatitis viruses (B and E) in high-risk populations in Cameroon. The PAN-ASEAN Coalition for Epidemic and Outbreak Preparedness (PACE-UP) is fully funding this initiative through the DAAD Global Centers for Health. She excels as a cooperative team player and is always open to collaboration with other scientists.

Abstract:

Prevalence and genotype characteristics of Occult Hepatitis B infection among blood donors in Cameroon: Implications for blood safety

Background: Occult hepatitis B infection (OBI) is characterized by the presence of hepatitis B virus (HBV) DNA at low levels in serum (<200 IU/mL) with a negative hepatitis B surface antigen (HBsAg) test. OBI remains a major challenge to blood safety, particularly in HBV-endemic regions like Cameroon, where HBV detection relies solely on HBsAg testing. This study aimed to investigate the actual prevalence and genotype characteristics of OBI in Cameroonian blood donors.

Methods: Between March and June 2023, samples were collected from 288 healthy blood donors aged 18 to 55 years and analyzed for antibodies against the HBV core (anti-HBc) and surface antigens (anti-HBs). Following DNA extraction from the serum samples, qualitative nested PCR and quantitative real-time PCR were used to detect HBV viral DNA and viral load respectively. For positive samples, sequencing of a fragment of the S gene was performed to identify the circulating HBV genotypes.

Results: The findings revealed that 58% (n=167/288) of blood donors tested positive for anti-HBc, 29% (n=83/288) tested positive for anti-HBs, and 26% (n=75/288) being positive for both anti-HBc and anti-HBs. Occult hepatitis was confirmed in 5% of the blood donors, all of whom belonged to either HBV genotypes A or E, which are predominant in Cameroon. The amino acid substitution sA184V associated with HBsAg detection failure was observed in 71% of OBI sequences. The rtH125Q mutation in the overlapping HBV polymerase (P) gene was present in all OBI-positive sequences of genotype E, likely contributing to masking HBsAg secretion.

Conclusion: The results suggest a considerable risk of transfusion-transmitted HBV in this region. Therefore, to ensure blood safety, advanced molecular techniques such as nucleic acid testing (NAT) is recommended, as relying solely on HBsAg assays is insufficient to eliminate this risk.

Immune Response after Vaccination with SOBERANA ® 02 and SOBERANA® Plus Heterologous Scheme in Young Children

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Abstract:

In children, multisystem inflammatory syndrome (MIS-C) and long-term sequelae are often severe complications of SARS-CoV-2 infection. Therefore, protection of the pediatric population against SARS-CoV-2 with effective vaccines is particularly important. In this study we compare the humoral and cellular immune responses elicited in children (n=15, aged 5-11 years) vaccinated with the RBD-based vaccines SOBERANA® 02 and SOBERANA® Plus combined in a heterologous scheme with those of children (n=10, aged 4-11 years) recovering from mild symptomatic COVID-19 as well as in adults (n=10, aged 18-59 years). Blood samples were taken 14 days after the last dose for vaccinated children and adults and 45-60 days after diagnosis of infection for children who recovered from COVID-19. Anti-RBD IgG and ACE2-RBD inhibition were assessed by ELISA; IgA was determined by multiplex assays. Total B and T cell subpopulations and IFN-γ release were measured by multiparametric flow cytometry after in vitro stimulation with S1 peptides. Significantly higher levels of specific anti-RBD IgG and IgA and ACE2-RBD inhibition capacity were found in vaccinated children compared to COVID-19 recovered children. No differences in IgG antibody concentrations were found in children compared to vaccinated adults. Th1-like and Th2-like CD4+ T cells were also significantly higher in vaccinated children compared to recovered children, but compared to adults, children showed a higher frequency of Th1-like cells, while adults showed a higher frequency of Th2-like cells. No differences were found for Th17-like cells. IFN-γ secretion was higher in central memory CD4+ T cells of COVID-19-recovered children, but no differences were found between the two groups in CD4+ and CD8+ T cell effector, terminal effector and naive T cell subpopulations, suggesting a predominant Th1 cell polarization. Vaccination with the heterologous scheme of SOBERANA® 02/ SOBERANA® Plus induces stronger antibody and cellular immune responses with differences in Th helper responses between children and adults.

EPIDEMIOLOGY AND SURVEILLANCE OF EMERGING AND RE-EMERGING INFECTIOUS AND ZOONOTIC DISEASES (PREPAREDNESS, RESPONSE AND POST-CRISIS CARE) 2

CHAIR

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Studies of Biochemistry (10/1987 – 06/1994), Leibniz University of Hannover, Diploma,
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since 2016: Head of Core Facility Functional Peptidomics (CFP), University of Ulm
since 2012: Laboratory Head of Ulm Peptide Pharmceuticals (U-PEP) center, University of Ulm
2007-2016: Scientific Director, Pharis Biotec GmbH, Hannover, Germany
2007-2008: Guest Professor for Bioanalytics at the Hochschule Köthen, Germany
2005-2006: Marie-Curie Fellow at the Center for Biological Investigation (CIB, CSIC), Madrid
2001-2004: Member of the Steering Committee of IPF GmbH/TAP Pharma (IL, USA)
2001-2004: Laboratory Head, IPF PharmaCeuticals, Hannover
1997-2000: Postdoc, Lower Saxony Institute of Peptide Research (IPF), Hannover
H-index: 36; > 120 publications (PubMed)

PRESENTERS

Seroprevalence of Hepatitis E Virus in Blood Donors and in the High-risk Population in South- west Cameroon

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Nourhane Hafza is interested in infectious agents, especially those of zoonotic origin that continuously evolve, potentially presenting a threat to human health. After a degree in biology and a PhD in Microbiology with focus on microbial genetics, she started a postdoc in 2023 at the Institute of Tropical Medicine in Tübingen, Germany. Her work in the reasearch group Velavan focuses on hepatitis E virus (HEV) among other pathogens.

Abstract:
Background and objectives: In low- and middle-income countries (LMICs), hepatitis E virus (HEV) is an underrecognized pathogen which is not included in the differential diagnosis of patients presenting with elevated liver enzymes. HEV infections are faecal-oral (genotypes HEV- 1 and HEV-2) and zoonotic (genotypes HEV-3 and HEV-4) and pose an increased risk to certain populations, including immunocompromised individuals and pregnant women, with mortality rates of 2 - 4% and up to 30%, respectively. This study aims to determine HEV seroprevalence and HEV RNA positivity among Cameroonian blood donors (general population) and among high- risk populations (HIV/AIDS patients and pregnant women) and to understand the circulating genotypes.
Methods: While serum samples from blood donors were analysed for HEV antigen and anti-HEV antibodies (IgG and IgM), serum, stool and rectal swabs from HIV patients and pregnant women were tested for HEV seropositivity and RNA positivity. All positive samples were subsequently characterized for HEV genotypes and sub-types.
Results: The seroprevalence of anti-HEV-IgG in blood donors was 9% (25/288) and 1.4% (4/288) for anti-HEV-IgM. HEV antigen positivity was 1.2% (2/163). The median age group of blood donors was 30 years. Seroprevalences were high among older individuals (30 – 59 years old) accounting for 75% and 64% of IgM and IgG positivity, respectively. Tests for HEV RNA positivity for the ORF-1 and ORF-2 genes are ongoing. Preliminary results among high-risk population such as People living with HIV/AIDS (PLWHA) showed a 9% anti-HEV-IgG positivity and HEV antigen positivity (0/133). However, screening of additional PLWHA and pregnant women in their third trimester are ongoing.
Conclusion: Our data provide valuable information on the HEV burden in general and in vulnerable populations in south-west Cameroon.

Zoonotic Hepatitis E Virus in Domestic pigs and Farmed Wild Boars in Vietnam

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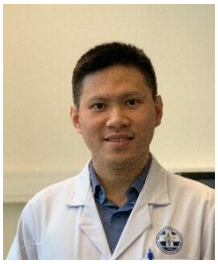

I graduated from the University of Medicine and Pharmacy in Hue (HUMP) in 2016 with a degree in medicine. Since September 2016, I have been working as a lecturer in the Department of Parasitology at HUMP. During this time, I participated in the joint Master's program between HUMP and the University of Sassari, Italy. In 2019, I completed my Master's degree with a project on sexually transmitted diseases, focusing on Trichomonas vaginalis infection and its sensitivity to metronidazole. Since 1 January 2022, I have been successfully enrolled as a PhD student in the Experimental Medicine program at the Medical Faculty of the University of Tübingen as part of the PAN ASEAN Coalition for Epidemic and Outbreak Preparedness (PACE-UP) project funded by the German Academic Exchange Service (DAAD). I am currently working in the research group of Prof Velavan TP and will write my PhD thesis on "Zoonotic hepatitis E virus and its burden on human and public health".

Abstract:
Background and objectives: Vietnam has an unprecedented demand for meat from livestock such as pigs and farmed wildlife, which serve as zoonotic reservoirs for hepatitis E virus (HEV). This study aims to identify circulating zoonotic HEV in domestic pigs and farmed wild boar from the central and southern regions and subsequently characterise the genotypes to understand their distribution, transmission dynamics and associated human health burden.
Methods: Rectal swabs, faeces and livers from pigs (n=427) and wild boars (n=101, excluding liver) were collected from different farms and slaughterhouses in central and southern Vietnam and analysed for HEV RNA by nested PCR. The HEV RNA-positive samples were then sequenced and characterised for HEV genotypes.
Results: Of the pig samples tested, 7% (29/427) were positive for HEV RNA. Of these, 15% (14/92), 7% (6/88) and 4% (9/247) were positive in rectal swabs, faecal and liver samples respectively. Of the wild boar samples, 25% (25/101) were positive for HEV RNA, with 29% (19/66) of rectal swabs and 17% (6/35) of faecal samples being positive. Sequencing showed that HEV subgenotype 3a was predominant, followed by subgenotype 4b and 3f2, which has high homology with human HEV 3 genotypes.
Conclusion: While there is still limited information on HEV genotypes infecting humans, our unpublished data offer insights into the dynamics of HEV transmission and show that domestic pigs and wild boar remain an important zoonotic reservoir for HEV. The non-enveloped naked HEV virions, which are transmitted enterically, may pose a risk of food-borne infection

Impact of Helminth Co-Infections on the Clinical Spectrum of SARS-CoV-2 Infection in Africa: A Retrospective Cohort Analysis

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Nembot Fogang Brice Armel is a doctoral candidate in clinical microbiology at Kwame Nkrumah University of Science and Technology. He earned his bachelor's degree in applied zoology from the Department of Biological Science at the University of Bamenda. Furthering his academic pursuits, Nembot pursued a Master's degree in Applied Parasitology and Vector Biology within the same department. His undergraduate research focused on inventory of apicultural plants in the North West Region, Cameroon.
During his master's studies, Nembot delved into the investigation of the prevalence, intensity, and risk factors of gastrointestinal helminths and associated hematological changes in the West Region, Cameroon. Presently, he is engaged in doctoral research exploring the influence of helminths on SARS-CoV-2 infection outcomes. This research is financially supported by DAAD through the German-West African Centre for Global Health and Pandemic Prevention.
Nembot has actively participated in various national and international conferences, including the World Health Summit 2022 and 2023, where he showcased his research ideas through poster presentations. His academic journey and research endeavors reflect a passionate commitment to enhancing global health through continuous learning, research, and innovation.

Abstract:
The spectrum of clinical manifestations resulting from severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection varies widely. Despite the global halt of the COVID-19 pandemic, the reasons for Africa's comparatively limited exponential spread remain unclear. Helminth co-infections are suspected to have influenced the pandemic's trajectory in Africa. This study employs a retrospective cohort approach to investigate the interplay between SARS-CoV-2 and helminth infections. Blood plasma samples were analyzed from 104 participants using ELISA and Luminex assays, along with in vitro cell culture and stimulation. Our preliminary findings reveal an overall helminth seropositivity of 41.3% and a SARS-CoV-2 seropositivity of 52.9%, with a significant proportion co-infected. Among asymptomatic SARS-CoV-2 infected individuals, the majority had helminth infections (61.5%, CI: 52.3 – 67.0). However, this proportion decreased as the severity of SARS-CoV-2 increased, suggesting a potential relationship between co-infection and milder symptoms. Coinfection and elevated levels of helminth-specific IgG were significantly linked to reduced odds of severe SARS-CoV-2 outcomes with decreased levels of SARS-CoV-2-specific IgA/IgG, and reduced neutralization potential against both wild type and variants. Co-infected individuals showed altered cytokine expression profiles favoring Th2 responses over Th1 and Th17 responses whereas those with SARS-CoV-2 mono-infection tended to exhibit more Th1 and Th17 responses than Th2 responses. These initial findings indicate that while co-infection may influence adaptive immunity to SARS-CoV-2, it also helps to alleviate hyperinflammation linked to COVID-19 severity, ultimately enhancing overall health outcomes associated with SARS-CoV-2 infection.

The Status of Marburg Virus in Bats and Domestic Animals in Ghana

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Theophilus Odoom is a registered veterinarian with the Veterinary Council of Ghana and a member of the Ghana Veterinary Medical Association. He's a PhD candidate in One Health from KNUST School of veterinary medicine and a a staff of the Accra Veterinary Laboratory of the Veterinary Services Directorate, Ghana. Odoom obtained his Doctor of Veterinary Medicine (DVM) from Agraria University of Havana, Cuba and master's degree in veterinary science (Vet diagnostic pathology) from the University of Queensland, Australia. He's a member of the One Health interministerial committee and a laboratory scientist representing Veterinary Services Directorate on several boards. His PhD research focuses on Filovirus (Marburg) status in Ghana following the first index case in Ghana in 2022. He has collaborated with several researchers in the space of One health and animal health to which he has research papers together. One of his major achievements was rewarded by the President of Ghana for setting up Veterinary Laboratories to support testing of human Covid-19 specimen during the pandemic outbreak. His PhD research is funded by DAAD through the German-West African Centre for Global Health and Pandemic Preparedness (G-WAC).

Abstract:
Background:
Marburg virus (MARV) which belongs to the family Filoviridae is a hemorrhagic fever virus that causes disease in both humans and nonhuman primates in Africa. Egyptian rousette bats are known reservoir hosts with pigs and other domestic animals serving as amplifying hosts. However, there is a need to develop diagnostic assays which will aid the evaluation of the role of livestock, dogs and bats other than Egyptian rousette bats in Ghana.
Objectives: This study aims to investigate the presence of MARV RNA in bats, to establish a serological screening assay for the same, livestock and dogs, and to assess the risk factors associated with the MARV outbreak in Ghana.
Method: Serum samples were collected from bats, livestock (pig, sheep, goat, cattle) and dogs. Tissues (Liver, spleen, kidney, and intestine) were collected from bats in the five selected regions (Ashanti, Western, Bono, Savana, and Volta) in Ghana, and stored in Accra Veterinary Laboratory for processing at the Institute of Virology Charité. Structured questionnaires were administered, and data was collected using Kobo Collect Toolbox. An indirect, mammalian cell-based immunofluorescence assay (IFT) was developed by restriction enzyme cloning to screen sera for antibodies against MARV glycoprotein. Tissue samples were extracted using a QIAGEN RNeasy kit and detection of viral RNA was by a conventional pan-filovirus RT-PCR.
Preliminary results: 299 bats (Megachiroptera and Microchiroptera) species were captured from two regions (Ashanti and Western) that did not include Egyptian rousette. All the tissues tested negative for MARV by RT-PCR. An IFT has been developed using transfected Vero B4 cells with preliminary evaluation based on a polyhistidine tag and MARV FM11 polyclonal antibodies showing detection capability. Evaluation of the assay based on sera from different species will be conducted for further validation.
Conclusions: A promising serological screening diagnostic assay has been established for this study.

LABORATORY ADVANCED DIAGNOSTICS, TREATMENT, DISEASE MONITORING, VACCINATION AND INFECTION CONTROL (AMR) 3

CHAIR

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Dr. (Mrs.) Linda Batsa Debrah is a Senior Lecturer of Medical Parasitology in the Department of Clinical Microbiology at the Kwame Nkrumah University of Science and Technology (KNUST), Kumasi, Ghana. She is also a Senior Research Fellow and currently the Principal Investigator on the TAKeOFF project that seeks to tackle the obstacles of lymphatic filariasis (LF) and podoconiosis sponsored by the German Ministry of Education and Research (BMBF) [http://takeoff-ntd.net]. She has enormous experience in the conduct of clinical trials especially on NTDs with filariasis as the main focus.
She has several ongoing research activities sponsored by German Centre for Infection Research (DZIF), German Research Foundation (DFG), European and Developing Countries Clinical Trials Partnership (EDCTP) among others.
Dr. (Mrs.) Linda Batsa Debrah is the Scientific Coordinator of the German West African Centre for Global Health and Pandemic Prevention (G-WAC). She is a reviewer of many reputable funding agencies and journals including Wellcome Trust, BioMed Central (BMC) infectious diseases, DAAD in-country/in-regions applications, and a Peer Review Editor of Neglected Tropical Diseases (specialty section of Frontiers in Tropical Diseases). Dr. (Mrs.) Linda Batsa Debrah was adjourned the Best Mid-Career Researcher at KNUST in 2023 and the Best Senior Member in teaching at School of Medical Sciences,KNUST in 2024. She has over 60 publications to her credit (ORCID ID: orcid.org/0000-0001-9620-3408).
Linkedln: lbdebrah

PRESENTERS

A Daily Gladiator Fight – Neutrophil Granulocytes and Oxidative Burst in Infectious Diseases of Animals and Humans

Dr Nicole de Buhr
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- *2002-2005 State examination Veterinary medical technical assistant at the University of Veterinary Medicine, Hannover, Germany*
- *2006 - 2012 Studies in Veterinary Medicine at the University of Veterinary Medicine, Hannover, Germany*
- *2012 - 2015 PhD-studies in the program "Animal and Zoonotic Infections" in the Institute of Microbiology, University of Veterinary Medicine, Hannover, Germany*
- *"Interaction of Streptococcus suis with neutrophil extracellular traps (NETs)"*
- *Since 2015 PostDoc at the Department of Biochemistry, University of Veterinary Medicine, Hannover, Germany*
- *2017 Research Assistant, Universidad Nacional de Costa Rica, Heredia, Costa Rica (DAAD Scholarship)*
- *2020 Lecture qualification (Habilitation) in Biochemistry and Infection Biochemistry, University of Veterinary Medicine, Hannover, Germany; Title: "The impact of neutrophil extracellular traps (NETs) in infectious diseases of humans and animals"*
- *Since 2020 Independent supervision of PhD Students at the Department of Biochemistry, University of Veterinary Medicine, Hannover, Germany*
- *Current position: Veterinarian in the field of biochemistry and infectious diseases*

Abstract:
Background: Neutrophil granulocytes are a multitasking cell that can undergo different mechanisms to counteract against pathogens. They can mediate antimicrobial activity by different strategies depending on the pathogen they encounter. Besides phagocytosis, a key strategy of neutrophils against extracellular pathogens is the formation of neutrophil extracellular traps (NETs), which is associated with oxidative burst. Those NETs consist mainly of a DNA backbone that is decorated with antimicrobial components like myeloperoxidase and antimicrobial peptides. NET-formation can be induced by chemokines, reactive oxygen species, pathogens and products of pathogens including toxins. It seems that NET formation is an old evolutionary mechanism as it could be detected so far in different species, such as human, mouse, cat, cattle, pig, opossum, dog, horse and fish as well as in plants. Depending on the pathogen, NETs mediate entrapment and partially killing of various pathogens, but several evading strategies of bacteria are described.
Objective: The objective of our research is, understand the host-pathogen interaction of neutrophils from different species and bacteria or virus, to finally identify new treatment strategies.
Methods: We work project related with primary blood-derived neutrophils from different species including humans, pigs, cattle, dogs and wild animals (e.g. opossum). Various methods are combined to investigate the host-pathogen interaction of bacteria (e.g. Pasteurellaceae or Streptococcus suis) and viruses (e.g. Influenza virus A or SARS-CoV-2). These methods include: fluorescence confocal microscopy, flow cytometry, 3D- cell cultures of barriers in the body, working in hypoxia chambers and many others.
Results: Neutrophils release NETs to counteract invading pathogens, however detrimental effects of overshooting NET release have been identified in different diseases, including COVID-19 or infections with bacteria from the family of Pasteurellaceae.
Conclusion: In conclusion, the understanding of NET formation in various animals and humans may be helpful to understand the antimicrobial capacity and overall role of neutrophils against zoonotic pathogens.

Diagnosis of Pathogens Causing Bacterial Meningitis Using Nanopore Sequencing in a Resource-limited Setting

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Prof. Dr. Le Huu Song is a medical doctor and graduated from the Vietnam Military Medical University in Hanoi in 1994 with a MD degree. Between 2001 and 2004, he competed his doctoral thesis at the Faculty of Biology at the University of Tübingen, with a scholarship from the German Academic Exchange Service (DAAD). This experience gave him the opportunity to reach his actual position. Today, Prof. Dr. Le Huu Song is the Director of the 108 Military Central Hospital (108 MCH) in Hanoi, Vietnam, an entity with 2500 beds, that treats 3000 inpatients and 3500 outpatients per day. Additionally, he is also the co-director of the Vietnamese-German Center for Medical Research (VG-CARE; www.vgcare.org), an entity established between the 108 MCH and the Institute of Tropical Medicine, University of Tübingen. Prof. Song is the local scientific coordinator and focal partner for the DAAD-funded project Pan ASEAN Coalition for Epidemic and Outbreak Preparedness (PACE-UP, www.paceup.org). As a physician and head of the Department of Infectious Diseases at the 108 Institute of Clinical Medical and Pharmaceutical Sciences, he is an expert in infectious diseases in the field of prevention, treatment and clinical research and has extensive experience with infectious diseases outbreaks.

Abstract:
Diagnosis of pathogens causing bacterial meningitis using Nanopore sequencing in a resource-limited setting Background and objectives: The aim of the study is to compare the performance of 16S rRNA Nanopore sequencing and conventional culture in detecting infectious pathogens in patients with suspected meningitis in a resource-limited setting without extensive bioinformatics expertise.
Methods: DNA was isolated from the cerebrospinal fluid (CSF) of 30 patients with suspected bacterial meningitis. The isolated DNA was subjected to 16S sequencing using MinION™. The data were analysed in real time via the EPI2ME cloud platform. Nanopore sequencing was done in parallel to routine microbiological diagnostics.
Results: Nanopore sequencing detected bacterial pathogens to species level in 13 of 30 (43%) samples. CSF culture showed 40% (12/30) positivity. In 21 of 30 patients (70%) with suspected bacterial meningitis, both methods yielded concordant results.
About nine of 30 samples showed discordant results, of these five were false positive and four were false negative. In five of the culture negative results, nanopore sequencing was able to detect pathogen genome, due to the higher sensitivity of the molecular diagnostics. In two other samples, the CSF culture revealed Cryptococcus neoformans and Streptococcus pneumoniae, which were not detected by Nanopore sequencing. Overall, using both the cultures and 16S Nanopore sequencing, positivity rate increased from 40% (12/30) to 57% (17/30).
Conclusion: Next-generation sequencing could detect pathogens within six hours and could become an important tool for both pathogen screening and surveillance in low- and middle-income countries that do not have direct access to extensive bioinformatics expertise.
Keywords: 16S rRNA; Bacterial meningitis; Diagnosis and pathogen genome; Nanopore; Next-generation sequencing; Vietnam.
Publication: PMID: 36064402 PMCID: PMC9443622 DOI: 10.1186/s12941-022-00530-6

Analysis of the Assembly of a Virulence Associated-salmonella Type III Secretion System

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I got my Bachelor and Master on Cellular Biology and Physiology respectivelly in 2014 and 2015 at "Université des Sciences et Techniques de Masuku" (USTM, Gabon). In 2021 i was certified AMR Professional Expert by ASLM Academy. Since November 2022, i am a CAIDERA PhD student at university of Tubingen. My interest is focused on the factors and mechanisms of virulence of pathogenic bacteria, their interaction with the host and the immune response. In addition, I am interested also in antibiotic resistance and the means to fight against it.

Abstract:
Introduction and research question: Virulence-associated type III secretion systems (T3SS) serve the injection of bacterial effector proteins into eukaryotic host cells. These effector proteins modulate host cell biology in order to promote colonization and infection. The core of T3SS is a cell envelope-spanning macromolecular machine called injectisome. It is 6 MDa complex consisting of more than 20 different proteins. Our general picture of the assembly of the injectisome reveals a conceptual problem at the early assembly of the needle filament. In this project, we want to clarify whether the secretin assembles onto the base before the onset of secretion of early substrates or whether needle adapter and filament secretion and assembly precedes assembly of the secretin complex. Also identify factors that regulate achievement of the correct path of assembly.
Methods: We utilize in vivo photocrosslinking, a technique that exploits the encoding of the artificial UV-inducible crosslinking amino acid p-benzoyl-phenylalanine to identify protein-protein interactions and to delineate assembly pathways. Also a highly sensitive luciferase-based analysis of type III secretion function.
Results: So far, the experiments that we have done, we got positive crosslinking from PrgJ-SpaP and PrgH-InvG interactions .
Concerning NanoLuc luciferase analysis we found that later induction of invG can complement pre-existing T3SS.
Conclusion and outlook: The preliminary data shows good crosslinking, we have to repeat the experiment with the ΔinvG and ΔprgK strains to see if that affects these proteins interactions

COMMUNITY ENGAGEMENT, ETHICS AND SOCIAL SCIENCES

CHAIR

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I'm Emmanuel Ngang NKEMBO a Cameroonian -PhD research student at the University of Tuebingen. My PhD researcher topic is on: Social Media in the Context of Infectious Diseases in Western Grassfields of Cameroon: Case of COVID-19 and Malaria Vaccines Resistance . Before taking up this PhD position, I served as Assistant lecturer of Anthropology in the Catholic University of Cameroon(CATUC) Bamenda from 2012- 2018. I have taught in private Health training Institutions in Cameroon on part-time as lecturer in Medical Anthropology.
I hold a Master's Degree in Culture and Technology from the University of Cologne -Germany - 2010-2012 (Mobile Phone, ICTs, eMoney & mobility) and has a rich work experience in the non-profit sector in Africa and has served as a consultant for various NGOs including Nkumu Fed Fed, Anembom Consulting,Mission 21and Plan International. I was a senior Researcher with the International Financial Cooperation/ African Study Center Leiden project on ; Ethnographic Study of Mobile Money in Four African Countries. I was a Returning Expert on the Central for International Migration Top-Up programme sponsored by CIM / GIZ Germany from 2013-2016.
My research area of interests are in mobile phone, ICTs, social media and Mobility.

PRESENTERS

Vaccination Campaigns in the Control of Epidemics in Cuba, 1962 – 2023

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Enrique Beldarraín is a doctor, epidemiologist, medical historian and anthropologist, trained in Cuba. He is a researcher on the history of epidemics in Cuba and the Americas and has strong academic ties with colleagues and institutions in the USA, Canada, Mexico, Costa Rica, Brazil, Colombia, Ecuador, Spain and Germany. He is a professor of epidemiology in the history of public health at the Medical University of Havanna. His focus is related to the historical study of epidemics, their relationship with society, community participation and primary health care and the role of societies in epidemic control. He is a member of the Cuban Academy of Sciences, Researcher of Merit. Since 2021, he coordinates academic cooperation between JLU Giessen and several academic partners in Havana/Cuba on biosocial approaches to infectious disease control in Cuba, with particular interest in community participation.

Abstract:
Epidemics are biosocial phenomena, in their development they are shaped and conditioned by biological and social aspect. For the control of some diseases, biomedical interventions are introduced, like vaccines. However, the success of such interventions depends not only of the existence and availability of the specific biopreparations, but also of the social context, the effectiveness of the intervention design, including the accessibility and acceptability of the measures by the target population.
In this paper, we present the strategies of vaccination for the control or eradication of epidemic diseases in Cuba since the successful intervention on poliomyelitis in 1962. The historical overview will also include the vaccination campaigns against diphtheria and meningococcal meningitis in 1980s, and most recently COVID-19. All interventions were designed and implemented differently, depending on the particular biological and pharmacological requirements and qualities of the vaccines, and on the social, political and historical context of each moment in time. A common feature of all campaigns was, however, community participation and systematic public health communication. Moreover, the historical analysis of different vaccination campaigns in Cuba provides important insights regarding the conditions for promotion the population's trust in public health measures and biomedical products like vaccines.

Exploring the Facilitators and Barriers to Community Engagement during the COVID-19 Response in Ghana: A Qualitative Study

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Gyesi Razak Issahaku is a dedicated and adaptable public health professional with extensive experience in clinical and public health Practice. He possesses a wealth of expertise in laboratory management, public health surveillance, scientific writing, outbreak investigations, project coordination, and both qualitative and quantitative research. He is a PhD candidate (Public health) at the School of Public Health, KNUST. He holds a Fellowship in General Laboratory Practice from the West Africa Post Graduate College of Medical Laboratory Science, specializing in Clinical Management and Leadership.
His academic journey includes a Master of Philosophy in Applied Epidemiology & Disease Control from the University of Ghana, focusing on public health surveillance, scientific writing, outbreak investigations, and quality control programs. Dr. Issahaku also earned a Master of Science in Chemical Pathology from the Kwame Nkrumah University of Science and Technology, specializing in laboratory support during health emergencies and data analysis.
Currently serving as the Head of the Chemical Pathology Laboratory at Tamale Teaching Hospital, he oversees day-to-day operations, provides leadership to staff, and manages budgets. He has contributed significantly to public health through roles such as a Field Epidemiologist, National Monitor for Polio Vaccination Campaigns, and Field Mentor for the Ghana Field Epidemiology and Laboratory Training Programme. His research contributions include studies on measles elimination, malaria surveillance, and various outbreak investigations, demonstrating his commitment to advancing public health knowledge. He is an active participant in international conferences, a seasoned field investigator, and a leader in professional associations, exemplifying his dedication to the improvement of health systems in Ghana.

Abstract:

Introduction: Community engagement is integral to the prevention and containment of infectious disease outbreaks and is vital for pandemic preparedness and response. Developing effective engagement strategies requires an in-depth understanding of the communities in question and how they can be successfully engaged in response actions. Even though the WHO emphasizes the importance of these strategies, and their ability to reach marginalized populations, this remains an understudied aspect in low and middle-income countries. This study investigates the facilitators and barriers to community engagement during the COVID-19 response in Ghana.

Methods: We conducted semi-structured, face-to-face interviews with 22 key informants representing health officials and community stakeholders in four municipal and metropolitan areas in the Ashanti and Northern Regions. The audio-recorded interviews were conducted in English, Twi and Dagbani and were transcribed verbatim. The Twi and Dagbani transcripts were translated into English before coding. Using MAXQDA Analytics Pro, we applied both a deductive approach to coding drawing on the social-ecological model and an inductive approach that allowed for themes to be identified in the data.

Results: We identified two main facilitators of community engagement during the COVID-19 response: first, the targeting of preexisting community structures such as youth groups in the response played a crucial role in gaining trust and overcoming resistance. Second, the dissemination of clear, simple messages coupled with evidence-based information, laid the foundation for effective communication channels and strengthened collaboration between health officials and communities. The barriers identified included vaccine hesitancy rooted in safety concerns, time constraints and misinformation. In addition, expectations community members had of incentives for engagement, and the stigma around the disease posed challenges.

Conclusion: This study offers valuable insights into the facilitators and barriers to engaging communities during the COVID-19 response in Ghana. Findings emphasize the need for tailored strategies, providing actionable recommendations for policymakers and health practitioners to enhance community participation in future health crises.

History Counts: Social Medicine, Community Participation and the Relevance of Trust in Infectious Disease Control in Cuba, 1962 – 2023.

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Michael Knipper is a physician, medical historian and anthropologist, trained in Germany and Spain. He did clinical work in pediatrics, tropical medicine and primary health care in Germany (1996-97, 2000-2001) and the Amazon region of Ecuador (1997-1999). Since 2022, he is professor of Global Health, Migration and Medical Humanities at JLU Giessen, and has strong academic ties to colleagues and institutions in Ecuador, Peru, Colombia, and Cuba. In research and education, he is interested in the history and current dynamics related to social medicine, primary health care, and human rights-based approaches to health with particular attention to health of indigenous populations in Latin America and the social, cultural, legal and political determinants of migrants' health in Europe, Latin America and globally. He was member of the UCL-Lancet-Commission on Migration and Health (2017-2018) and is currently co-coordinating the Latin American Regional Hub of Lancet Migration: Global collaboration to advance migration and health. Since 2021, he coordinates the academic cooperation between JLU Giessen and various academic partners in Havanna/Cuba on bio-social approaches to infectious disease control in Latin America, with particular interest in community participation in Cuba.

Abstract:
Epidemics are bio-social phenomena: Outbreaks and infectious dynamics are determined by the interplay between biological and social factors. Both the properties of the pathogen and the quality and availability of biomedical interventions, as well as the social context and the suitability, accessibility and acceptability of the measures used, determine the course of an epidemic. One key aspect for successful prevention and control of infectious diseases is trust. But the trust of patients and communities in medical knowledge, products, proceedings and experts, in health professionals, systems and policies, cannot be imposed. It needs to be earned and renewed constantly.
In this paper, we explore various public health initiatives for controlling or eradicating infectious diseases in Cuba, starting with Polio in 1962. Community engagement has always been key to gaining trust and compliance in these campaigns, but was deployed differently depending on the pathogen and the social, political and historical context. Polio, Malaria, Dengue, HIV/AIDS and COVID-19 pose different challenges in both biomedical and social terms, yet past experiences shape the attitudes of communities and populations towards new interventions. This was also the case in the recent COVID-19 pandemic. The historical analysis provides important insights for a better understanding of the "bio-social determinants of trust" in the prevention and control of infectious diseases in Cuba and beyond.

The Nexus of Numerical Skills and Behavioural Patterns in Malaria Control

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Caroline Namubiru is a growing academic researcher from Uganda passionate about the intersection between Statistics, Health, and Education outcomes. She holds a Master of Statistics from Makerere University, Uganda and, is currently doing a PhD in Health Economics at the University of Tübingen, Germany focusing on Numeracy and Malaria Control in Africa. Her research focuses on using statistical methodologies to assess and improve health and education outcomes. As an academic, Caroline envisions making substantive contributions to evidence-based policies that foster positive changes in health and education and consequently sustainable development.

Abstract:
Background: Malaria is a public health problem globally and the leading cause of morbidity and mortality in the economies it affects, particularly Sub-Saharan Africa. Ending malaria is crucial for sustainable development. With the numerous medical and non-medical interventions to fight malaria available, the ability of individuals to understand and appropriately implement these interventions is essential for their effectiveness. The numeric inductive reasoning of individuals is crucial as it helps to comprehend quantitative health information and make optimal health-related decisions (treatment options, medical appointments, management of diets and dosages, and adherence to vector control measures). The study aims to investigate this underexplored factor in malaria control and behaviors.
Objectives:To develop and validate measurement tools for assessing malaria health numeracy.
To investigate the relationship between malaria health numeracy and malaria-related health behaviors and decision-making.
To evaluate the factors that mediate the association between numeracy and malaria control and behaviors (The factors will include demographics, socio-economic status, nutrition status, malaria knowledge, and health environment)
Methods: A mixed-methods approach will be employed, combining quantitative and qualitative research designs. A cross-sectional survey will be conducted to measure numeracy levels, malaria knowledge, and control behaviors (Adherence and engagement in malaria preventive measures) among a random sample of adults in Lambarene, Gabon. Numerical skills will be assessed using validated tools. In-depth interviews and focus group discussions will provide qualitative insights into how numeracy influences decisionmaking processes related to malaria control. Statistical analyses, including regression modeling and mediation analyses, will be conducted to explore the relationships between numerical skills and malaria control behaviors.
Expected Outcomes:The study will reveal how individuals receive and understand numerical information about malaria and how numeracy and health numeracy affect malaria control. The findings will guide policymakers and health professionals in developing more effective communication and education strategies to combat malaria.

The Impact of COVID-19 on Health Service Utilization in Sub-Saharan Africa – a Scoping Review

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Elliot Koranteng Tannor is a PhD candidate with the Department of Global and International Health in the College of Health Science at the School of Public Health of the Kwame Nkrumah University of Science and Technology. He is part of the first cohort of PnD students sponsored by the German-West Africa Centre for Global Health and Pandemic Prevention (G-WAC) which is one of the eight new DAAD funded Global Centres for Climate and Health. Elliot completed his MBChB (Medicine and Surgery) in the year 2006. He completed his Master's Program in Business Administration in the School of Business at the Kwame Nkrumah University of Science and Technology. He is passionate about building strong health systems in Ghana in beyond especially in the prevention and management of chronic non-communicable diseases such as hypertension, diabetes mellitus, obesity and chronic kidney disease.

Abstract:
Background: Despite comparatively low rates of COVID-19 admissions and recorded deaths in sub-Saharan Africa (SSA), the pandemic still had significant impact on health service utilization (HSU).
Objectives: The objective of this scoping review is to synthesize the available evidence of HSU in SSA during the pandemic, focusing on types of studies, changes in HSU compared with the pre-pandemic period and among particular patient groups.
Methods: The Scoping review was guided by the methodological framework for conducting scoping reviews developed by Arskey and O'Malley. We identified relevant studies through a search of PubMed(MEDLINE), Embase, Scopus and Web of Science. We then provided a general descriptive overview of the extracted data focusing on the types of studies, patient groups and change in HSU.
Results: We identified 262 studies reporting on HSU in SSA involving 39 countries. Studies were mainly quantitative (192; 73.3%), multiple centre studies (163; 62.2%), hospital based (205; 78.2%) and conducted in urban settings (121; 46.2%). The median number of participants was 8,329 [IQR:103-5848] involving 62.7% females. The largest group of studies (92; 35.1%) focused on communicable diseases, and the most common setting was out-patients (92;34.2%). Change in HSU was reported in 249 (95.0%) studies with 221 (84.4%) studies reporting a decrease in HSU. The median decrease in HSU was -35.6% [IQR: -19.0-55.8] and median increase was 16.2% [IQR: 9.1-31.9]. With regard to different patient groups, the biggest group of studies focused on maternal and child health (58; 22.1%) and people living with HIV 32(12.2%). The patient groups with the highest percentage decrease and increase in HSU were cardiovascular diseases (-68.0%; IQR:16.7-71.1) and surgical cases (+38.3%;IQR24.0-52.5) respectively.
Conclusion: A large body of literature is available on the effects of the pandemic on HSU in SSA. Most studies report decreases in HSU during the pandemic. However, patterns differ considerably across disease categories, patient groups and during different time periods of the pandemic.

Short Profiles and Abstracts of Poster Presenters

POSTERS ON BIOSAFETY/BIOSECURITY AND EPIDEMIOLOGY/SURVEILLANCE/ ZOONOTIC DISEASES

During the poster sessions, the authors will be available to answer questions and hold discussions by maintaining a presence directly at their posters. We invite all academics participating in the conference whose research topics correspond to those of the posters to enter into discussions. Thank you.

PRESENTERS

Molecular Epidemiology and Immunological Responses to SARS-CoV-2 and Other Respiratory Viruses in Selected Urban and Rural Areas of Ghana

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George Agyei is a PhD candidate in Clinical Microbiology from KNUST and a PhD research student at the Kumasi Centre for Collaborative Research in Tropical Medicine (KCCR) at KNUST, Ghana. He holds a Bachelor's degree in Laboratory Technology from the Department of Laboratory Technology, UCC. George continued his studies with a joint Master's degree from the University of Barcelona-Spain and the University of Algarve-Portugal under the European Master Of Quality in Analytical Laboratories (EMAQAL) and has been working as Head of Laboratory at the SDA hospital-Kwadaso. He is a registered member of the Ghana Association of Medical Laboratory Scientists (GAMLS) and one of his major achievements was rewarded by the President of Ghana for leading the set-up of the Kwadaso Covid-19 Testing Center to support the testing of specimens during the pandemic outbreak. Currently, his PhD focuses on Molecular Epidemiology and Immunological Responses to SARS-CoV-2 and Other Respiratory Viruses in Selected Urban and Rural Areas of Ghana, which is funded by DAAD through the German-West African Centre for Global Health and Pandemic Preparedness (G-WAC).

Abstract:
Introduction: Data on the epidemiology and immune responses to SARS-CoV-2 and other respiratory viruses (RVs) is still lacking in many parts of Africa. Understanding the prevailing levels of exposure and immunity in different sociodemographic settings in Ghana offers an important overview of the epidemiology of respiratory viruses in these populations.
Methods: A cross-sectional and longitudinal study design was employed. Nasopharyngeal swabs (1,531) and serum (1,001) samples were taken from participants in all the study sites comprising, urban (Kumasi and Tamale) and rural (Obuasi, Forikrom and Buoyem) areas with consent. Their socio-demographic data, clinical symptoms, and vaccination status were taken with structured questionnaires. Semi-quantitative Anti-SARS-CoV-2 IgG ELISA (Anti-S) and Anti-SARS-CoV-2 nucleocapsid ELISA (Anti-NCP) were done.
Preliminary results: Participants were aged 10-88 years, and most were females (64.3%). Common symptoms reported included headache (34.4%), cough (19.5%), nasal congestion (14.5%), sneezing (12.3%), fever or chills (12.3%), and runny nose (11.2%). Vaccination rate was 53.5%. Most participants received the AstraZeneca vaccine (21.1%) followed by Johnson and Johnson (9.8%). The overall seropositivity against SARS-CoV-2 spike in serum was 980(98.1%), against SARS-CoV-2 nucleocapsid in serum was 477(47.8%) and participants with both detection was 469 (46.9%). Fisher's exact test was conducted to assess the association between vaccine type and SARS-CoV-2 seropositivity. There was no association between the type of vaccine used and the SARS-CoV-2 infection ($p = 0.774$)
Discussion/Outlook: We observed a high seroconversion (IgG) in all the study sites though yet to determine the presence of virus neutralizing antibodies. All Anti-NCP positive participants will be followed up after one year to confirm their seroconversion. Further testing will be done on the remaining samples to estimate the prevalence of SARS-CoV-2 and other RVs circulating in Ghana by multiplex real-time RT-PCR.
Keywords: SARS-Cov-2, immune responses, seroconversion, Ghana

Viral Etiological Agents Associated with Febrile Illness among Patients Presenting to Hospitals in the Savanna Region of Ghana

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Dr Ahmed Alhassan (MLS.D) is a Ghanaian medical laboratory scientist, works with the Tamale Teaching Hospital microbiology unit. He has his BSc Biomedical Laboratory Science in 2016 and a Doctor of Medical Laboratory Science (MLS.D) in 2018 both from University for Development Studies.
He is a final year student in Kwame Nkrumah University of Science and Technology. As a young researcher, he had training on molecular techniques at both Charite (Universitatsmedizin Berlin- Institute of Virology) and Kumasi Centre for Collaborative Research in Tropical Medicine. He is interested in research about viruses and bacteria.

Abstract:
Febrile illness is a common clinical symptom associated with a larger range of infectious agents. Viral agents are among the most frequent causes of the febrile illnesses globally. The ability of researchers to specifically identify the viral etiological agents is very crucial for the diagnosis, treatment and prevention of these illnesses and possible outbreaks. This study was aimed at describing the sero-prevalence of yellow fever virus, zika virus, chikungunya virus, dengue virus, hepatitis viruses, orthobunyaviruses and paramyxoviruses among febrile patients attending the various hospitals in the Savanna region of Ghana.
This was a hospital based cross-sectional study, from September, 2022 to November, 2022 that was conducted among febrile patients attending various hospitals in the Savanna region. About 3-5 ml of whole blood was taken from each patient, separated into sera and screened for viral agents using molecular and serological based methods.
Among the 264 participants enrolled, hepatitis B had the highest sero-prevalence (13.6%), followed by hepatitis E sero-prevalence (6.1%) with hepatitis C recording sero-prevalence of 2.7% and yellow fever virus, zika virus, chikungunya virus, dengue virus, orthobunyaviruses, paramyxoviruses all recorded 0% prevalence. No co-infection was recorded in this study and risk factor variable analysis showed family type to be associated with hepatitis infection.

Evaluation of COVID-19 and Brucellosis Infections in Dogs, Owners and Contact Veterinarians in Ashanti and Greater Accra Regions of Ghana

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My name is Dr. Esther Ama Amemor, a highly confident and a goal-oriented individual with good planning, managerial and leadership skills. I was born on September 11, 1975. I obtained a Degree of Veterinary Medicine and Surgery (DVM) at the People's Friendship University of Russia and an M.Phil. in Applied Epidemiology and Disease Control from University of Ghana, Legon. I have worked as a Veterinarian with the Ministry of Food and Agriculture for some number of years. I am currently a Senior Lecturer at the Kwame Nkrumah University of Science and Technology. I am currently pursuing a PhD in One Health under the Zoonoses group of the G-WAC Programme.

Abstract:
Background: There could be possible spill-over of COVID-19 virus from humans to animals during the COVID-19 pandemic as well as possible co-infections. The fear of COVID-19 virus mutating into a more virulent strain in animals and spilling over to humans exists. Brucellosis is neglected bacterial zoonotic disease. Persons working and staying in close proximity with animals are at highest risk of exposure to Brucella canis and SARS-CoV-2.
Study Objectives: A cross-sectional study is being conducted to evaluate COVID-19 and Brucellosis infections and associated risk factors in dogs, their owners and contact veterinarians in the Ashanti and Greater Accra Regions of Ghana. The study aims to determine evidence of exposure to Brucellosis and COVID-19, associated risk factors in dogs, their owners and contact Veterinarians.
Methodology: Blood samples and nasopharyngeal swabs are being taken from dogs and humans for serological and molecular analysis. Structured questionnaire are being used to gather information on risk factors of COVID-19 and brucellosis in dogs and humans. The sample size for the study is 246 animals and 150 humans.
Laboratory Analysis. An established PCR for Brucellosis and SARS-CoV-2 will be used for analysis. Positive PCR samples will be processed for genomic sequencing; results of which will be used for BLAST followed by phylogenic tree analysis.
Expected Results: Sero-positivity to Brucella canis and SARS-CoV-2 as well associated risk factors in dog and human samples would be established. Variants of circulating COVID-19 strains and possible zoonotic linkages will be established.
Keywords: COVID-19, Brucellosis, dogs, pet owners, veterinarians

Potential Zoonotic Viruses in Game Animals from Selected Communities in Ghana

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Sherihane Naa Ayeley Aryeetey is a PhD candidate in clinical microbiology from KNUST, Ghana. She holds a bachelor's degree in biological science from the Department of Theoretical and Applied Biology (TAB), KNUST. Sherihane continued her studies with a Master's degree in microbiology, also from the same department. During her master's study, she worked with the One Health Virology team at KCCR to investigate the potential sources and reservoirs of viruses, control viral epidemics, and test respiratory pathogens. Currently, her PhD focuses on potential zoonotic viruses in game animals from selected communities in Ghana, which is funded by DAAD through the German-West African Centre for Global Health and Pandemic Preparedness (GWAC).
She had the opportunity for a 3-month research stay at the Institute of Virology, Charite, Berlin, where she gained valuable experience in virology and research methodologies. She also undertook training and capacity building at KCCR in next-generation sequencing and serological techniques in a project funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) through the German Agency for International Cooperation GmbH (GIZ).

Abstract:
Introduction: In West Africa, wildlife is a major source of animal protein. These animals can host zoonotic viruses linked to human outbreaks, including Marburg and Ebola. This study aims to perform a metagenomic investigation to identify viruses harboured in various tissues of selected wildlife, aiming to assess the risks and contributions of wildlife to zoonotic virus transmission by the bushmeat trade.
Methods: This retrospective and prospective exploratory cross-sectional study investigates potential zoonotic viruses in Ghana's wildlife. Using conventional PCR, 158 pools of archived faecal matter from Eidolon helvum and 52 tissue samples from livestock (rabbit and grasscutter) were screened for Astroviruses and Paramyxoviruses respectively. Sanger sequencing and neighbour joining phylogenetic analysis were performed on positive outcomes. High-throughput sequencing will be performed on the positive detections and screen pooled negative samples on an Illumina NextSeq platform. For prospective sampling, tissue and blood samples will be taken from bushmeat and handlers of selected bushmeat in less explored markets in the Greater Accra, Bono, and Volta Regions.
Preliminary Results: 3/158 (0.02%) pools of bat faecal samples tested for Astroviruses were positive with no Paramyxovirus detection in livestock. Phylogenetic analysis of ~370 base pair fragments of the detected Astroviruses clustered with other bat astroviruses isolated from Eidolon helvum in Cameroon, Tanzania, and the Kingdom of Saudi Arabia (KSA). The highest pairwise sequence identity was with the Tanzanian sequence (97.6%). All fragments shared sequence identities over 90% with their closest relatives; 94.4% with a sequence from KSA and 94.1% from Cameroon.
Next steps: Sample collection, processing, and analysis of prospective samples are set to begin in February 2024. Also, further analysis will be conducted to resolve the positive Astrovirus pools. Findings from this study will aid public health experts in preparing for future outbreaks and implementing policies related to bushmeat, vaccination, and infection control.

Validated Inactivation of High Risk Pathogensto Handle Samples in Environments with Lower Biosafety Level

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Dr. Katja Branitzki-Heinemann earned her Ph.D. from the Technical University of Braunschweig in 2013, conducting her dissertation research at the Helmholtz Centre for Infection Research.
Between 2013 and 2019, she was involved in various research projects within the Infection Biochemistry Group at the Institute of Biochemistry, University of Veterinary Medicine Hannover. Her research primarily focused on the interactions between bacterial pathogens, and human immune cells under physiological oxygen conditions. She also contributed to developing cell culture systems adhering to the 3R (Replace, Reduce, Refine) principles. Dr. Branitzki-Heinemann also played a significant role in conducting and modernizing numerous teaching activities of the institute.
In 2019, she joined the biosafety management team at the Research Center for Emerging Infections and Zoonoses, University of Veterinary Medicine Hannover. Dr. Branitzki-Heinemann was pivotal in launching BSL-3 laboratories, including an insectary, and in developing, optimizing, and documenting safety protocols for BSL-2 and BSL-3 labs. Her work includes creating risk assessments, operating instructions, hygiene plans, and hazard evaluations, as well as developing and digitalizing training concepts. She advises researchers on experiment planning and regulatory approvals, and oversees the handling of biological and hazardous substances, technical equipment, and arthropods in research settings.

Abstract:
Background: There are number of reasons for exporting biomaterials from biosafety level (BSL)-3 laboratories, such as the need for downstream analysis in laboratories with lower biosafety levels in order to simplify handling. However, the removal of biomaterial from biosafety area requires the highest biosafety standards: in order to protect personnel, the public, and the environment, it is necessary to ensure that infectious samples are adequately inactivated before handled in lower containment levels and movement of the sample material is appropriate.
Objectives: The SARS-CoV-2 pandemic required the immediate need to transfer inactivated tissue from biosafety level (BSL)-3 to BSL-1 areas to enable downstream analytical methods. No validated SARS-CoV-2 inactivation protocols were available for either formaldehyde (FA)-fixed, methanol-fixed or glutaraldehyde (GA)-fixed tissues.
Design and results: As an example, we present data on the validation of inactivation of lung tissue derived from animals infected with SARS-CoV-2 using formalin, glutaraldehyde (GA) and methanol. To mimic an infection while ensuring standardized parameters, fresh tissue samples of defined size were spiked with 2 SARS-CoV-2, incubated at 37°C 5% CO2 and afterwards fixed with 10% formalin, methanol or 5% GA for various time points at room temperature. Supernatants of tissue homogenates were titrated on Vero E6 cells. Efficient SARS-CoV-2 inactivation in tissue samples could be demonstrated.
Conclusion: Our protocols can be easily adapted for validating the inactivation of other pathogens like bacteria or viruses to allow for the transfer of biological samples from BSL-3 areas to BSL-1 laboratories without performing additional animal experiments.

Animal Meat as a Potential Carrier of SARS-CoV-2, Pathogenic Respiratory Viruses and Re-emerging Viruses in the Northern Part of Ghana

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Dr. Deberu Nangkuu (MLS.D) is an MPhil holder in clinical microbiology and a Senior Biomedical Laboratory Scientist at the Tamale Teaching Hospital. Before his MPhil degree at the Kwame Nkrumah University of Science and Technology, he has his bachelor's degree in biomedical laboratory sciences and Doctor of medical laboratory science, all at the University for Development Studies. He has seven years' professional experience working in Medical Bacteriology Laboratory. He has also served as a Mentor in a two-year mentorship program aimed at building laboratories Capacity in microbiological diagnosis and laboratory quality management system in the Tamale Public Health Reference Laboratory (TPHRL)-Ghana. He was an active member of the COVID-19 diagnostic team at the TPHRL and played an integral part in COVID-19 diagnosis during the COVID-19 pandemic. He also had three months training on SARS-CoV-2 whole genome sequencing in Germany (Institute of Virology-Charite) under the sponsorship of German-West African Centre for Global Health and Pandemic Prevention (G-WAC). As a young scientist, Dr. Deberu Nangkuu is currently having three (3) published papers in peer-reviewed journals. He is interested in research related to viral-bacterial co-infections, antimicrobial resistance (AMR) and molecular diagnosis of viral diseases.

Abstract:
Background: Most emerging and re-emerging human viral diseases are linked to animal origin. Most of the recent outbreaks (SARS-CoV-2, influenza, Monkeypox and Marburg virus) are originated from animals and can be transmitted to humans through meat or meat products. Other studies have reported SARS-CoV-2, Monkeypox and influenza A virus in wastewaters. During the COVID-19 pandemic in Ghana, there were also outbreaks of influenza A(H3N2), Monkeypox and Marburg virus in 2022. It is therefore crucial for active environmental surveillance for these re-emerging viruses as part of pandemic preparedness and prevention.
Objective
1. To determine the presence of influenza virus A, Monkeypox virus, Marburg virus and genomic characterization of SARS-CoV-2 in meat and wastewaters.
2. To determine the seroprevalence of Monkeypox and Marburg virus among Abattoirs/slaughterhouse workers.
Methods: Study design and Sample collection: This will be a cross-sectional study. Blood and nasopharyngeal swab samples will be taken from slaughterhouse workers. Meat samples and wastewaters from various slaughterhouses within the Tamale Metropolis will be sampled.
Laboratory methods: Viral nucleic acid extraction will be performed on nasopharyngeal swabs, meat and wastewater samples, and tested for the presence of SARS-CoV-2, Influenza virus A, Monkeypox and Marburg virus using specific primers and probes. Qualitative detection of Monkeypox and Marburg virus antibodies will be performed using ELISA. Whole genome sequencing will be performed on SARS-CoV-2 positive cases.
Expected results: This research is expected to determine the presence of influenza virus A, SARS-CoV-2, Monkeypox and Marburg virus in wastewater and meat sold in the Tamale Metropolis, and determine variants of SARS-CoV-2 in meat and wastewaters. It is also expected to determine the seroprevalence of Monkeypox virus and Marburg virus antibodies in slaughterhouse worker.

Parasite Metalo-aminopeptidases as Targets in Human Infectious Diseases

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Jorge González-Bacerio is BSc on Biochemistry (2002), MSc on Biochemistry (2007) and PhD on Biological Sciences (2016). He was instructor professor (2006), assistant professor (2010), and associate professor (2014) in the Department of Biochemistry, Faculty of Biology, University of Havana. Currently, he is full professor in Metabolism for the Microbiology, Biology and Biochemistry careers. He was Director of the Centre for Protein Studies in the 2016-2017 period. Currently, he is the Head of Department of Biochemistry. His research areas are molecular biology, enzymology, protein immobilization, cellular biology and aminopeptidase inhibitors. He has performed scientific stays in Mexico, Venezuela, Brasil, United Kingdom and Germany.
Professor González-Bacerio has 40 publications and 2 book chapters, has presented works in 45 international and 20 national congresses, and has obtained several prizes, among which highlight the Special Distinction from Cuban Ministry of Higher Education for outstanding results in scientific research in 2022. He has directed 13 Bachelor Theses, 1 Master Thesis and 1 Doctoral Thesis, as well as has dictated 13 conferences in national and foreign external centres. He is member of the Academic Committee of Master in Biochemistry, Faculty of Biology, University of Havana, since 2017; directing the Biochemistry Mention since 2022.

Abstract:
Human parasitic diseases are a major concern, because current drugs are toxic, ineffective and parasites are devolping resistance to them. On this context, novel drugs, against identified or new molecular targets are urgently required. Parasite metaloaminopeptidases are emerging as novel and promissories drug targets, since they are required for virulence or are essential in the microorganism life cycle inside human host. For example, M1 aminopeptidase from Plasmodium falciparum (causal agent of malaria) is a validated target and we have identified a potent and selective inhibitor with submicromolar in vitro antimalarial activity and low cytotoxicity in mammalian cells. In the same direction, we have identified potent and selective inhibitors towards M17 aminopeptidases from Trypanosmoa cruzi (causes Chagas disease) and Leishmania major (produces leishmaniasis) with in vitro antiparasite activity and low cytotoxicity. We have some results suggesting that these enzymes are good targets in the parasites.

Determinants of 2020 – 2022 COVID-19 Mortality in Ghana; Evidence from Routine Surveillance Data

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Gideon Kwarteng Acheampong is a Disease Surveillance Practitioner and Health Research Officer at Ghana Health Service's Disease Surveillance Department and Emergency Operations Centre. He holds a Bachelor of Science degree in Biological Sciences (Zoology) from the University of Ghana, Legon and a Master of Public Health from the Kwame Nkrumah University of Science and Technology. He serves as Principal Editor for the Ghana Weekly Epidemiological Report, a CDC Foundation Initiative by the Bloomberg Philanthropies on Data for Health Policy. He also serves as Project Coordinator and Data Manager for the Health2Go Program at the Ensign Global College, a community based public health intervention program aimed at reducing morbidity and mortality among under-five children. Gideon is currently the national COVID-19 surveillance officer and data manager at the Ghana Health Service Headquarters and has authored publications in the field of tropical disease epidemiology, determinants of under-five mortality, digital surveillance and pandemic prevention.

Abstract:
Background: While population demographics and individual health profile are crucial predictors of inpatient mortality, health facility characteristics also play a significant role. Ghana was amongst the countries with the highest COVID-19 mortality counts in West Africa by February 2022 despite implementation of control measures. With majority of these COVID-19 deaths occurring in health facilities, it is necessary to examine both population and facility-level factors accounting for the deaths to understand the drivers of COVID-19 mortality.
Objective: To examine the population and facility-level determinants of COVID-19 mortality in Ghana while seeking perspectives of health facility key informants on factors influencing mortality.
Design: A mixed method approach will be adopted. A cross-sectional design will be employed for the quantitative phase, and semistructured individual interviews will be conducted with key informants from health facilities with high and low mortality for the qualitative phase. Data on COVID-19 cases and deaths recorded in Ghana between 12 March 2020 and end February 2022 will be sourced from the Disease Surveillance Department, Ghana Health Service and included in the study. Demographic variables of cases (age, sex, residence, population density) and corresponding characteristics of health facilities visited (facility type, ownership, bed capacity, staffing levels) will be used for analyses. A multilevel logistic regression model will be fitted to generate population and facility-level predictors of COVID-19 mortality and thematic content analysis used to assess views of facility informants on COVID-19 mortality determinants.
Expected Results: We expect quantitative results to be available at the time of the conference. This will include estimates about the relevance of population and patient-level predictors of COVID-19 mortality and that of facility-level predictors for inpatient mortality in Ghana. The study will contribute to improved planning of population-based prevention and control strategies for COVID-19 and to enhancing ways to safeguard quality of healthcare during the pandemic.

Assessing the Impact of Vaccination on the Dynamics of COVID-19 in Africa: A Mathematical Modeling Study

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Ms. Yvette Montcho was born on 10/03/1996 at Adjintimey, District of Couffo, Republic of Benin. She obtained her High School Diploma Major Scientific Baccalaureate (Baccalaureate D) at Catholic College Saint Peter Claver of Lokossa in Benin. She was registered at the Faculty of Agronomic Sciences of the University of Abomey-Calavi after a selection test. She graduated for a Bachelor's degree (Option: Forestry and Natural Resource Management) in 2019 with the highest distinction. In 2020, she was enrolled in the Master Program in Statistics, Major Biostatistics at the Faculty of Agronomic Sciences and obtained in January 2022 her Master in Biostatistics with the high distinction. She started a Ph.D. thesis in Biometry in February 2022 under the supervision of Prof. Romain Glèlè Kakaï (Professor of Biometry and Forestry, University of Abomey-Calavi, Benin) and Prof. Martin Wolkewitz (Professor at the Institute of Medical Biometry and Statistics, Faculty of Medicine and Medical Center, University of Freiburg, Germany) with the financial support of Humboldt Research Hub Socio-ecological modeling of COVID-19 dynamics in Africa (HRH-SEMCA), a research project funded by German Foreign Office through the Alexander von Humboldt Foundation. Her research work focuses on the modeling of COVID-19 in Africa and Germany. Her research work in the frame of her thesis allowed her to have three articles.

Abstract:
Several effective COVID-19 vaccines are administered to combat the COVID-19 pandemic globally. In most African countries, there is a comparatively limited deployment of vaccination programs. In this work, we develop a mathematical compartmental model to assess the impact of vaccination programs on curtailing the burden of COVID-19 in eight African countries considering SARS-CoV-2 cumulative case data for each country for the third wave of the COVID-19 pandemic. The model stratifies the total population into two subgroups based on individual vaccination status. We use the detection and death rates ratios between vaccinated and unvaccinated individuals to quantify the vaccine's effectiveness in reducing new COVID-19 infections and death, respectively. Additionally, we perform a numerical sensitivity analysis to assess the combined impact of vaccination and reduction in the SARS-CoV-2 transmission due to control measures on the control reproduction number (Rc). Our results reveal that on average, at least 60% of the population in each considered African country should be vaccinated to curtail the pandemic (lower the Rc below one). Moreover, lower values of Rc are possible even when there is a low (10%) or moderate (30%) reduction in the SARS-CoV-2 transmission rate due to NPIs. Combining vaccination programs with various levels of reduction in the transmission rate due to NPI aids in curtailing the pandemic. Additionally, this study shows that vaccination significantly reduces the severity of the disease and death rates despite low efficacy against COVID-19 infections. The African governments need to design vaccination strategies that increase vaccine uptake, such as an incentive-based approach.
Keywords: COVID-19; vaccination impact; compartmental model; reproduction number; Africa

Identification and Characterization of Malaria Parasites, Specific Diarrheal Viruses, and Arboviruses Causing Acute Febrile Illness in Congolese Children

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Séphora Jiré Mougany: Master's degree in molecular biology and applied immunology, with a thesis on the evaluation of the humoral immune response to Covid-19 vaccines used in the Republic of Congo. Proactive and detail-oriented, I completed a threeyear internship at the Congolese Foundation for Medical Research, where I was actively involved in infectious disease research, writing and publishing articles in leading journals, as well as attending conferences and capacity-building workshops. This has enabled me to acquire a range of skills in the field. Fascinated by the idea of becoming a leading researcher, I am currently studying at the Institute of Tropical Medicine at the University of Tübingen, Germany, for my PhD on Causative pathogens of acute febrile illnesses in a holoendemic malaria region. I am supported by the PAN ASEAN Coalition for Epidemic and Outbreak Preparedness (PACE-UP).

Abstract:
Background and objectives: Acute febrile illness (AFI) is defined by an episode of fever (>37.5°C). In a malaria holoendemic region, such as Republic of Congo, AFI among children are often misdiagnosed as malaria. Differential diagnoses for other bacterial and viral causative pathogens are equally essential in a child presenting with AFI; however, this is seldomly done in Congolese children.
Methods: The observational study is currently being conducted between August 2023 and July 2024 in the southern region of Brazzaville, the densely populated capital of RoC. Children aged 1-12 years who had a fever ≥ 37.5°C or a history of fever of less than 48 hours were recruited. After informed parental consent, each child provided Blood, Serum and Stool/Rectal swab. All blood samples are subjected to a malaria test. Nucleic acid tests (NAT) are used for the detection of diarrhoea and tropical fever pathogens. In addition, the pathogens identified will be characterised at the molecular level regarding their genotypes, serotypes and subtypes.
Results: By 05 June 2024, a total of 325 Congolese children had been enrolled. The recruitment was higher in the rainy season (n=189/325, 58%) than in the dry season (n=136/325, 42%). Most children were under six years old (226/325, 70%). The female to male ratio was 163:162. Among the recruited, 59% (192/325) had only fever and 41% (133/325) with fever and diarrhoea. While 49% (158/325) of the children tested positive for malaria using a rapid diagnostic test and 36% (116/325) tested positive by microscopy.
Conclusion: Investigations are ongoing. Although malaria remains the main cause of fever in children, understanding other pathogens should contribute to better clinical case management.

Performance of Microscopy and Rapid Diagnostic Tests and Genetic Diversity of Plasmodium Falciparum in People Living with HIV in Nigeria

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Abstract:

Background: Human immunodeficiency virus (HIV) may increase the risk and severity of malaria infection, and the increased parasite burden may favour higher malaria transmission rates. This study investigates the performance of malaria diagnostic methods and the genetic diversity of Plasmodium falciparum merozoite surface protein 1 and 2 (msp-1 and 2) in people living with HIV (PLWH) in Ogbomoso, Nigeria.

Methods: Blood samples (n=150) were collected from consenting PLWH at the LAUTECH Teaching Hospital HIV clinics, Ogbomosho. Giemsa thick film microscopy, rapid diagnostic test (RDT) and nested polymerase chain reaction (PCR) were used to diagnose P. falciparum. DNA was extracted from blood spots, and the polymorphic regions of the msp-1 and 2 genes were genotyped. The data were analysed using SPSS version 27.0.

Results: Of the 150 samples, 5 (3%) were positive for P. falciparum by RDT, 85 (57%) by microscopy and 82 (55%) by PCR. With PCR as the gold standard, the specificity of RDT was high (96.88%) and the sensitivity low (3.5%), while microscopy showed moderate sensitivity (51%) and low specificity (35.94%). The positive predictive values (PPV) and negative predictive values (NPV) for the RDT were 60 (CI: 17.06 - 100) and 42.76 (CI: 34.71 - 50.81), respectively, while the value for microscopy was 51.76 (CI 41.14 - 62.39) and 35.38 (CI 23.76 to 47.01), respectively. The msp-1 genotyping revealed that RO33 (27%) was predominant, followed by K1 (25%) and MAD20 (23%) alleles. Most isolates, 111 (74%), were monoclonal, while 35 (23%) were polyclonal. The msp-2 genotyping revealed that FC27 (19%) was predominant compared to 3D7 (3%). Multiplicity of infection (MOI) was 1.40 (msp-1) and 0.71 (msp-2) and heterozygosity index (HE) was 0.75 and 0.83 for msp-1 and msp-2, respectively.

Conclusion: The performance of both microscopy and RDTs was suboptimal, indicating the need for a more sensitive diagnostic technique.

POSTERS ON DIGITAL HEALTH, COMMUNITY ENGAGEMENT/ ETHICS/ SOCIAL SCIENCES AND DIAGNOSTICS/ MONITORING/ TREATMENT/ AMR

During the poster sessions, the authors will be available to answer questions and hold discussions by maintaining a presence directly at their posters. We invite all academics participating in the conference whose research topics correspond to those of the posters to enter into discussions. Thank you.

PRESENTERS

Enteropathogenic Bacteria with Zoonotic Potential: Prevalence and Antibiotic Resistance in Pigs from Farms and Slaughterhouses in Ogbomoso, Nigeria

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Itunuoluwa Oyelayo is a PhD student in the Medical Microbiology and Parasitology Department. Ladoke Akintola University (LAUTECH) Ogbomoso. She is a research assistant at the Humboldt Research Hub-Center for Emerging and Reemerging Infectious Diseases (HRH-CERID) LAUTECH. She obtained a Bachelor of Science in Microbiology from LAUTECH and a Master of Science in Medical Microbiology and Parasitology from Obafemi Awolowo University, Ile-Ife, Nigeria. Her PhD research is focused on Hepatitis Virus (HBV) and Human Immunodeficiency Virus (HIV) co-infections in individuals with active tuberculosis infection in Nigeria. Since joining HRH-CERID, she has undergone training in molecular techniques and Oxford Nanopore Sequencing Technology (ONT). She was also part of the collaboration study between HRH-CERID and PACE-UP that studied the sensitivity of oral ciprofloxacin from authorised and unauthorised pharmacies in Nigeria and Vietnam. She has one publication in a peer-reviewed journal and is making good progress in her PhD study.

Abstract:
Background:Enteropathogenic bacteria with zoonotic potential in pigs pose a significant concern due to their contribution to transmitting antibiotic-resistant strains to animals and humans. This study investigates the prevalence and antibiotic resistance profiles of enteropathogenic bacteria with zoonotic potential in pigs in Ogbomoso.
Methods: One hundred and fifty pig faecal samples were collected from seven farms and four slaughterhouses in Ogbomoso. Standard microbiological protocols were used to isolate *Salmonella*, *Escherichia coli* and *Pseudomonas aeruginosa* from the samples and confirmed using biochemical tests. Antimicrobial susceptibility patterns to ciprofloxacin (CIP), cefotaxime (CTX), tetracycline (TET), trimethoprim-sulfamethoxazole (SXT), cefepime (FEP), cefpodoxime (PX), ceftriaxone (CRO), aztreonam (ATM) and gentamicin (CN) were determined using the Kirby-Bauer disk diffusion method, phenotypic detection of ESBL genes was done according to EUCAST 2017 guidelines and the genes detected by PCR. Data were analysed using SPSS v. 27, and the association between variables was computed using Chi-square ($\chi 2$). A P value of ≤ 0.05 indicated a statistically significant difference.
Results: *Eschericha coli* has the highest prevalence of 95% (n=143), followed by Pseudomonas sp. with 4% (n=5) and Salmonella sp. with 1% (n=2). The resistance rate of *E. coli* was 79% for SXT, 87% for TET, 43% for CTX, 30% for ATM, 22% for CRO, 17% for PX, 5% for FEP and 58% for CIP. For Pseudomonas sp., the resistance rate was 80% for SXT, 100% for TET and CTX, and 60% for CIP. For Salmonella sp., the resistance rate was 50% for all tested antibiotics. *E. coli* was significantly more resistant to SXT than the other two bacteria isolates (p=0.02). Escherichia coli (18%) and Pseudomonas sp. (20%) showed resistance to CN, but no resistance was observed with Salmonella. However, the two Salmonella isolates were susceptible to CN. Genomic characterization of Extended Spectrum Beta-Lactamase (ESBL) of the isolates and drug-resistant genes is ongoing.
Conclusion: Our study demonstrates the significant prevalence of ESBL-producing *Escherichia coli* and *Pseudomonas sp* in pig populations in Ogbomoso, the detection of these genes indicates a potential risk for the transmission of resistant pathogens from animals to humans through direct contact or via the food chain, also horizontal transmission to other pigs. This finding further emphasizes the need for stricter antibiotics stewardship and surveillance in livestock production.

Effect of an mIVRS on Tuberculosis Case Detection Among Community-based Surveillance Volunteers in the Western Region of Ghana

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Fortress holds a bachelors degree in medical laboratory technology at the Kwame Nkrumah University of Science and Technology and a masters degree in applied epidemiology and disease control at the University of Ghana. She is currently a PhD student in Public Health at the Kwame Nkrumah University of Science and Technology, Ghana. Her research interest areas include infectious disease epidemiology, antibiotic resistance, surveillance system evaluation, and digital health.

Abstract:
Background: In Ghana, low Tuberculosis case detection remains a public health concern. Concerted efforts aimed at improving case finding and reporting have largely been hospital-based, with under-explored digital community-based surveillance systems. However, a recent study in Lymphatic Filariasis using a mobile interactive voice response system(mIVRS) in Ghana identified more cases compared to the traditional reporting system.
Objective: This study aims at developing and testing a community health worker (CHW)-led mIVRS for Tuberculosis case detection in two districts of Ghana.
Method: The study employs a three-arm cluster randomized controlled trial in two districts in the Western Region of Ghana. The mIVRS was implemented in September 2023 and data will be collected for a minimum of 9 months. In the intervention district, selected volunteers received training and were randomly allocated to use (a) the mIVRS and a volunteer register or (b) only a volunteer register in reporting cases. In the control district, no intervention was done. Effectiveness will be assessed with TB case notification rate as the primary outcome. User experiences will be collected through qualitative interviews.
Expected Results: By the time of the conference, data generated from the study will provide evidence on whether CHW-led Tuberculosis case detection using an mIVRS is feasible and effective at improving TB surveillance. It will further provide a better understanding of user experiences and perspectives which can support a potential future implementation and national scale-up of the intervention.

Insights into the Mechanism of Interaction of the Antimicrobial Peptide CIDEM-501 with E. coli Membranes

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In 2016 I obtained a Biochemistry and Molecular Biology, and in 2019 the Master of Biochemistry. From 2022 I inserted as a doctoral student through the GLACIER program. My work focuses on studying the behavior of several biological systems using bioinformatic tools, especially molecular coupling and dynamics simulations. My works have been presented in more than 20 symposiums and published in six high-impact journals. I have supervised several theses of Bachelor and Master's Degree in Bioinformatics. In addition, I have issued several conferences on molecular genetics topics, rational drug design, bioinformatics, etc. for undergraduate and graduate students.

Abstract:
Background: Antimicrobial-resistant bacteria is one of the most worrying issues worldwide. Antimicrobial peptides have risen as potential therapeutic candidates for developing new potential drugs. CIDEM 501 is a novel synthetic antimicrobial peptide with high activity against multi- and extreme-drug-resistant bacteria especially against Gram-negatives.
Objectives: Obtain insights into the mechanism of interaction of CIDEM-501 with E. coli membranes and studying individual residue's structural and thermodynamic contributions to the antibacterial activity
Methods: The coordinates for CIDEM 501 were obtained using ab initio modeling using the server AlphaFold2. Peptidesmembranes systems were generated using the Web server of CHARMM-GUI. , The membranes was build using the lipids DOPE, DOPG, and TMCL2 in a ratio 80:8:12, to mimick the membrane of E. coli according with the literature. Two different initial configurations of peptides-membranes to obtain proper model structures were employed. Molecular dynamics simulations were performed for 500ns using the CHARMM36 forcefield implemented in the software NAMD v2.14.
Results and Conclusions: The modeling of CIDEM-501 showed a highly twisted b-hairpin configuration composed by two antiparallel b-strands stabilized by a disulfide bond. Molecular dynamics simulations showed a rapid and highly stable peptide adsorption to the bacterial membrane. A predominant peptide orientation was observed dominated by the electric dipole regarding the starting orientation. The peptide remained parallel to the membrane surface with the center loop oriented to the lipids. Several aromatic (Tyr) and positive charged (Arg) residues were found as critical for the stabilization of the peptide over the bacterial membrane. Our findings shed light on the antibacterial activity of CIDEM-501 on E. coli bacterial membranes and yield insights valuable for designing potent antimicrobial peptides targeting multi- and extreme drug-resistant bacteria.

Digital Technology-based Surveillance Systems for Pandemic Response and Control: Assessment of SORMAS Towards Scale-up and Integration into Existing Health Systems

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I am Sylvia Amartekai Annang, a PhD Public health student at the KNUST School of Public Health and a G-WAC scholar. The use of SORMAS for surveillance and outbreak response management in Ghana is the focus of my doctoral research in the field of digital health. I hold a BSc in Medical Laboratory Technology from KNUST and an MPhil in Health Systems Research and Management. During my MPhil, I researched on innovations in chronic disease care with a focus on the concept of integrated care for persons living with chronic multi-morbidity. I have experience working for the eHealth Research Partner Group (eHRPG) as a research assistant. During that period, I was a part of the team that co-authored Ghana's Health Policy Brief on the referral and gatekeeping system, and Ghana's Health System In Transition (HIT) among others. I have a keen interest in digital innovations in healthcare and hope to undertake more research in this area.

Abstract:
Background: Digital technology has transformed societies worldwide over the past three decades. Digital health interventions especially have been shown to greatly improve the provision of healthcare globally. Notwithstanding their benefits, numerous digital health interventions are not efficiently implemented and or spread slowly thus affecting their usefulness. Surveillance Outbreak Response Management and Analysis System (SORMAS) is a digital health tool that allows for comprehensive disease surveillance and outbreak management on one platform in real time. The tool has been used for COVID-19 surveillance and management in Ghana.
Study Objective: This study aims to assess the maturity and impact of SORMAS in Ghana as a digital surveillance tool and also perform an economic evaluation of the use of the tool for surveillance and outbreak response management.
Methodology: The study design for this research will be mixed method. Study participants will be SORMAS stakeholders and users at the national, regional and district level. Study participants will include surveillance officers and supervisors, health information officers, laboratory supervisors as well as district and regional directors of health. Interview guides will have different questions for each stakeholder group but will be fundamentally similar. Atlas.ti and STATA will be used to analyze qualitative and quantitative data respectively. A decision analytic model will be used for the economic evaluation. Ethical approval for the research will be sought from the Committee of human research and publication ethics (CHRPE), KNUST, Kumasi and the Ministry of Health, Ghana. Informed consent will be obtained from each participant before enrollment.
Expected outcome: The study results will highlight the shortfalls of SORMAS operation in Ghana that need to be improved to ensure its efficient use. Findings from the economic evaluation will inform further financial evaluation to ensure sustainability of SORMAS in Ghana.

Medicinal and Aromatic Plants of Afghanistan: Status and Challenges

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M Osman Babury completed his BS in Pharmacy and MS in Pharmaceutical Science (with Honour) at Pyatigorsk Pharmaceutical Institute in Russia and completed his PhD at the Philipps University of Marburg in Germany. He has been working since 1986 as academic staff and since 2001 as a professor with a focus on researching Pharmacognosy, Phytotherapy and different aspects of medicinal plants including resource assessment and management of medicinal plants in Afghanistan. He has worked as a professor of Pharmacognosy and Phytotherapy at the Faculty of Pharmacy, Kabul University until October 2021.
He was elected as dean of the Faculty of Pharmacy at Kabul University from 2001 to 2006. Additionally, he served as the general director of the Pharmacy Authority at the Ministry of Public Health, as Vice-chancellor for academic affairs at Kabul University, and as deputy minister of the Ministry of Higher Education for academic affairs from 2007 to 2016 and also as an acting minister of the Ministry of Higher Education of Afghanistan. During the last two years before the collapse of a democratic regime, Babury served as president of Kabul University. Currently, he is hosted by the Department of Pharmaceutical Chemistry, Philipps University of Marburg.

Abstract:
Afghanistan is a landlocked country situated in the subtropical, dry zones in Central and Southwest Asia that have continental types of climate characterized by desert, steppe, and highland temperature and precipitation regimes. The Hindu Kush as the largest mountain range of Central Asia is an important factor with an impact on the land and climate of Afghanistan. The sharp climatic seasonality gives rise to the extensive development in Afghanistan of peculiar desert types of vegetation. However, climate change and conflicts have a serious impact on the vegetation as well as land usage. The country has a high floristic diversity and the flowering plants are estimated to be about 5,000 species with around 30% endemic. Wild collection of MAPs has a long history in the country and it contributes to traditional medicine and the local economies of the populations. About 400 different plant species are used medicinally, mostly in a traditional manner. The ethnopharmacology of medicinal plants in Afghanistan is remarkable and promises to make a significant contribution to the country's healthcare system.
Over the past decade, the export share of medicinal plants accounted for more than 11% of the total exports, following fresh and dried fruits and nuts, which constituted more than 43.4%. While Afghan saffron is a new entrant in the global market, Afghanistan has become one of the largest exporters of saffron since 2016.
The rich flora of Afghanistan and its surrounding countries, coupled with the diverse and rich traditional medicine practices of the region and the extensive research history of the Department of Pharmaceutical Chemistry at the Philipps-University of Marburg, has prompted the launch of an initiative to establish a research centre “Marburg Centre for Oriental Traditional Medicine” and to address challenges in traditional medicine and medicinal plants of these countries. It is aimed that the centre will undertake research on the safety, efficacy, and quality of products and methods used in traditional medicine through relevant multidisciplinary studies.

Expression in Escherichia coli, Purification and Characterization of Domine III of the Dengue Virus 3 Envelope Protein for Vaccine Formulation

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Junior Researcher at the Finlay Vaccine Institute. With a background in molecular biology, recombinant protein production in bacteria and mammalian cells, immunology and vaccinology.

Abstract:
Dengue is a viral disease that affects more than 400 million people annually, mainly in tropical and developing countries. So far, there is only one dengue vaccine on the market and it is not equally effective against all viral serotypes. Taking into account the good results obtained with the Soberan vaccines against SARS-CoV2, we have proposed in this work to recombinantly express domain 3 of the envelope protein of the dengue virus for its use in vaccines.

The Impact of the COVID-19 Pandemic on the Utilization of HIV/AIDS-related Services in Ghana

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Vincent Findeiß joined the Department of Health Care Management at the Berlin University of Technology as a research fellow in July 2023. He completed his Bachelor in Area Studies Africa (Bachelor of Arts) at the Humboldt-University zu Berlin, including an exchange semester at the University of Dar es Salaam (Tanzania). He acquired his Master of Public Health (Master of Science) at the Berlin School of Public Health (BSPH). As part of his master's thesis, he examined the explanatory approaches for the success of a therapy in HIV infection from the interaction between antiretroviral therapy (ART) and Water, Sanitation and Hygiene (WASH) in the setting of townships in Durban, South Africa.

Current projects:
G-WAC (German-West African Centre for Global Health and Pandemic Prevention)
BUA (Berlin University Alliance)

Research interests:
Global Health
Integrated Care
Europe and Afrika
Health inequalities

Publications 2023
Findeiß V, Kuhn E, Struckmann V (Hrsg.). 2nd joint digital symposium. DAAD Global Centres abstract booklet. https://www.egms.de/dynamic/de/meetings/gwac2023/index.htm

Abstract: The impact of the COVID-19 pandemic on the utilization of HIV/AIDS-related services in Ghana
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Background: The COVID-19 pandemic, as well as the control and mitigation measures applied to tackle the widespread outbreak of the disease, negatively affected access to health services for chronic diseases such as HIV/AIDS. The study explores the effects of COVID-19 on HSU for HIV/AIDS-related services, particularly in the context of the uprising phobia and criminalization of key populations mandated by the Promotion of Proper Human Sexual Rights and Ghanaian Family Values Bill (Anti-LGBTQIA+ Bill).
Methods: We are conducting semi-structured, problem-centered interviews with health experts and community health workers providing HIV/AIDS services in Ghana. In addition, focus groups with social workers and other professionals in the field of HIV/AIDS services are conducted to better understand socio-behavioral and community factors influencing HSU.
Results: The study will help to understand the impact of the pandemic as well as the the Anti-LGBTQIA+ Bill on accessibility and HSU of HIV/AIDS services in Ghana. The aim is to determine the contextual factors causing the shift in HSU and to develop innovative models for delivering HIV/AIDS care to ensure accessibility for marginalized populations and adequate preparation in times of public health emergencies.
Conclusion: The COVID-19 pandemic caused a decline in HSU of HIV/AIDS services as well as a reduction in adherence to treatment. Ensuring equitable access and continuity of HIV/AIDS care is crucial during a pandemic to mitigate shocks to healthcare systems and to prevent a rise in AIDS-related morbidity and mortality in Ghana.

Peptide Modifications Through C and N-terminus Lipidation via Simple Couplings and Multicomponent Ugi Reactions

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My name is Amanda Menéndez Garcés and I hold a Bachelor of Science in Chemistry from the University of Havana. I graduated with a GPA of 4.00 out of 5.00 and am a native Spanish speaker with advanced proficiency in English. I have a strong knowledge of solid phase peptide synthesis, natural product extractions, rotoevaporation, column chromatography, and HPLC. I am also skilled in communication and classroom management.
During my professional journey, I participated in the Undergraduate Research Summer Program at Duquesne University, where I focused on cyanobacteria compounds for potential anti-cancer treatments. I also served as a Student Intern at the Center of Genetic Engineering and Biotechnology, engaging in the chemical synthesis of peptides for mapping and determination of interaction sites. Additionally, my roles as a Researcher and Professor at the University of Havana provided me with the opportunity to conduct research on peptide modification for various disease treatments and to impart knowledge to others. I have completed various courses in research methodology, biomedical responsible conduct of research, design thinking, chromatographic methods, entrepreneurship, and language proficiency, which have all contributed to my comprehensive skill set.

Abstract:
Peptides are chemical compounds that have garnered significant attention in the field of drug development due to their therapeutic potential. However, their use has been limited by their rapid metabolism and degradation in the body. Therefore, structural modifications have been made to enhance peptide stability, reduce degradation, and increase their efficacy for treating specific disorders. Octreotide, a synthetic peptide derivative of Somatostatin, consists of eight amino acids and is recognized by the Somatostatin receptors. The effectiveness of octreotide goes beyond symptomatic treatment since it can be conjugated with other agents or ligands to be used in targeted therapy and as a target fraction in drug delivery systems, such as octreotide-modified liposomes. Current research aims to provide peptides with enhanced bioavailability, stability, and cellular uptake by lipidation of the C- and N-terminus of octreotide. Solid phase peptide synthesis (SPPS) has been a useful tool for the growth of the peptide chain, while multicomponent reactions, such as the Ugi-4C reaction, have allowed for the introduction of lipid chains at the C- and N-terminus. The analogues that were acquired have been subjected to characterization through high-performance liquid chromatography (HPLC) and mass spectrometry techniques. This was done both before and after the cyclication of octreotide in order to confirm their identity

Anticancer Activity of the Antimicrobial Peptide Cm-p5 Derived from the Marine Mollusk Cenchritis Muricatus

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Ernesto Manuel Martell Huguet is a young cuban researcher graduated from Microbiology in the University of Havana in 2019. Martell's main domains are Tumor Biology, Immunology and Antimicrobial/Anticancer peptides. Since 2019, Ernesto Martell is working as professor and researcher in the Biology Faculty in the University of Havana. He focused on the isolation and biological characterization of peptides with antimicrobial and anticancer activity to counteract multidrug resistant infections or tumors. To this date, Ernesto Martell is one of the members of GLACIER and is conducting his PhD in the University of Ulm, Germany.

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Cm-p5 Peptide Dimers inhibit biofilms of Candida albicans clinical Isolates, C. parapsilosis and fluconazole-resistant mutants of C. auris. International Journal of Molecular Sciences 2023. Ijms-2451926.

The pore forming designed antimicrobial peptide C14R combines excellent activity against the major opportunistic human pathogen aeruginosa with low cytotoxicity. Pharmaceuticals 2024, 17(1), 83.

Abstract:
Coastal and marine mollusks have been widely studied for the isolation of host defense peptides with therapeutic potential. Our group previously described the antifungal activity of Cm-p5, a peptide derived from the coastal mollusk Cenchritis muricatus. This peptide has activity against pathogenic Candida albicans at low concentrations (10 µg/mL) and adopts an α-helical structure in membrane mimetic conditions. Nowadays, host defense peptides are recognized as multifunctional molecules and commonly an antimicrobial peptide also exhibits antitumor effects. Theoretical results related to the specific interaction of Cm-p5 with cancer cell membranes were obtained using a bioinformatical approach. Experimental results demonstrated the cytotoxicity of Cm-p5 in several cancer cell lines in a dose dependent manner, without showing toxicity in human fetal lung fibroblasts (WI-38) at all the evaluated concentrations. Hemolytic activity was minimal at concentrations relevant for anticancer activity. From all evaluated cancer cell lines, A375 (malignant melanoma) and MCF-7 (non-invasive breast adenocarcinoma) were the most affected, thus they were selected to explore the mechanisms of action underlaying the anticancer activity of Cm-p5. DAPI/PI double staining assay confirmed the disruption of cancer cell membranes treated with Cm-p5. In addition, Annexin V-FITC/PI staining assay revealed the capacity of Cm-p5 to induce apoptosis in these cancer cells, specially at low concentrations. Moreover, after the treatment with Cm-p5 the capacity of A375 cells to proliferate is severely dampened. These findings reveal the potential of Cm-p5 as a candidate for the treatment of different types of tumors.

Shock and Public Policy: Political-institutional Determinants of COVID19 Vaccination in Central America

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Currently, I am pursuing a PhD in Government and Public Policy at the University of Costa Rica, while participating in the Doctoral Program at the German Institute for Global and Area Studies.
My professional career has been developed as a proffesor and researcher at the University of Costa Rica, where I have accumulated valuable experience in the study of public policy, political history, and gender.
Currently, my research work is focused on the GLACIER - German-Latin American Centre of Infection & Epidemiology Research & Training, where I am conducting a study on vaccination policies against COVID-19 in Central America.
Additionally, I am a researcher at the Center for Research and Policy Studies of the University of Costa Rica and I am part of the Gender Equity and Equality Team of the Rector's Office of the UCR, where I provide advice on the implementation of gender policies at the university level.

Abstract:
The COVID-19 pandemic forced Central American governments to enact public policies with significant social and economic consequences. These policies, particularly vaccination campaigns, presented opportunities to redistribute resources and potentially alter pre-existing inequalities.
This research investigates the political and institutional dynamics behind the varying performance of vaccination programs across Central America. Some countries, like Costa Rica and El Salvador, performed unexpectedly, while others, like Guatemala and Nicaragua, displayed continuity with past trends.
By examining diverse national contexts, this study aims to understand how political regimes, electoral competition, and political party profiles influence vaccination outcomes. This knowledge can help explain whether and how political and institutional management can disrupt established patterns and alter public policy trajectories in the region.
Ultimately, this research seeks to contribute valuable knowledge for both academics and policymakers. Understanding these dynamics can guide future efforts by state and civil society actors to mitigate the long-term social impact of the pandemic on Central America.

Study of Plasmodium Malariae Infection Dynamics ex vivo, and in vivo in a New Model of Humanized Mice. Advanced Laboratory Diagnostics, Treatment, Disease Monitoring, Vaccination and Infection Control (AMR)

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SCIENTIFIC THESIS - CAIDERA, University of Tübingen - Institut Pasteur Paris - Centre de Recherche Médicales de Lambaréné (since 2022) - PhD student
"Study of Plasmodium malariae infection dynamics ex vivo, and in vivo in a new model of humanized mice"
PHARMACEUTIC THESIS DEFENSE - Health Unit, University of Angers
(2023) - Graduate State diploma of doctor of pharmacy
"Status report and pharmacological issues associated with antimalarial treatments in 2023 : Interest in innovative approaches for establishing reinforced therapeutic strategies"
MASTER 2 HEALTH-BIOLOGY - Orsay Sciences Unit, University of Paris-Saclay
(2020-2021) - Graduate M2 Fundamental microbiology, School Life Science and Health - Specializations : Genome stability & evolution, Cellular and molecular virology
MASTER 1 RESEARCH - Health Unit, University of Angers
(2018) - Graduate M1 Drugs sciences - Specializations : Physiopathology of infectious human diseases
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(2015-2021) - Pharmaceutical sciences course - Specializations : Microbiology, Immunology & bio-reactants, Health ecology

Abstract:
Malaria remains one of the most severe human infectious diseases worldwide with 249 million cases and 608 000 related deaths, according to the World Health Organization Malaria report of 2023 [1]. The causative agents are intracellular haematozoan parasites belonging to Plasmodium spp. genus with a tropical and sub-tropical distribution and transmitted by female Anopheles spp. mosquitos. Five human-malaria species have been identified so far, including in order of prevalence P. falciparum, P. vivax, P. malariae, P. ovale and P. knowlesi. Because of its apparent low prevalence and severity [2,3], P. malariae remains a neglected parasite. Compared to the other Plasmodium spp, P. malariae shows the longest erythrocytic life cycle (72h vs 24-48h), low level of merozoites egress, and may have a tropism for aged red blood cells with low parasitaemia levels [4,5]. In addition, long-term asymptomatic carriage and submicroscopic P. malariae infections have been reported [6–9]. These characteristics are responsible for its persistent transmission among endemic populations, but also for delayed severe complications such as renal impairments. The lack of long-term in vitro culture of P. malariae hinders the progress of its in-depth biological study and it remains largely understudied. In this collaborative thesis project, we aim to revisiting the infection dynamics of P. malariae blood-stage. Both ex vivo and in vivo studies will be conducted and should allow us to better understand the biology of this under characterized parasite.

Three objectives :
1. Characterize the maturation stage of parasitized red blood cells ex vivo from Gabonese blood clinical isolates provided by the CERMEL (Gabon).
2. Determine P. malariae sexual differentiation rate ex vivo using RNA-FlowFISH and ImageStream analyses [10].
3. Study P. malariae in vivo dynamic, and its potential tissue reservoirs, in a new model of humanized mice [11].
Overall, this project should provide better understanding of P. malariae biology to divide new therapeutic strategies indispensable to malaria eradication.
References :
(1) WHO, 2023 (2) Hawadak et al, 2021 (3) Kotepui et al, 2020 (4) Coatney et al, 1971 (5) Collins & Jeffery, 2007 (6) Abdulraheem et al, 2022 (7) Vinetz et al, 1998 (8) Morovic et al, 2003 (9) Hedelius et al, 2011 (10) Luiza-Batista et al, 2021

Tailoring an Adenoviral Protein VI-derived Membranotropic Peptide Through pH-responsive Modifications for Enhanced Intracellular Release of Nucleic Acids

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I am a biochemist and researcher hailing from Cuba. With a Master's degree in Biochemistry, with a Biotechnology Mention, from the Biology Faculty of the University of Habana, I graduated with Summa Cum Laude. My academic journey has been marked by a relentless pursuit of scientific exploration, delving into the intricate mechanisms of protein function and cellular interactions.
My research endeavors have centered around the characterization of various biomolecules, with a particular focus on poreforming toxins and their potential applications in gene delivery systems. From my early days as a student, where I delved into the pore-forming capacity of proteins from sea anemones, to my current role as a researcher at the Center for Protein Study (CEP) in Cuba, I have been dedicated to pushing the boundaries of scientific knowledge.
With a robust background in cell culture, molecular biology techniques, and advanced microscopy, I have contributed to numerous scientific events and international conferences, presenting my findings on platforms ranging from atomic force microscopy to the development of non-viral vectors for gene delivery. Awards such as the ELAP scholarship and participation in prestigious projects like the Marie Curie - RISE 2017-2021 H2020 Project underscore my commitment to excellence in scientific inquiry.

Abstract:
Non-viral gene delivery systems are gaining prominence in biomedical research due to their potential for safe and efficient gene transfer. This study focuses on optimizing the delivery efficiency of non-viral vectors by harnessing modified peptides derived from adenoviral protein VI (advPept) to enhance endosomal escape. The peptides were engineered to be pH-sensitive andsubsequently incorporated into DNA/polylysine complexes. As assessed by the MTT assay, the modified peptides exhibit a significantly lower cytotoxicity than the wild-type peptides, making them viable candidates for further investigation. Incubation of HEK293T cells with these complexes for 72 hours revealed their enhanced biocompatibility and potential for prolonged cellular interactions. Characterization of the resulting complexes through dynamic light scattering (DLS) revealed a highly homogeneous, nanometric size and positive charge, which are crucial attributes for effective cellular uptake. Furthermore, these complexes exhibited a remarkable stability in water for up to one month, maintaining their structural integrity and homogeneity. Flow cytometric analysis demonstrated an efficient internalization of the complexes by HEK293T cells with an uptake rate of 86% after 4 hours, which is comparable to polyethylenimine (PEI) used as a positive control. However, despite similar internalization rates, the expression of the reporter gene was lower in our complexes compared to PEI. These findings highlight the potential of pHsensitive modifications of adenoviral protein VI-derived peptides for enhancing non-viral gene delivery. The improved biocompatibility, stability and cellular internalization efficiency of the DNA/advPept/polylysine complexes underscore their promise as gene delivery vectors. While achieving comparable uptake to PEI, further optimization is necessary to enhance the level of the reporter gene expression.

Short Profiles of Further Participants

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I ám Abass Abdul-Karim, a Ghanaian final year PhD student at the Department of clinical microbiology of the Kwame Nkrumah University of Science and Technology- KNUST

Dr Nina Adelberger
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Managing Director, Berlin School of Public Health
Nina Adelberger has a degree in Political Science and Economics from Reed College (OR) and a Master of Public Health from Columbia University (NY). She received her Doctorate in Public Health from the Technical University Berlin (TU). Her areas of expertise are health systems research and higher education.
Nina Adelberger has worked at the Charité – Universitätsmedizn Berlin, Berlin School of Public Health (BSPH) since 2005, taking over as Managing Director in 2018 after having been the Academic Program Coordinator for 12 years.
The Berlin School of Public Health is a cooperative entity hosted by three partner institutions:

- *Charité – Universitätsmedizin Berlin*
- *Technical University Berlin (TU)*
- *Alice Salomon University of Applied Sciences Berlin (ASH)*

The Berlin School of Public Health (BSPH) benefits from the respective expertise each partner is able to contribute to Public Health research, practice and teaching. Students at the BSPH can enrol in a variety of Masters Programmes in Public Health and Epidemiology. A structured PhD in Health Data Sciences and a Doctorate in Public Health are also on offer. Through an additional cooperative venture with the Robert Koch-Institute, a degree in Applied Epidemiology with a focus on outbreak investigation can be earned.

Prof Christian Agyare
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Professor Christian Agyare is a Professor of Pharmaceutical Microbiology and Natural Products in the Department of Pharmaceutics, Faculty of Pharmacy and Pharmaceutical Sciences, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana. He obtained his Bachelor of Pharmacy (BPharm) and Master of Pharmacy (MPharm) degrees from Kwame Nkrumah University of Science and Technology, Kumasi.
Professor Christian Agyare obtained his doctorate (Dr. rer. nat.) from the University of Muenster, Muenster, Germany through a German Academic Exchange Service (DAAD) scholarship after which he had his postdoctoral fellowships at the University of California, San Francisco, California and the Novartis Institute for Biomedical Research, Boston, Massachusetts, USA.
Professor Christian Agyare was appointed a Lecturer at KNUST in 2003, promoted to Senior Lecturer in 2011, Associate Professor in 2016, and promoted to a Professor of Pharmaceutical Microbiology and Natural Products in the Department of Pharmaceutics, Faculty of Pharmacy and Pharmaceutical Sciences, KNUST, Kumasi in the year 2020. He is the immediate past Head of Quality Assurance and Planning Office, KNUST and also served as a Vice-Dean of Faculty of Pharmacy and Pharmaceutical Sciences, College of Health Sciences, KNUST. Professor Agyare was elected a as Non-Professorial Member of Academic Board of KNUST and served from 2014 to 2016. Professor Agyare served as a Deputy Examinations Officer at the Department of Pharmaceutics, KNUST from 2004 to 2007. Professor Agyare was elected a as Non-Professorial Member of Academic Board of KNUST and served from 2014 to 2016. Professor Agyare served as a Deputy Examinations Officer at the Department of Pharmaceutics, KNUST from 2004 to 2007. Fellow of Ghana College of Pharmacists and Pharmaceutical Society of Ghana (PSGH). Professor Agyare is currently the Provost of College of Health Sciences, KNUST, Kumasi.

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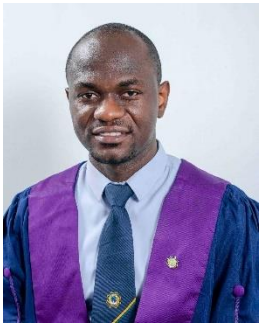

Dr Francis Opoku Agyapong is a practicing Physician Specialist with interest in Clinical Microbiology and Infectious Diseases. He is a lecturer with the Clinical Microbiology Department, KNUST and infectious diseases medicine fellow-in-training with Directorate of Medicine, Komfo Anokye Teaching Hospital both in Kumasi, Ghana. His research interest is in enteric and respiratory pathogens as well as HIV and AIDS-related diseases. He was the project coordinator for SAiNTS and Vacc-iNTS Cost of Illness/Cost Effectiveness studies in Ghana in preparation for future iNTS (Non Typhoidal Salmonella) vaccine studies in endemic countries. He was the lead clinician of the TyVEGHA trial in Ghana (phase IV Typhoid Conjugate Vaccine Trial) and currently, he coordinates the PedVac iNTS Trial (paediatric immunogenicity, safety and dosing-finding of GMMA-based vaccine against invasive non-typhoidal Salmonellosis). Dr Agyapong believes in teamwork, collaborative research and evidence-based decision making. He is forward-looking, pro active and versatile and engages in volunteer services and medical out-reach services to deprived communities

Dr Kathrin Arndts
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I am a postdoc in the group of Dr. Manuel Ritter at the IMMIP, Bonn working on parasitological and immunological questions in the field of neglected tropical diseases. I have joined the GWAC team since August 2023 and my task is the scientific coordination for the Institute of Medical Microbiology, Immunology and Parasitology (IMMIP), University clinic Bonn.

Jamil Ibrahim Badu
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Mr. Jamil Ibrahim is the Senior Member and the College Accountant at the College of Health Sciences at Kwame Nkrumah University of Sciences and Technology, Kumasi, Ghana. Jamil is a Chartered Accountant with over twenty-five (25) years experience in Accountancy in different Organizations in Ghana. Jamil is also a part time lecturer who teaches Financial Management at the Department of Agribusiness and Agriculture Economics and Extension at the College of Agriculture and Natural Resources at the Kwame Nkrumah University of Science and Technology Kumasi, Ghana. Jamil has the aspiration of contributing to humanity and society through knowledge impact and mentoring young accountant.

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Dr Klaus Birk

Dr. Klaus Birk studied Chinese Studies, Political Science and Philosophy at Munich University and Peking University. From 1992 to 1993 he was a Visiting Scholar at the University of Michigan, Ann Arbor. From 1995 to 2001 Dr. Birk taught at Leipzig University and did research on poverty alleviation in China. Since 2001, he has worked at the German Academic Exchange Service Exchange (DAAD), first as Head of Section "China and Mongolia" and then as Head of Division "Asia-Pacific", Head of Division "Knowledge and Network" and Director of the National Agency for Erasmus+ for Higher Education. Since February 2020 he is the Director of the Projects Department of DAAD.

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I'm Bakary Doukouré, 33years old, Guinean and 1 year PhD student from Tubingen University in Biology department/CAIDERA project. I am doing my field and laboratory works in Guinea at Institut Pasteur de Guinée on the thematic of Hepatitis E Epidemiolgy as One Health paradigm,I obtained my master degree in University Gamal Abdel Nasser de Conakry (Guinea) in Microbiolgy/Immunology in collaboration with Montpellier University in France in 2022.My master thesis was awarded as the FIELD WORK PRICE in the XVIII actualités du PharO in Marseille 2023.

Hanna-Tina Fischer
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Dr. Hanna-Tina Fischer is a global public health professional with extensive work experience in low- and lower-middle-income countries, including humanitarian settings. She holds a Doctorate in Public Health (DrPH) in Leadership in Global Health and Humanitarian Systems from the Mailman School of Public Health at Columbia University. Currently, she is a Postdoctoral Research Scientist at Charité – Universitätsmedizin Berlin, conducting health policy and systems research (HPSR). Her research interests include measuring the effectiveness of policy responses, analyzing social determinants of health, and applying systems thinking approaches to improve population health. Prior to joining Charité, Dr. Fischer worked at the Center for International Health Protection (ZIG) at the Robert Koch Institute (RKI), the London School of Hygiene & Tropical Medicine, and was an Associate of the Department for Forced Migration and Health at Columbia University. She has 15 years of work experience in low- and lower-middle-income countries in Asia and Africa, collaborating with UNICEF, UNHCR, and Save the Children on issues of child and adolescent health and violence prevention. Dr. Fischer was born in Botswana and grew up in India and Pakistan.

Wendy Iparraguirre
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I am from Peru and currently a Programme Officer at the Alexander von Humboldt Foundation. In my role, I provide advisory support to the Humboldt Research Hubs in Africa as well as other alumni funding programmes within the Africa, Middle East Division of the Foundation.
Previously, I worked and volunteered for various internationally active non-profit organisations in both Peru and Germany. I am also a DAAD alumna, having completed my Master's degree in Germany.

Patricia Matey-Akuffo
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Patricia is the Project Manager at the German-West African Centre for Global Health and Pandemic Prevention, (G-WAC) KNUST, Ghana, and has worked in both the private and development sectors and co-founded two (2) businesses in the last ten (10) years of her career. She has been part of the implementation of programs for international and national organizations, including DAAD, the European Union, Global Affairs Canada, USAID, DFID, Barclays Africa, national governments, and foundations. She has significant experience in resource development and fundraising, has been involved in developing innovative project proposals for funding, and has liaised with local, national, and international donors within Ghana to expand the resource base of organizations.

Dr Jan Klein
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In April 2022, Jan Jasper Klein started as a scientific officer in the Health division at the DLR Project Management Agency. Working in the departments of Innovations for Disease Control (with a focus on personalised medicine) and Global Health (with a focus on Africa), he now advises clients on policy research topics and supports grantees throughout their funding process. Before joining the DLR Project Management Agency, he worked for several years as a product manager and business unit manager at a chemical company, where he was responsible for key account management and the development of optical polymers. For his doctoral thesis in bioorganic chemistry at the Humboldt-Universität zu Berlin, he focused on the development of potential inhibitors of peptide aggregation in order to gain a better understanding of related conditions, such as Alzheimer's disease.

Anne Meierkord
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Anne Meierkord is a medical doctor who works as a health policy analyst at the Centre for International Health Protection (ZIG) at the Robert Koch Institute, Germany's national public health institute. She has a keen interest in pandemic preparedness and tackling global health challenges. Her current research focuses on strengthening public health agencies to operationalise genomic surveillance, a project in collaboration with the WHO Hub for Pandemic and Epidemic Intelligence. Together with G-WAC, she is organising a policy dialogue on pandemic preparedness in Accra. Clinically, she works at the Charité Institute for International Health, training in infectious diseases.

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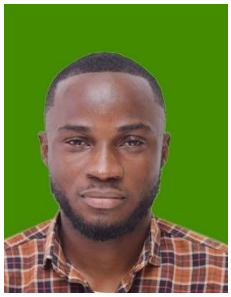

I am David Owusu, a graduate student at the Kwame Nkrumah University of Science and Technology, Ghana. I am currently pursuing a Master's Degree in Health Systems Research and Management. This academic journey is driven by an earnest passion for ascertaining and understanding the complexities associated with the Health Systems of the World, Africa and Ghana to be specific, advocating for equity in healthcare access for minority groups as well as improving Maternal Health Outcomes through informed decision-making processes.
Despite encountering several challenges throughout this journey, my dedication for academic and research activities has been unwavering. I have actively been involved in various class research activities and group discussions which are mostly organised and led by me.
Outside of my academic pursuit, I am committed to making positive impact in my community. Herewith, I seek to create social media contents that would educate the Ghanaian citizen on health-related issues such as; lifestyle behaviours which would reduce and prevent incidence of Non-Communicable Diseases, causes of antibiotic resistances, consequences of not completing a full medication, essence of visiting the hospital at any changes in the human systems and many more.
At my leisure periods, I take up short courses organised mostly by WHO to build my capacity in Health to enable and strengthen my vision of making positive contributions to Global Health challenges. Additionally, I enjoy to sing and listen to music. I aspire to continue a Ph.D. with the aim of becoming a lecturer and a professor to impact the world.

Monika Pohle
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Monika Pohle, M.Sc.
Monika Pohle is a coordinator for the G-WAC collaboration and is located at the Global Health Section, the University of Bonn. She has worked as a regional project manager for the Carter Center's Guinea worm eradication campaign in Benin, and was a clinical coordinator in Tuberculosis treatment studies at the Case Western Reserve and Makerere University Tuberculosis Research Unit in Uganda. She completed her M.Sc. in Epidemiology at Johns Hopkins University.

Manuela Rehtanz
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As a molecular biologist, Manuela Rehtanz wrote her doctoral thesis on the activation of papillomavirus (PV) replication and gene expression. Since then, she has been focusing on infectious diseases, molecular virology, oncology, and biochemistry in basic and applied research. In the USA, Dr Rehtanz participated as a virologist in level-A health assessments of wild dolphins. Besides discovering two dolphin herpes viruses and one PV, she developed a diagnostic test for dolphin PVs and a vaccine candidate. As an assistant professor at New York University, she also specialised in HIV research and drug development. Seeking a way to contribute to strategic development and research uptake, Dr Rehtanz worked for the BMBF for a period of two years. As part of the Global Health team at the DLR Project Management Agency, she now leads the team managing RHISSA, a funding measure in which she is deeply committed to supporting capacity building in LMICs. In her private time, she likes to dive with sharks, run with cheetahs, and flee from mosquitoes.

Dr Robert Rennert
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Dr. Rennert is lab coordinator of the GLACIER activities at the Leibniz Institute of Plant Biochemistry (IPB) and head of the biological screening capacities and the project group "Anticancer agents and targeting" of the department of Bioorganic Chemistry (NWC) at IPB. His work and his project group focus, in general, on the identification, characterization and synthesis of bioactive natural compounds and improved synthetic derivatives. For that purpose, the group has implemented a broad panel of cell-/organism-based (eukaryotic cell lines for anti-cancer and anti-inflammation assays; anti-bacterial, anti-fungal, anthelmintic assays) and biochemical assays. The goal is to identify novel compounds of natural origin that permit promising effects with respect to human health and well-being or even plant fitness. For the most promising compounds the group is searching for structurally related derivatives and designs non-natural analogues with improved access and pharmacological parameters. The group investigates the biological modes of action of the compounds, whereby compounds with non-classical modes are of highest interest, e.g. compounds that might be able to reprogram tumor cells or make tumor stem cells or resting cells accessible for attack by our toxins. In this context, the group is seeking for plant natural products as adjuvants or boosters of therapies.

Dr Manuel Ritter
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I am a postdoc in the group of Dr. Manuel Ritter at the IMMIP, Bonn working on parasitological and immunological questions in the field of neglected tropical diseases. I have joined the GWAC team since August 2023 and my task is the scientific coordination for the Institute of Medical Microbiology, Immunology and Parasitology (IMMIP), University clinic Bonn.

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Dr Clémentine Schilte
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Clémentine Schilte is the head of digital education within the Education department at Institut Pasteur. She manages the online courses and online diploma on infectious diseases.
Clémentine Schilte holds a PhD in immunology on antiviral immune responses against Chikungunya virus, obtained at Institut Pasteur in 2010 as well as a teacher training degree in biology.

Dr Johanna Wildemann
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I am a virologist and project manager at the Institute of Virology, Charité - Universitätsmedizin Berlin, Germany. My virological expertise encompasses virus-host interactions. As a project manager, I am actively engaged in several of the institute's international collaborations focusing on One Health, particularly with partners in Kenya, Ethiopia, and Ghana.
My academic journey began with a degree in Biology from the University of Cologne, Germany, followed by advanced studies in Infection & Immunity at Utrecht University, the Netherlands. I completed my Ph.D. in 2022, focusing on interactions between the Ebola virus and the human innate immune system at the Federal Institute for Vaccines and Biomedicines (Paul-Ehrlich Institute) near Frankfurt am Main, Germany.
Subsequently, I relocated to Berlin to join Marcel Müller's team at the Institute of Virology, Charité, as a project manager. My responsibilities include the scientific and administrative coordination of two projects aimed at elucidating the epidemiology and evolution of the Middle East Respiratory Syndrome Coronavirus (MERS-CoV) in endemic regions such as Ethiopia and Kenya. Since the beginning of this year, I have also been working as a non-scientific coordinator for Christian Drosten's international cooperation projects, including involvement in the G-WAC project.

Julia Winkel
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I am a Programme Officer at the Alexander von Humboldt Foundation. My tasks include assisting the six Humboldt Research Hubs in Africa with regards to funding questions, as well as advising individual fellows from Africa and the Middle East. The Humboldt Research Hubs develop strategies for addressing pandemics, working together with their cooperation partners in Africa and Germany. Previously, I have also worked in a career programme for international students at the International Office, University of Bonn, Germany.

Chelsea Mambora Yamyia
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Chelsea Mambora Yamyia is a dedicated healthcare professional from Ghana with a strong background in medicine, public health, and community engagement. She is currently an MPHIL candidate in Health Systems Research and Management at Kwame Nkrumah University of Science and Technology (KNUST). Chelsea has extensive research experience, having worked as a Research Assistant at Northern Regional Hospital and currently with the eHealth Research Partner group at KNUST's School of Public Health.

She founded and manages The GirlHarmony Project, which aims to eradicate period poverty by providing educational programs on menstruation and menstrual hygiene, as well as sanitary products to young girls in deprived and rural communities in northern Ghana. Chelsea is also a mentor at Na'amal Global, guiding refugees and underserved groups in personal and professional development.

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