

FRAUNHOFER INSTITUTE FOR MEDICAL IMAGE COMPUTING

PRESS RELEASE

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More Synergy for Computer-Supported Medicine – Fraunhofer MEVIS Under New Dual Leadership

Bremen, April 29, 2014 The Fraunhofer Institute for Medical Image Computing MEVIS, headquartered in Bremen, will be under new leadership as of May 1, 2014. Prof. Horst Hahn, who has been the acting director of Fraunhofer MEVIS, will team up with Prof. Ron Kikinis, M.D., a renowned scientist at Brigham and Women's Hospital and Harvard Medical School, using a dual leadership model. **“Ron Kikinis is one of the leading figures in computer-supported medicine and has made a decisive impact on the field,”** says Hahn. **“We are pleased to have been able to recruit him to Fraunhofer MEVIS.”**

Computer-supported medicine addresses the retrieval of meaningful, patient-relevant information from scans produced through modern imaging procedures. Diagnostic methods such as ultrasound, CT, and MRI now deliver an abundance of raw data that renders analysis without the support of special computer algorithms almost impossible. Such algorithms allow reliable and quick visualization of image content and extraction of quantitative clinical parameters. In addition to diagnosis, sophisticated computer programs are increasingly being used in therapy. One such use is the determination of dose distributions for optimized radiation treatment of cancer.

Ron Kikinis is one of the pioneers of computer-supported medicine. In 1990, he founded the Surgical Planning Laboratory (SPL) at Harvard Medical School in Boston. The research at the SPL resulted in the creation of an interdisciplinary team of doctors, computer scientists, and engineers researching new algorithms and developing novel medical uses for the technology under real-life conditions. “The SPL was one of the first laboratories in the field to fully embed basic research in a clinical setting,” says Kikinis. Many of the algorithms developed in the SPL have become part of the standard repertoire of scientists in the field of medical image computing.

Beginning in the 1990s, he launched the 3D Slicer project. 3D Slicer is a research platform used worldwide to analyze and visualize medical images and make software tools available based on the results of algorithm research. In order to expand the availability of medical image computing technology, Prof. Kikinis initiated the National Alliance for Medical Image Computing (NA-MIC), the leading network of research groups in computer-supported medicine in the United States.

Ron Kikinis sees a new and attractive challenge in leading the institute in Bremen. “Fraunhofer MEVIS is the largest independent research center of its kind worldwide and is an ideal location to expand the scope of my activities,” says Kikinis. “The institute is

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strongly aligned with practical applications, works closely with industrial partners, and collaborates with numerous research institutions around the world." MeVisLab, the industrial-strength software platform used by Fraunhofer MEVIS, is a perfect complement to the research-focused 3D Slicer.

In addition to his role in directing Fraunhofer MEVIS, he will be a professor of medical image computing in the Department of Mathematics and Computer Science at the University of Bremen.

Prof. Kikinis will retain his position and responsibilities at Brigham and Women's Hospital and commute between Bremen and Boston every two months. He intends to create new synergies by bringing American and European researchers closer together. On the technological front, he will work on enhancing interoperation between the 3D Slicer software package and MeVisLab so that prototypical solutions can benefit from the combined strengths of both software packages.

According to Horst Hahn, "This gives Fraunhofer MEVIS increased access to valuable research resources that will ideally strengthen our institute." Hahn, a physicist who also holds a doctorate in computer science, was heavily involved in the transition of the institute from MeVis Research GmbH into an institute of the Fraunhofer-Gesellschaft in 2009. Hahn became acting director of the institute in 2012 following the retirement of the founding director of Fraunhofer MEVIS, Heinz-Otto Peitgen. Prof. Hahn will join Prof. Kikinis in leading Fraunhofer MEVIS. Hahn is professor of medical imaging at Jacobs University in Bremen.

On June 4, Fraunhofer MEVIS will mark the new leadership by holding a technically oriented open house event for interested visitors. From 12:00 until 17:00, MEVIS experts will show practical examples of computer support in medicine. These will include innovative applications for neurology, cardiology, minimally invasive tumor therapy, and breast and lung diagnostics. Visitors and members of the media are welcome to join and are asked to notify the institute in advance.

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Embedded in a worldwide network of clinical and academic partners, **Fraunhofer MEVIS** develops real-world software solutions for image-supported early detection, diagnosis, and therapy. Strong focus is placed on cancer as well as diseases of the circulatory system, brain, breast, liver, and lung. The goal is to detect diseases earlier and more reliably, tailor treatments to each individual, and make therapeutic success more measurable. In addition, the institute develops software systems for industrial partners to undertake image-based studies to determine the effectiveness of medicine and contrast agents. To reach its goals, Fraunhofer MEVIS works closely with medical technology and pharmaceutical companies, providing solutions for the entire chain of development from applied research to certified medical products.

The **Fraunhofer-Gesellschaft** is the leading organization for applied research in Europe. Its research activities are conducted by 67 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of more than 23,000, who work with an annual research budget totaling 2 billion euros. Of this sum, more than 1.7 billion euros is generated through contract research. More than 70 percent of the Fraunhofer-Gesellschaft's contract research revenue is derived from contracts with industry and from publicly financed research projects. International collaborations with excellent research partners and innovative companies around the world ensure direct access to regions of the greatest importance to present and future scientific progress and economic development.