

# PRESS RELEASE

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**PRESS RELEASE**

Wednesday, November 10, 2017

11:34:02 AM || Page 1 | 5

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## **Fraunhofer Life Science Symposium: Latest Developments in the Field of Infection Diagnostics**

**The Fraunhofer Life Science Symposium will be held in Leipzig from 8 – 9 November 2017. The event will see around 180 participants discussing the latest developments in the diagnosis of infectious diseases. The symposium is organized by the Fraunhofer Institute for Cell Therapy and Immunology IZI.**

Infectious diseases, i.e. diseases caused by pathogens such as bacteria, fungi and viruses, still pose one of the greatest and most relevant medical challenges in the world today. Around 22% of all deaths worldwide can be directly attributed to infectious diseases. As general living conditions and hygiene improved and medical knowledge advanced in the industrialized countries during the course of the 20th century, many infectious diseases were able to be suppressed and are no longer considered life threatening today. However they still remain a problem globally. With climate change on the one hand and more and more people traveling the globe on the other, tropical and subtropical disease carriers are increasingly spreading around the world. The development of resistance to antibiotics and the adaptive strategies of many pathogens also demand the continuous advancement of medical care and prevention. Being able to rely on accurate, specific diagnostic methods is essential not only to treating but also to researching infectious diseases. It is therefore imperative that diagnostic procedures are consistently developed further and that new analytical methods are explored.

On 8 and 9 November 2017, the Fraunhofer Life Science Symposium will play host to internationally renowned researchers, physicians and companies as well as dedicated up-and-coming scientists to discuss current developments in the field of diagnostics. Just under 180 researchers from Germany and ten other countries will present new findings in talks and scientific posters besides speaking about how these findings can make their way into a broader application and commercialization.

The full scientific program for both days of the event can be found here:

<http://www.fs-leipzig.com/program>

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**Editor**

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**FRAUNHOFER INSTITUTE FOR CELL THERAPY AND IMMUNOLOGY IZI**

Overview of the guest speakers:

**Luisa Barzon\*, University of Padova, (Italy)**

Talk topic: Next-Generation Sequencing in Diagnostics

-> Sequencing the human genome from the end of the 1990s to 2003 took a huge amount of staff and enormous financial expenditure. The technology has been tweaked and improved ever since, making it considerably more efficient, quicker and more affordable today. Professor Luisa Barzon will talk about the status quo in the application of next-generation sequencing technologies in diagnostics, addressing not only possible applications but also the limits and future potential of such technologies and the impact they may have on the medical care of the future.

**Ralf Ehricht, Alere Technologies GmbH (Germany)**

Talk topic: The Development of New Infection Diagnostics from a Company Perspective.

-> Alere Technologies GmbH is a leading company in developing and marketing point-of-care diagnostics. Taking various developments in the diagnosis of antibiotic-resistant bacteria as an example, the spotlight will be shone on the obstacles a company has to overcome when developing, approving and marketing new diagnostic procedures. The talk will also look at the potential held by cooperations between companies and public research facilities.

**Eugen Ermantraut, Blink dx GmbH (Germany)**

Talk title: Launching New Point-of-Care Diagnostics – Not for Scaredy-Cats!

-> Despite there being an ever increasing number of developments in the field of point-of-care diagnostics, the vast majority of diagnostic procedures still require a central laboratory infrastructure. This state of affairs is sometimes far from satisfactory, especially with an eye to time-critical investigations and in structurally weak regions. Obstacles, risks and possible success factors for decentralized diagnostic solutions will be discussed based on the example of a successfully introduced point-of-care cytometry system for HIV diagnostics in resource-poor regions.

**Marion Koopmans\*, Erasmus MC, (Netherlands)**

Talk title: Challenges to Infection Diagnostics in an Age of Globalization

-> Infectious diseases can have surprisingly drastic consequences in times of globalization, shaped by travel, migration, high population density and long life expectancy. The speed at which infectious diseases are able to spread both regionally and internationally continues to rise. This poses huge challenges to modern medicine, especially in terms of the speed with which infections have to be identified and treated. In her talk, Professor Marion Koopmans will outline various ways of keeping on top of the latest developments and challenges.

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**PRESS RELEASE**

Wednesday, November 10, 2017

11:34:02 AM || Page 2 | 5

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**PRESS RELEASE**

Wednesday, November 10, 2017

11:34:02 AM || Page 3 | 5

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**Jürgen Popp, Leibniz Institute of Photonic Technology (Germany)**

Talk title: Diagnosing Infections Using Photonic Technology

-> The increasing number of antibiotic-resistant germs is becoming more and more problematic for medical care. Being able to rely on quick and meaningful diagnostics that identify not only the type of pathogen but also antibiotic resistance saves human lives in intensive care medicine. Time is a deciding factor here. However, conventional analysis procedures can take several days as pathogens first have to be cultivated and then examined for potential resistance. In his talk, Professor Jürgen Popp will outline the potential of photonic, i.e. light-based, technologies for diagnostics. Taking Raman spectroscopy in sepsis diagnostics as an example, he will explain how the analysis stage can be significantly reduced.

**Michael Bauer, Jena University Hospital (Germany)**

Talk title: The Past and Future of Sepsis Diagnostics

-> Sepsis (blood poisoning) is a complex inflammatory response produced by the body in response to an infection – and can often prove fatal. In terms of medical care, sepsis is one of the main reasons for delays to treatment and the overuse of antibiotics. The criteria used for diagnosing sepsis were redefined in 2016 based on a better understanding of pathophysiological mechanisms. In his talk, Professor Michael Bauer will present the subsequent changes to diagnostics and new development approaches as well as their impact on future treatment methods.

**Jonas Schmidt-Chanasit, Bernhard Nocht Institute for Tropical Medicine (Germany)**

Talk title: Latest Findings in Zika Diagnostics

-> Viral infectious diseases transmitted to humans and animals by mosquitoes are gaining in global significance, aided by climate change and globalization. The Zika epidemic in America once again highlighted the growing need for reliable diagnostics. Medicine is still faced with some huge challenges especially with regard to viral pathogens such as Zika, which is very similar to other viruses such as yellow fever, dengue or the West Nile viruses. Professor Jonas Schmidt-Chanasit will demonstrate why the cross-reactivity of these pathogens leads to wrong diagnoses and thus to wrong therapeutic approaches.

**Heike Sichtig, US Food and Drug Administration (USA)**

Talk title: The Role of the FDA in Creating a Microbial Genome Reference Database

-> National authorization procedures are essential to the commercialization of new diagnostic procedures and related patient access. In her talk, Dr Heike Sichtig will outline the role of the FDA in creating a reference database for microbial genomes. These are to be used by researchers and developers of new diagnostics in order to improve their own development activities and the scientific appraisal of new tests.

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We will be happy to provide you with an interview partner from the scientific program or our scientific committee. Please send us any questions in advance to:

[presse@izi.fraunhofer.de](mailto:presse@izi.fraunhofer.de)

\* Please note that interviews with our international speakers can only be conducted in English.

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**PRESS RELEASE**

Wednesday, November 10, 2017

11:34:02 AM || Page 4 | 5

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FRAUNHOFER INSTITUTE FOR CELL THERAPY AND IMMUNOLOGY IZI

## The Fraunhofer Institute for Cell Therapy and Immunology IZI

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**PRESS RELEASE**

Wednesday, November 10, 2017

11:34:02 AM || Page 5 | 5  
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Das Fraunhofer-Institut für Zelltherapie und Immunologie IZI erforscht und entwickelt spezielle Problemlösungen an den Schnittstellen von Medizin, Biowissenschaften und Ingenieurwissenschaften. Eine der Hauptaufgaben besteht dabei in der Auftragsforschung für biotechnologische, pharmazeutische und medizintechnische Unternehmen, Kliniken, Diagnostische Labore sowie Forschungseinrichtungen. Innerhalb der Geschäftsfelder Zell- und Gentherapie, Wirkstoffe, Diagnostik und Biosystemtechnik entwickelt, optimiert und validiert das Fraunhofer IZI Verfahren, Materialien und Produkte. Die Kompetenzen liegen in den Bereichen Zellbiologie, Immunologie, Wirkstoffbiochemie, Biomarker, Bioanalytik, Bioproduktion sowie Prozessentwicklung und Automatisierung. Im Forschungsmittelpunkt stehen dabei die Indikationsbereiche Onkologie, Neuropathologie, autoimmune und entzündliche Erkrankungen sowie Infektionskrankheiten und Regenerative Medizin.

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Die **Fraunhofer-Gesellschaft** ist die führende Organisation für angewandte Forschung in Europa. Unter ihrem Dach arbeiten 69 Institute und Forschungseinrichtungen an Standorten in ganz Deutschland. 24 500 Mitarbeiterinnen und Mitarbeiter erzielen das jährliche Forschungsvolumen von 2,1 Milliarden Euro. Davon fallen 1,9 Milliarden Euro auf den Leistungsbereich Vertragsforschung. Über 70 Prozent dieses Leistungsbereichs erwirtschaftet die Fraunhofer-Gesellschaft mit Aufträgen aus der Industrie und mit öffentlich finanzierten Forschungsprojekten. Internationale Kooperationen mit exzellenten Forschungspartnern und innovativen Unternehmen weltweit sorgen für einen direkten Zugang zu den wichtigsten gegenwärtigen und zukünftigen Wissenschafts- und Wirtschaftsräumen.