



A Passion for Precision.

Press Release

TOPTICA Photonics AG
Lochhamer Schlag 19
D-82166 Graefelfing / Munich

Contact:
Dr. Wilhelm Kaenders
wilhelm.kaenders@toptica.com

Marketing:
Elke Marchthaler
Phone + 49 89 85837-123
Fax + 49 89 85837-200
elke.marchthaler@toptica.com

www.toptica.com/page/news.php

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€10,1m to Develop New Lasers for Biophotonics

European Consortium FAST-DOT Targets Future Markets

A team of 18 European partners, including TOPTICA, Innolume, MMI (all Germany), Time Bandwidth AG (Switzerland), M-Squared Lasers (UK), and the multinationals Phillips (Germany) and Alcatel Thales (France), has been granted 10.1m EUR for a four year project funded by the European Commission to develop a new generation of biomedical lasers together with University partners. Under the acronym FAST-DOT and the leadership of the University of Dundee, a novel semiconductor design, new laser and resonator concepts will be investigated to generate new type of laser sources dedicated to biophotonic applications. The new lasers will be much smaller and more efficient than current lasers, which are not portable and are heavy on energy consumption. They will be designed for use in microscopy and nano-surgery, where high precision cutting, imaging and treatment therapies will be made possible.

The new lasers will mean that surgeons and life scientists will have access to much higher performance and lower cost lasers than are currently available and will open up exciting new application areas for lasers in biomedicine.

The project includes partnerships with Universities/Institutions (FORTH Heraklion, ICFO Barcelona, ORC Tampere, U Darmstadt, U Glasgow, U Sheffield, U Athens, ETH Zurich, U Vilnius and U Torino).

Prof Edik Rafailov, of the University of Dundee, says "This project will revolutionise the use of lasers in the biomedical field, providing both practitioners and researchers with pocket sized ultra high performance lasers at a substantially lower cost which will make their widespread use affordable."

The industrial partners agree strongly "A step change improvement in the cost, size and robustness of ultrafast lasers is needed before they can benefit biomedical applications fully. Technologies developed by FAST-DOT



World's first 488 nm diode laser as an example of a future generation for biophotonic application.

Author:

Dr. Wilhelm Kaenders, TOPTICA Photonics AG

will enable these lasers to migrate from the bench-top to hospitals and laboratories. We're looking forward to contributing to that transition, and developing next-generation, workhorse systems that bring new capabilities to these applications."

TOPTICA Photonics AG develops, manufactures, services and distributes technology-leading diode and fiber lasers and laser systems for scientific and industrial applications. Sales and service is offered worldwide through TOPTICA Germany and its subsidiary TOPTICA USA, as well as all through 13 distributors. A key point of the company philosophy is the close cooperation between development and research to meet our customers' demanding requirements for sophisticated customized system solutions and their subsequent commercialization.

Author:

Dr. Wilhelm Kaenders, TOPTICA Photonics AG