



PRESS-RELEASE

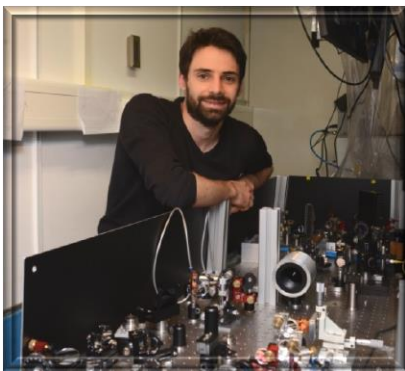
Max Planck Institute of Quantum Optics and Munich-Centre for Advanced Photonics



Garching, 9 June, 2016

Tingye Li Innovation Prize awarded to Marcus Seidel

Marcus Seidel, who joined the group of Prof. Ferenc Krausz in 2012, has been selected as the winner of the Tingye Li Innovation Prize at the Conference on Lasers and Electro-Optics (CLEO 2016). In honor of the Chinese-American physicist Dr. Tingye Li (1931-2012) and his fundamental research in particular on laser modes and optical communication, the Optical Society of America (OSA) Foundation annually awards two young scientists for their innovative work in the field of optics and photonics.



In his scientific work Marcus Seidel (*Photo: Thorsten Naeser*) strongly contributed to the development of Watt-class femtosecond sources at mid-IR wavelengths beyond the oxygen absorption edge around 5 μm . These coherent light sources offer great potential for diverse spectroscopy applications in the so-called molecular fingerprint region as well as for field-sensitive nonlinear optics. They are highly attractive for being employed in both fundamental and applied physics.

The research has combined the unique properties of very powerful mode-locked lasers at about 1 μm wavelength, developed in the team of Dr. Oleg Pronin over the past years, with the non-oxide LGS crystals which were utilized for frequency down-conversion to the mid-IR. The innovative experimental design allowed to exceed the power efficiency of the frequency down-conversion process by more than a factor 25 in comparison to comparable prior work and led to broadband mid-IR radiation that supports pulse durations of only a few optical cycles.

Publication: M. Seidel, G. Arisholm, O. Pronin, and F. Krausz, “**450 mW femtosecond mid-IR source at 8.5 μm wavelength**” in *CLEO: Science and Innovations*, (Optical Society of America, 2016), p. STu3I.6

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