

Press Release

Multimodal tumor diagnostics: delivering a more precise image

Research project attracts 10 million euros in industrial funds and government grants

Jena/Munich, October 2007. Employing highly innovative optical and biomolecular technologies, a German research network consisting of leading scientific and industrial groups aims to establish new dimensions in tumor diagnostics. The objective of this research endeavor is to enable superior characterization of tumors for medical doctors.

Current diagnosis of solid tumors is still based on the microscopic examination of tissues by highly specialized pathologists. Even though genetic analysis and immunohistochemical methods were established as additional diagnostic procedures in recent years, light microscopy-based visual tissue examination is still considered as the unchallenged gold standard in routine diagnostics. With further maturing of innovative technologies, such as digital microscopy, automated image analysis, Raman spectroscopy, and optical measurements of cell elasticity, promising, new methods are opening up for tumor diagnostics.

“Each of these innovative technologies alone has substantial potential to improve tumor diagnosis,” says Professor Axel Niendorf, initiator of the research project. “Improving any of these optical and biomolecular technologies in isolation would not meet our ambition though. We will instead investigate them by an integrated diagnostic approach,” the pathologist from Hamburg explains. This idea eventually evolved into the “Exprimage” research network, which consists of Definiens (Munich), Qiagen (Hilden), Carl Zeiss Microimaging (Jena), WITec (Ulm), the University Medical Center Hamburg-Eppendorf, the Friedrich Schiller University of Jena, and the University of Leipzig.

In the course of this three-year research project, more than 80,000 tissue sections will be analyzed with various different technologies, and the results merged to produce a novel, integrated image. Such a multimodal image of a tumor is expected to provide medical doctors with a much sharper characterization of the disease than presently possible. This could enable further progress in the development of individualized cancer therapies and allow for improved prognosis of how cancer diseases may progress. The focus of the research project is on tumors from various organs, primarily from breast, lung, colon, and prostate.

“‘Exprimage’ is a broadly scaled research project, bundling the expertise of leading companies and scientists in a truly unique way,” says the coordinator of the network, Ralph Humberg from Definiens. “Exprimage” is funded by the German Ministry of Research and Education with a grant of around 5 million euros. The industrial partners will additionally invest nearly the same amount.

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Further Information: <http://www.biophotonik.org> – the website of the German Biophotonics research program