



World of Viruses in Nature, Biotechnology and Medicine

- 09:00 - 09:15 **Welcome and opening remarks**
Anke Becker, Managing Director
of SYNMIKRO
- 09:15 – 10:00 **Keynote:**
Matthias Fischer, Heidelberg:
The fascinating world of virus-host
interactions in eukaryotic
microbes
- Session 1 – World of Viruses
in Nature**
Chair: Lennart Randau
- 10:00 – 10:30 **Stefanie Becker, Hannover:**
Do flies get sick? - Consequences
of arbovirus infection on insects
- 10:30 – 11:00 **Sean Meaden, Exeter:**
Rapid loss of CRISPR-mediated
herd immunity from bacterial
populations
- 11:00 – 11:30 Coffee Break**
- 11:30 – 12:00 **Xu Peng, Copenhagen:**
Biology and application potential
of extremophilic archaeal viruses

Session 2 - World of Viruses in Biotechnology

- Chair: Knut Drescher
- 12:00 – 12:30 **Stephanie Erbar, BioNTech,
Mainz:**
A.I.R vaccines – a synthetic self-
amplifying RNA-based vaccine
platform
- 12:30 – 13:00 **Steven Hagens, Microeos,
Wageningen:**
Bacteriophages for food safety-
from lab to food processing
company
- 13:00 – 14:15 Lunch Break**
- 14:15 – 15:00 **Keynote :**
Marco Vignuzzi, Paris:
Monitoring, predicting and
targeting virus evolution
- 15:00 – 15:30 Coffee Break**

Session 3 – World of Viruses in Medicine

- Chair: Stephan Becker
- 15:30 – 16:00 **Joachim Wittmann,
Braunschweig:**
Phage therapy as an alter-
native – current developments
in Europe
- 16:00 – 16:30 **Hans-Peter Horz, Aachen:**
The age of the phage –
concepts for combatting
life-threatening
bacterial infections
- 16:30 – 17:00 **Friedemann Weber,
Gießen:**
Induction and suppression
of the interferon response
by segmented negative-sense
RNA viruses
- 17:00 **Closing Remarks**
Stephan Becker, Institute
of Virology, Marburg

Organizers:

Hessen Trade & Invest GmbH (HTAI) is the economic development company of the State of Hesse. Under the brand **Technologieland Hessen**, HTAI promotes the development, application and marketing of major key technologies.

On behalf of the Hesse Ministry of Economics, we bring hessian companies and enterprises together and provide information and consulting services.

The competence team **Life Sciences & Biobased Economy** is the pivotal contact network for medical engineering, pharmaceutical and chemical industries, biotechnology and biobased economy.

In January 2010, the Philipps-Universität Marburg and the Max Planck Institute for Terrestrial Microbiology established a Center for Synthetic Microbiology (SYNMIKRO) in Marburg, promoted by the Excellence Program of the state of Hesse (LOEWE). Today SYNMIKRO employs over 100 scientists in more than 30 groups who conduct its research in the rapidly growing field of synthetic microbiology.

Venue: Cineplex, Biegenstr. 8

Public transportation:

Step out at main train station, cross the road and you will get to the bus stop. Please take a bus that goes to „Rudolfsplatz“

By car: Parking is recommended at the Parking garage: Pilgrimstein 17, Marburg or at the Welcome-Hotel



Viruses represent the most abundant class of biological entities on earth and infect all types of cellular life. They can hijack nearly every function of a cell and their constant battle with the host organism is recognized as a major driver of evolution.

In recent years, we began to realize the enormous diversity of virus-host interactions and the sophistication of antiviral strategies. Metagenomics and high-throughput sequencing have propelled our search for new viruses. The discovery of giant viruses with complex genomes and metabolic capabilities is currently challenging our view of the tree of life.

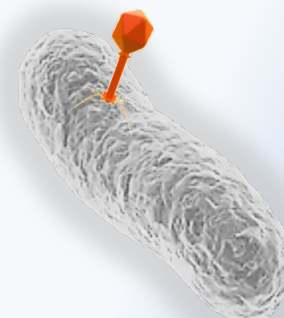
While many viruses are detrimental for the given host, the features of the viral life cycle can often be repurposed for applications in biotechnology and medicine. For example, viral vectors are frequently utilized to deliver DNA in gene therapy or genetic engineering approaches. Viruses infecting pathogenic bacteria have therapeutic potential.

This approach, termed phage therapy, constitutes an alternative to antibiotics treatment for multi-drug resistant bacterial infections in a hospital environment.

At the SYNMIKRO Symposium **“World of Viruses in Nature, Biotechnology and Medicine”**, leading scientists from academia and industry will come together to highlight recent breakthroughs and trends in virus research, and discuss how this research can lead to improvements in healthcare and industrial processes.



World of Viruses in Nature, Biotechnology and Medicine Symposium 2018



Participation is free but registration is required!

Deadline for the registration is May 2nd, 2017

Please register online at:

www.synmikro.de



15th May, 2018

Philipps-Universität Marburg

LOEWE Center for Synthetic Microbiology

Venue: Cineplex, Biegenstr. 8, 35037 Marburg

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