2015 Young Researcher Award in Optical Technologies
(To Alexander Jesacher)

In a ceremony on 9th July 2015, the SAOT Young Researcher Award in Optical Technologies (YRA) was awarded for the eighth time to a young scientist with an excellent proven record in optics and optical technologies.

The 2015 laureate is Professor Alexander Jesacher from the Division for Biomedical Physics of the Medical University Innsbruck, Austria. The award was conferred on him in recognition of his outstanding contributions related to "Diffractive Optics in Camera-Based Scanning Microscopy". Jesacher's fields of specialization are:
Active & Adaptive optics in light microscopy
Confocal microscopy
Harmonic generation microscopy (SHG, THG)
Coherent anti-Stokes Raman Scattering (CARS) microscopy
Lensless imaging and digital holography
PSF engineering
Laser micro-fabrication
Optical Micromanipulation

Fortunately the expertise of Professor Jesacher fits well to establish a fruitful collaboration between SAOT researchers and him. Or as he put it in his own words: "My motivation for applying was the fact that the SAOT young researcher award is an excellent opportunity for me, as it would allow me to be a part of a powerful network of expertise in optics and to broaden my knowledge in this exciting field. I also believe that my expertise would be a gain for the SAOT, since I can identify common interest but also complementary skills. I can already propose interesting research in a field which combines scanning optical microscopy with diffractive optics and I am confident that yet unknown prospects and ideas will develop during my research stay in Erlangen."

As award winner he has the formal status of a guest professor during his visits at the SAOT when he spends his prize money of 100.000 Euros in close collaboration with several SAOT scientists.

In his welcome address the SAOT Coordinator and Director Professor Schmidt gave a short overview about SAOT and welcomed Professor Jesacher, laureates from the past and chosen guests.

The lecture of the academic ceremony was given by Professor Rafael Piestun, Director of NSF-IGERT Program in Computational Optics Sensing and Imaging at the University of Colorado, USA. The title of the lecture was "Overcoming diffraction and scattering effects: A new era in optical imaging".

After a Laudation given by Professor Schmidt, the YRA which comprises a certificate, a trophy and a € 100.000 cheque, was presented to Professor Jesacher by the President of the Friedrich-Alexander-Universität, Professor Hornegger.

Following the acknowledgment of Professor Jesacher, the Student Award 2015 was presented by Professor Will, Co-Coordinator and Director of SAOT.

Six „SAOT Student Awards" were presented to the SAOT doctoral candidates with publications in high-ranked international periodicals listed in the Science Citation Index in the ISI Web of Science. One prize valued at € 1.000 was awarded in each six research areas:

Marcus Baum in the topic Optical Material Processing for his publication “Generation of phase-only holograms by laser ablation of nanoparticulate ITO layers”. Christian Sauerbeck in the topic Optical Metrology for his publication “Shedding light on the growth of gold nanoshells”. Bettina Heim in the topic Optics in Communication and Information Technology for her publication “Atmospheric continuous-variable quantum communication”. Simone Gaffling in the topic of Computational Optics for her publication “A Gauss-Seidel iteration scheme for reference-free 3-D histological image reconstruction”. Hong Zhang in the topic Optical Materials and Systems for his publication “Improved high-efficiency perovskite planar heterojunction solar cells via incorporation of a polyelectrolyte interlayer”. Fanuel Mehari in the topic Optics in Medicine for his publication “Laser induced breakdown spectroscopy for bone and cartilage differentiation – *ex vivo* study as a prospect for a laser surgery feedback mechanism”.

Dr. Bräuer, the SAOT Director of Administration, closed the ceremony with the presentation of the SAOT Innovation Award. This award opens the possibility to a SAOT doctoral candidate to work on a highly innovative idea by giving a prize money of 20,000 €. SAOT’s winner of this year’s Innovation Award is Dipl.-Phys. Gerhard Schunk for his idea on „Whispering-Gallery Type Wavemeter“