**2nd Summer School “INFECTION BIOLOGY”**

**September 26-28**

**Monday, 26 September 2022**

**Venue: Alfried Krupp Wissenschaftskolleg Greifswald**

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| 13:00 | **Welcome**  Christian Suhm, Alfried Krupp Kolleg Greifswald, Germany  Sven Hammerschmidt, University of Greifswald, Germany  Thomas C. Mettenleiter, Friedrich-Loeffler-Institut, Germany  Barbara Bröker, University Medicine Greifswald, Germany |
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| **Session I** | **New Insights in Bacto-Viral Co-Infections**  Chair: Nikolai Siemens, University of Greifswald, Germany |
| 13:15 | **Host-related factors affecting susceptibility to tuberculosis: the role of coinfections and the biological sex**  Bianca Schneider, Forschungszentrum Borstel - Leibniz Lungenzentrum, Germany |
| 13:45 | **Maladapted epithelial response in the post-influenza lung as a potential driver for enhanced susceptibility to bacterial superinfection**  Dunja Bruder, Universitätsmedizin Magdeburg, Germany |
| 14:15 | **New Insights into Pneumococcal-Influenza Synergy**  Jason Rosch, St. Jude Children’s Research Hospital, USA |
| 14:45 | **New aspects of pathogen-host interactions during influenza virus and *Staphylococcus aureus* co-infection**  Christina Ehrhardt, Universitätsklinikum Jena, Germany |
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| 15:15 | ***Coffee break*** |
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| **Session II** | **Emerging infections: Analytical tools and visualization**  Chair: Thomas C. Mettenleiter, Friedrich-Loeffler-Institut, Germany |
| 15:45 | **Visualizing SARS-CoV-2 infection in the respiratory tract of golden hamster**  Dmitry Ushakov, Friedrich-Loeffler-Institut, Germany |
| 16:15 | **Targeting translation - Natural compounds and their derivates against SARS-CoV-2**  Cora M. Holicki, Friedrich-Loeffler-Institut, Germany |
| 16:30 | **Analysis of the viral evolution of zoonotic RNA viruses in their natural host**  Nele Marie Brinkmann, Bernhard Nocht Institute for Tropical Medicine, Germany |
| 16:45 | **Impact of co-infections with West Nile virus and Usutu virus on the vector competence of *Culex pipiens* biotype molestus**  Christin Körsten, Friedrich-Loeffler-Institut, Germany |
| 17:00 | **Participatory risk mapping of African swine fever in Europe**  Hannes Bergmann, Friedrich-Loeffler-Institut, Germany |
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| 17:15 | **Poster session in the foyer** |
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|  | **Plenary Lecture**  Chair: Barbara Bröker, University Medicine Greifswald, Germany |
| 18:15 | **Tuberculosis and trained innate immunity: a One Health perspective**  Christian Gortázar, University of Castilla-La Mancha · Sanidad y Biotecnología, Spain |

**Tuesday, 27 September 2022**

**Venues: Alfried Krupp Wissenschaftskolleg Greifswald**

**Friedrich-Loeffler-Institut Insel Riems**

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| **Session III** | **Aspects of One Health**  Chair: Fabian Leendertz, Helmholtz Institute for One Health, Greifswald |
| 8:30 | **One Health - More Than Fighting Zoonoses** Sascha Knauf, Friedrich-Loeffler-Institut, Germany |
| 9:00 | **One Health approach to monitor, understand and prevent zoonotic spillover infections in Nigeria**  Valerie Allendorf, Friedrich-Loeffler-Institut, Germany |
| 9:15 | **The role of veterinarians & One Health Approach in Kuwait**  Ahmad Alajmi, Public Authority of Agriculture Affairs & Fish Resources (PAAF), Kuwait |
| 9:30 | **Using sentinel surveillance in a holistic approach to understand pathogen ecology**  Francesca Isabel Rondi, Università degli Studi di Milano, Italy |
| 9:45 | **One Health Simulation exercises: A practical example from the ECOWAS region**  Jakob Winter, Friedrich-Loeffler-Institut, Germany |
| 10:00 | **Evolutionary history and zoonotic transmission of *mecC*-MRSA: the role of hedgehogs and antibiotic-producing dermatophytes**  Jesper Larsen, Statens Serum Institut, Denmark |
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| 10:30 | **Coffee Break** |
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| **Session IV** | **Host-Pathogen Interactions I**  Chair: Sven Hammerschmidt, University of Greifswald, Germany |
| 11:00 | **Pathophysiology of Pneumonia**  Martin Witzenrath, Charité, Germany |
| 11:30 | **Molecular view on the impact of gut metabolites on the intestinal pathogen *Clostridioides difficile***  Susanne Sievers, University of Greifswald, Germany |
| 11:45 | **Characterizing the role of the small regulatory RNA FsrA in the iron limitation response of *Staphylococcus aureus***  Alexander Ganske, University Medicine Greifswald, Greifswald |
| 12:00 | ***Streptococcus pneumoniae* affects human dendritic cell function in a pneumolysin dependent manner**  Antje Paulikat, University of Greifswald, Germany |
| 12:15 | **Systems and synthetic biology approaches to study pneumococcal pathogenesis**  Jan-Willem Veening, University of Lausanne, Switzerland |
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| 12:45 | **Lunch break and poster session in the entrance foyer** |
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| 14:00 | **Departure of the Bus to Insel Riems** |
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| 14:45 | **The Friedrich-Loeffler-Institut – Past, Present and Future** Thomas C. Mettenleiter, Friedrich-Loeffler-Institut, Germany |
| 15:30 | **Tour on Insel Riems** |
| 17:00 | **Panel Discussion: Preparedness, Prevention and Therapy**  Moderation: Elke Reinking, Christian Suhm  Marylyn M. Addo, Universitätsklinikum Hamburg-Eppendorf, Germany  Barbara M. Bröker, Greifswald University Medicine, Germany  Franz J. Conraths, Friedrich-Loeffler-Institut, Germany  René Reinert, Pfizer, Germany  Peter Valentin-Weigand, Stiftung Tierärztliche Hochschule Hannover, Germany  NN, Robert Koch-Institut, Germany |
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| 19:00 | **Barbecue** |
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| 20:00 | **Departure of the Bus to Greifswald** |
| 21:00 | **Departure of the Bus to Greifswald** |

**Wednesday, 28 September 2022**

**Venue: Alfried Krupp Wissenschaftskolleg Greifswald**

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| **Session V** | **Host-Pathogen Interactions II**  Chair: Stefan Finke, Friedrich-Loeffler-Institut, Germany |
| 8:30 | **Various ways of adaptation of *Staphylococcus aureus* to the airways of people with cystic fibrosis during chronic infection**  Barbara Kahl, Universitätsklinikum Münster, Germany |
| 9:00 | **Plasminogen-mediated activation of avian influenza virus hemagglutinin H3 facilitates systemic infection including neurotropism**  Jacob Schön, Friedrich-Loeffler-Institut, Germany |
| 9:15 | **Neuraminidase stalk deletion decreased virulence and transmission of avian influenza viruses H5N8 and H7N7 in chickens and/or ducks**  David Scheibner, Friedrich-Loeffler-Institut, Germany |
| 9:30 | **Field Rabies Virus Glycoprotein Retention at Cytoplasmic Inclusion Bodies and Possible Implications on Intraneuronal Virus Transport and Release**  Ola Bagato, Friedrich-Loeffler-Institut, Germany |
| 9:45 | **Vector competence of German mosquitoes for Rift Valley fever virus**  Amira AL-Hosary, Friedrich-Loeffler-Institut, Germany |
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| 10:00 | ***Coffee Break*** |
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| **Session VI** | **Immune modulation**  Chair: Anca Dorhoi, Friedrich-Loeffler-Institut, Germany |
| 10:30 | **Lung epithelia under attack: Infection, Interferons, Inflammation** Andreas Wack, The Francis Crick Institute, UK |
| 11:00 | **Hyper-virulent *Streptococcus pyogenes* impairs interleukin-18 response in human immune cells of myeloid lineage**  Lea A. Tölken, University of Greifswald, Germany |
| 11:15 | **Investigating defense mechanisms against *M. tuberculosis* in macrophages from natural hosts**  Fabian Stei, Friedrich-Loeffler-Institut, Germany |
| 11:30 | **The Role of Paleoviral Sequences of Ebola Virus in Immune Tolerance**  Christoph Henkel, Bernhard Nocht Institute for Tropical Medicine, Germany |
| 11:45 | **The effect of PB1-F2 on the immune response against avian influenza H7N7 virus in *Gallus gallus***  Luise Hohensee, Friedrich-Loeffler-Institut, Germany |
| 12:00 | ***Staphylococcus aureus* pathogenesis in infective endocarditis: the secret life of superantigens**  Wilmara Salgado-Pabón, School of Veterinary Medicine UW–Madison, USA |
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| 12:30 | ***Lunch break and poster session in the entrance foyer*** |
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| **Session VII** | **Animal models and new technologies**  Chair: Martin Beer, Friedrich-Loeffler-Institut, Germany |
| 13:15 | **The pig as a model to study immunity to respiratory diseases**  Elma Tchilian, The Pirbright Institute, UK |
| 13:45 | **Swine as a natural host and biomedical model for bacto-viral co-infections**  Astrid Puppe, University of Greifswald, Germany |
| 14:00 | **Protein expression of *Streptococcus* *pneumoniae* in experimental mouse infection models**  Sven Hammerschmidt, University of Greifswald, Germany |
| 14:15 | **Inherent differences in lymphocyte populations of domestic pigs and wild boar indicate a potential explanation for disparate outcome of viral disease**  Alexander Schäfer, Friedrich-Loeffler-Institut, Germany |
| 14:30 | **Application of Computer Vision in Animal Experiments with Red Foxes**  Anne Schütz, Friedrich-Loeffler-Institut, Germany |
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| 14:45 | **Farewell**  Sven Hammerschmidt, University of Greifswald, Germany  Thomas C. Mettenleiter, Friedrich-Loeffler-Institut, Germany  Barbara Bröker, University Medicine Greifswald, Germany  Christian Suhm, Alfried Krupp Kolleg Greifswald, Germany |