

# Journal of Biomedical Optics

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## Laser Applications in Life Sciences

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## Laser Applications in Life Sciences

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This special section of the *Journal of Biomedical Optics* (JBO) contains selected papers presented at the International Conference of Laser Applications in Life Sciences LALS 2014, as well as some additional publications in this field submitted in response to our open call for papers. LALS 2014 was organized by the Institute of Laser Technology in Medicine and Metrology at the University of Ulm (ILM) and took place in the Edwin-Scharff-Haus in Neu-Ulm, Germany, from June 29th–July 2nd. In addition to three plenary lectures given by Vasilis Ntziachristos, Paul French, and Bruce J. Tromberg, 266 additional lectures were presented in 18 sessions including a German-Russian Satellite Symposium on Clinical Laser Applications and a Sino-German Workshop on Biomedical Photonics. The conference covered all fields of biomedical laser applications including laser spectroscopy and microscopy, light propagation and optical imaging, novel devices and methods, photodynamic therapy, nanobiophotonics, and clinical laser applications.

LALS conferences usually take place every two years since 1986 and were originally planned in order to bring together scientists of the eastern and the western hemispheres. Now this conference is a highlight for persons working in the broad field of laser applications in biomedicine all over the world. This was proven by the excellent scientific quality of almost all presentations at LALS 2014 and also the quality of more than 40 rigorously peer-reviewed papers included in this special section.

The guest editors would like to thank the organizers of LALS 2014: Raimund Hibst, Herbert Schneckenburger, and Rudolf Steiner, as well as their personnel staff of ILM Ulm and Aalen University. We would also like to express our gratitude to Lihong Wang, Editor-in-Chief of JBO, as well as JBO staff, in particular Gwen Weerts and Rita Davis.

**Alexander V. Priezzhev** graduated and received his PhD degree from the Faculty of Physics, Lomonosov Moscow State University (MSU) in 1971 and 1975, respectively. He has led and participated in various national and international research projects on medical physics and biomedical optics. He is head of the Laboratory of Laser Biomedical Photonics, Faculty of Physics, and International Laser Center, MSU. His areas of expertise include biomedical optics, light scattering diagnostics, physics, and rheology of biological fluids.

**Herbert Schneckenburger** is a professor of physics, optics, and biophotonics at Aalen University and a private lecturer in the Medical Faculty of the University of Ulm. His research fields are biomedical optics, 3-D microscopy, laser-assisted fluorescence spectroscopy, and cell biology. He is an author of about 250 scientific publications and 6 patents and was a co-organizer of the International Conference of Laser Applications in Life Sciences LALS 2014.

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