Fraunhofer IPM

Press Release

Close Cooperation between Fraunhofer IPM and the University of Freiburg

Karsten Buse - New Director of Fraunhofer IPM

On January 01, 2011, Prof. Dr. Karsten Buse assumed leadership of the Fraunhofer Institute for Physical Measurement Techniques IPM in Freiburg. This implies a professorship of optical systems at the neighboring Institute for Microsystem Technology IMTEK of the Albert-Ludwigs-University Freiburg. The 44-year-old physicist Karsten Buse was previously a professor at the University of Bonn, where he held the Heinrich Hertz Foundation Chair of the German Telekom, for over 10 years.

"You are accepting a great office." Those are the words, with which the Fraunhofer Senior Vice President Prof. Ulrich Buller welcomed the new Executive Director of the Fraunhofer IPM, Prof. Karsten Buse, on January 19, 2011. "And you can be proud of your boss," he addressed the employees. The rector of the Albert-Ludwigs-University Freiburg, Prof. Hans-Jochen Schiewer, sees the appointment of Prof. Buse as evidence of a new quality of cooperation between the Fraunhofer-Gesellschaft and universities. According to Schiewer, the newly established chair at the Freiburg Institute for Microsystem Technology IMTEK successfully bridges university research and industrial application of research results. "With the professorship of Mr. Buse we have gained a proven expert for optical systems that will enhance the capabilities of the university in this area. The result will be a nationwide or even Europe-wide unique research unit."

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Karsten Buse is particularly looking forward to working closely with the university. Because he mainly regards the link to the University of Freiburg, through the professorship of Optical Systems IMTEK, as very promising for many reasons, Buse says: "The forthcoming very intensive cooperation between Fraunhofer IPM and the University of Freiburg brings a huge benefit for both. On one hand, innovations of the University can be practically implemented more quickly, and on the other hand, fundamental issues that arise from the practical work at Fraunhofer IPM can be explored in an excellent research environment."

Expert in Optical Technologies

The 44-year-old physicist and father of two children Karsten Buse is a recognized expert in optical technologies. From the year 2000 until the end of 2010 he held the Heinrich Hertz Foundation Chair of the German Telekom at the University of Bonn. During this time his main research was focused on optical materials and nonlinear optics. Buse developed new laser sources, optical parametric oscillators, new terahertz technologies, as well as optical sensors and filters. He placed special emphasis on the concrete applicability of his work – for example in the development of display and projection technologies or components for fiber optic networks. Karsten Buse's numerous patents as well as the co-founding of the California Company Ondax - where he was a longtime executive board member and is still active as a consultant - furthermore reflect his great experience in industry-related research and development. Buse received several awards, including the »NASA Technical Briefs Award« (1998) and the »Karl Heinz Beckurts-Award« (2001), for the evident practical relevance of his research.

Karsten Buse studied at the University of Osnabrück, where he also received his Ph.D. After his habilitation in the field of optical materials in 1997, he initially visited the California Institute of Technology, in Pasadena, USA, as a DFG postdoctoral fellow and was soon appointed »Visiting Professor«. There, he promoted research in the field of optical data storage and ultrafast optical switches - parallel to his activities in Bonn - until 2007. As a result of his research, in 2000 Karsten Buse co-founded the company Ondax in California, which produces holographic filters for telecommunication and laser applications. Furthermore, Karsten Buse is also a co-editor of the journal »Applied Physics: Lasers and Optics«.

Perspectives and Objectives

Karsten Buse inherits leadership of the Institute from his predecessor, Prof. Elmar Wagner. Wagner was formally proclaimed with 65 years of age, at the end of 2010, during an Honorary Symposium »50 Years of Laser«. Karsten Buse states: “I am impressed by the very high level of performance and motivation of the employees of the Fraunhofer IPM. There's a solution for almost every problem - starting with the spectrometer for the international space platform, to modules for thermoelectric power generation and 3D advertising posters or even terahertz systems for contactless explosives detection.”

Karsten Buse's first goal will now be the continuation of the four existing and successful Fraunhofer IPM departments at the two locations Freiburg and Kaiserslautern and their strategic expansion: the »Analytical Measurement Systems«, the »Optical Measurement for Production «, the »Terahertz Measurement and Systems« and the »Thermoelectrics and Integrated Sensor Systems«. In addition, Buse plans to develop new, complementary competences, especially in the field of optical materials, in order to successfully utilize his existing industry contacts for Fraunhofer IPM.

[Caption] Prof. Dr. Karsten Buse has been the head of the Fraunhofer Institute for Physical Measurement Techniques IPM, since 01 January 2011. At the same time he holds the Chair of Optical Systems at the University of Freiburg, which is going to be established at the Institute for Microsystem Technology IMTEK. [(© Klaus Polkowski / Fraunhofer IPM)]

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The Fraunhofer Institute for Physical Measurement Techniques IPM in Freiburg has long experience in 2D and 3D metrology. Fraunhofer IPM develops and builds optical sensor and imaging systems. These mostly laser-based systems combine optical, mechanical, electronic and software components to create perfect solutions of robust design that

are individually tailored to suit the conditions at the site of deployment. In the field of thermoelectrics, the Institute has extensive know-how in materials research, simulation and systems. Fraunhofer IPM also specializes in thin-film technologies for application in the production of materials, manufacturing processes and systems. Yet other fields of activity focus on semi-conductor gas sensors and – at our Kaiserslautern branch – terahertz technology. For further information please see www.ipm.fraunhofer.de.

[**IMTEK**]

The scientific scope of the Institute of Microsystem Technology (IMTEK) at the University of Freiburg, with 20 faculties and over 300 research and technical staff, encompasses nearly all technical fields relevant to the highly interdisciplinary world of microsystem technology. Through the depth and range of our activities, we are one of the internationally leading academic research departments in this dynamic and innovative field. Please find further information here: http://www.imtek.de/index_en.php]

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