

FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS IIS

PRESS RELEASE

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The web platform that makes parasite microscopy easier – ParasiteWeb® goes live

The Fraunhofer Institute for Integrated Circuits IIS and the Bernhard Nocht Institute for Tropical Medicine (BNITM) have developed ParasiteWeb®, a web platform for training and quality assessment of parasite microscopy. With digital clinical samples, the platform makes it possible to train diagnostic skills online and run virtual external quality assessments (EQAs). In this way, ParasiteWeb® can reach a wider group of users and offer them access to rare parasites and direct expert feedback. With Nobit oHG as a partner, ParasiteWeb® is now live: www.parasiteweb.com

Three-stage scans simplify digital microscopy

The centerpiece of ParasiteWeb® is the BNITM's collection of parasitological blood and stool samples, which were converted into whole slide images (WSIs) using a special digitization process. Taking a three-stage approach, the researchers produced scans consisting of an overview image presented alongside areas that have been enlarged at medium and high resolution and with the option of infinitely adjustable zoom. The finished WSIs were then uploaded to the ParasiteWeb® platform, and the parasites – or their component parts – in the images were labeled by BNITM experts and classified according to species.

Thanks to these virtual slides, participants in EQAs can now benefit from a significantly broader spectrum of parasitological blood and stool samples and compare their results directly with the expert annotations already stored on the platform. ParasiteWeb® means that EQA providers can really streamline their logistics processes and rein in costs.

Fraunhofer IIS and the BNITM have now found the perfect partner to market their high-performance web platform: Nobit oHG. "I'm delighted to have an experienced partner such as Nobit on board and thrilled to say that we've now launched ParasiteWeb®," says Prof. Egbert Tannich, former Chair of the BNITM Board of Directors and expert in medical parasitology. He goes on to say that "Dr. Benz and her team from Fraunhofer IIS handled the elaborate process of producing high-resolution digital images of the

Head of Corporate Communications

Thoralf Dietz | Phone +49 9131 776-1630 | thoralf.dietz@iis.fraunhofer.de | Fraunhofer Institute for Integrated Circuits IIS | Am Wolfsmantel 33 | 91058 Erlangen, Germany | www.iis.fraunhofer.de

Editorial notes



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complex specimens. They also designed and implemented a basic version of the web platform. Working with Nobit means we have an industry partner capable of ensuring the platform's further development and its secure and scalable operation." Christian Hammer, Managing Director at Nobit, adds: "Our team was fascinated by the project from the word go. Hunting down parasites in massive scans is a bit like a game, and besides, there are a great many advantages to training and verifying diagnostics in a virtual environment." Since Nobit's portfolio includes smart information solutions aimed at SMEs and corporate groups, the company has plenty of experience in converting real-world data into digital data and putting it to good use.

ParasiteWeb® is now live. The web platform offers various collections of parasites in clinical blood and stool samples. Each user is issued with a personal access code, and once logged in they can carry out tests or EQAs online. Using a virtual microscope, they can observe and label parasites and determine what species they belong to. As soon as the test or EQA is complete, users can compare their results with the diagnosis provided by the experts.

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The Fraunhofer-Gesellschaft, headquartered in Germany, is the world's leading applied research organization. Its research activities are conducted by 76 institutes and research units at locations throughout Germany. The Fraunhofer-Gesellschaft employs a staff of more than 30,000, who work with an annual research budget totaling more than 2.9 billion euros.

The **Fraunhofer Institute for Integrated Circuits IIS**, headquartered in Erlangen, Germany, conducts world-class research on microelectronic and IT system solutions and services. Today, it is the largest institute of the Fraunhofer-Gesellschaft. Research at Fraunhofer IIS revolves around two quiding topics:

In the area of "Audio and Media Technologies", the institute has been shaping the digitalization of media for more than 30 years now. Fraunhofer IIS was instrumental in the development of mp3 and AAC and played a significant role in the digitalization of the cinema. Current developments are opening up whole new sound worlds and are being used in virtual reality, automotive sound systems, mobile telephony, streaming and broadcasting.

In the context of "cognitive sensor technologies", the institute researches technologies for sensor technology, data transmission technology, data analysis methods and the exploitation of data as part of data-driven services and their accompanying business models. This adds a cognitive component to the function of the conventional "smart" sensor.

More than 1100 employees conduct contract research for industry, the service sector and public authorities. Founded in 1985 in Erlangen, Fraunhofer IIS has now 14 locations in 10 cities: Erlangen (headquarters), Nuremberg, Fürth, Dresden, further in Ilmenau, Bamberg, Waischenfeld, Würzburg, Deggendorf and Passau. 75 percent of the budget of 191 million euros a year is financed by contract research projects. Approximately 25 percent is subsidized by federal and state funds as well as internal projects of the Fraunhofer-Gesellschaft. Detailed information on: www.iis.fraunhofer.de/en