



LAMMELIS

# Lasers in Medicine and Life Sciences

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Advanced summer school for undergraduate and postgraduate students of  
medicine and physics. 12<sup>th</sup> — 21<sup>st</sup> July 2017, Szeged

## Programme.

12 Jul Wed	13 Jul Thu	14 Jul Fr	15 Jul Sat	16 Jul Sun
<b>AM</b> ▶ <i>Arrival</i>	▶ 9 <sup>00</sup> –10 <sup>30</sup> • <b>Péter Maróti</b> , <i>Lasers in biophysics: why is laser light unique?</i> ▶ 11 <sup>00</sup> –12 <sup>30</sup> • <b>Ferenc Bari</b> , <i>What did we learn about microcirculation using lasers?</i>	▶ 9 <sup>00</sup> –10 <sup>30</sup> • <b>Kinga Turzó</b> , <i>Lasers for the surface modification of dental implants</i> ▶ 11 <sup>00</sup> –12 <sup>30</sup> • <b>Zsolt Tóth</b> , <i>Lasers for dental applications</i>	▶ <i>Free period</i>	▶ <i>Excursion: Ópusztaszer Heritage Park</i>
<b>Break</b> ▶ 13 <sup>00</sup> –14 <sup>00</sup> • <i>Registration</i>	▶ 13 <sup>00</sup> –14 <sup>00</sup> • <i>Lunch</i>	▶ 13 <sup>00</sup> –14 <sup>00</sup> • <i>Lunch</i>	▶ 13 <sup>00</sup> –14 <sup>00</sup> • <i>Lunch</i>	
<b>PM</b> ▶ 14 <sup>00</sup> –14 <sup>30</sup> • <b>Ferenc Bari</b> , <i>Opening ceremony</i> ▶ 14 <sup>30</sup> –16 <sup>00</sup> • <b>Katalin Varjú</b> , <i>The ELI-ALPS infrastructure – Basics of high-energy, short pulsed lasers</i> ▶ 16 <sup>30</sup> –18 <sup>00</sup> • <b>Adrian Podoleanu</b> , <i>Optical coherence tomography</i> ▶ 19 <sup>00</sup> –22 <sup>00</sup> • <i>Welcome party</i>	▶ 14 <sup>00</sup> –15 <sup>30</sup> • <b>Beáta Bugyi</b> , <i>TIRF microscopy</i> ▶ 16 <sup>00</sup> –17 <sup>30</sup> • <b>András Lukács</b> , <i>Transient absorption and fluorescence spectroscopy</i>	▶ 14 <sup>00</sup> –15 <sup>30</sup> • <b>Petar Lambrev</b> , <i>Ultrafast two-dimensional spectroscopy of photosynthetic light harvesting complexes</i> ▶ 16 <sup>00</sup> –17 <sup>30</sup> • <b>Gusztáv Schay</b> , <i>THz pulsed laser can be used to selectively pump protein vibrations</i>	▶ <i>Free period</i>	▶ <i>Excursion: Ópusztaszer Heritage Park</i>
17 Jul Mon	18 Jul Tue	19 Jul Wed ELI	20 Jul Thu	21 Jul Fri
<b>AM</b> ▶ 9 <sup>00</sup> –10 <sup>30</sup> • <b>Justin Molloy</b> , <i>Optical tweezers</i> ▶ 11 <sup>00</sup> –12 <sup>00</sup> • <b>Zoltán Bajory</b> , <i>Lasers in urology</i>	▶ 9 <sup>00</sup> –10 <sup>30</sup> • <b>Miklós Erdélyi</b> – <b>Eric Rees</b> , <i>Localisation-based super-resolution microscopy</i> ▶ 11 <sup>00</sup> –12 <sup>00</sup> • <b>Eric Rees</b> , <i>Super-resolution microscopy and the importance of mathematical inference</i>	▶ 9 <sup>00</sup> –10 <sup>30</sup> • <b>Katalin Hideghéty</b> , <i>Hadron therapy</i> ▶ 11 <sup>00</sup> –12 <sup>30</sup> • <b>Elke Beyreuther</b> , <i>Radiobiology of pulsed particle beams</i>	▶ 9 <sup>00</sup> –12 <sup>30</sup> • <i>Laboratory visits in the Biological Research Centre</i>	▶ 9 <sup>00</sup> –10 <sup>30</sup> • <b>Tomáš Čížmár</b> , <i>Photonics in disordered environments and fibre-based imaging</i> ▶ 11 <sup>00</sup> –12 <sup>00</sup> • <b>Attila Thury</b> , <i>Application of optical coherence tomography in coronary interventions</i>
<b>Break</b> ▶ 13 <sup>00</sup> –14 <sup>00</sup> • <i>Lunch</i>	▶ 12 <sup>30</sup> –13 <sup>30</sup> • <i>Lunch</i>	▶ 13 <sup>00</sup> –14 <sup>00</sup> • <i>Lunch</i>	▶ 13 <sup>00</sup> –14 <sup>00</sup> • <i>Lunch</i>	▶ 12 <sup>30</sup> –13 <sup>30</sup> • <i>Lunch</i>
<b>PM</b> ▶ 14 <sup>00</sup> –15 <sup>30</sup> • <i>Student presentations</i> ▶ 16 <sup>00</sup> –16 <sup>30</sup> • <b>Ádám Börzsönyi</b> , <i>Laserlab access opportunities</i> ▶ 16 <sup>45</sup> –17 <sup>30</sup> • <i>Laboratory visit: High-intensity Laser Laboratory (HILL)</i>	▶ 13 <sup>30</sup> –14 <sup>30</sup> • <i>Laboratory visit: super-resolution microscopy</i> ▶ 16 <sup>00</sup> –17 <sup>30</sup> • <b>Gábor Szabó</b> , <i>Lasers at the University of Szeged – Milestones and precious pebbles</i>	▶ 14 <sup>00</sup> –15 <sup>30</sup> • <b>Jörg Pawelke</b> , <i>Radiotherapy with laser-driven particle beams</i> ▶ 16 <sup>00</sup> –17 <sup>30</sup> • <i>ELI tour</i>	▶ 14 <sup>00</sup> –15 <sup>30</sup> • <b>Magdolna Gaál</b> , <i>Lasers in dermatology</i> ▶ 16 <sup>00</sup> –17 <sup>30</sup> • <i>Laboratory visit: lasers in dermatology</i>	▶ 13 <sup>30</sup> –15 <sup>30</sup> • <i>Laboratory visit: invasive cardiology (OCT)</i> ▶ 16 <sup>00</sup> –17 <sup>30</sup> • <i>Laboratory visit: lasers in ophthalmology</i> ▶ 19 <sup>00</sup> –22 <sup>00</sup> • <i>Farewell party</i>