

# Workshop on Nonlinear Photonics and Applications Programme

TUESDAY 25<sup>th</sup> OCTOBER

|   |  |
|---|--|
| <b>13:00</b>  | <b>Meeting at the Olympia Terminal in Helsinki Harbour</b>   |
| 13:45-14:00   | <b>Goëry Genty</b> (Tampere University)<br><i>Welcome and useful information</i>   |
| <b>SESSION 1 – Fiber Lasers and Systems</b>         |  |
| 14:00-14:25   | <b>Sergei Turitsyn</b> (Aston University)<br><i>Nonlinear dynamics in fibre lasers with semiconductor optical amplifier</i>  |
| 14:25-14:50   | <b>Regina Gumenyuk</b> (Tampere University)<br><i>Design guidelines for ultrashort pulse generation by a Mamyshev regenerator</i>  |
| 14:50-15:15   | <b>Arnaud Mussot</b> (ULille)<br><i>All-fiber frequency agile triple-frequency comb light source</i>   |
| 15:15-15:40   | <b>Maria Chernisheva</b> (Leibniz Institute of Photonic Technology)<br><i>Ultrashort pulse interaction dynamics in a free-running bidirectional mode-locked fibre laser and applications in rotation sensing</i> |
| 15:40-16:05   | <b>Thibaut Sylvestre</b> (CNRS FEMTO-ST Institute)<br><i>Recent progress in supercontinuum fiber lasers: Challenges and Perspectives</i>   |
| <b>16:05-16:35</b>                                  | <b>Coffee break</b>  |
| <b>SESSION 2 – Multimode and Hollow Core Fibers</b> |  |
| 16:35-17:00   | <b>Stefan Wabnitz</b> (Sapienza University of Rome)<br><i>Statistical mechanics of multimode fiber beams</i>   |
| <b>17:00</b>  | <b>Boat leaves from Helsinki</b>   |
| 17:00-17:25   | <b>Günter Steinmeyer</b> (Max Born Institut)<br><i>Entropy loopholes in multimode fiber self-cleaning</i>  |
| 17:25-17:50   | <b>Francesco Tani</b> (Max Planck Institute for the Science of Light)<br><i>Gas-based nonlinear optics in hollow-core fibres</i>   |
| 17:50-18:15   | <b>John Travers</b> (Heriot-Watt University)<br><i>Some peculiar nonlinear dynamics in gas-filled hollow-core fibres</i>   |

|                           |  |
|---------------------------|--|
| 18:15-18:40               | <b>Francesca Gallazzi</b> (Tampere University)<br>Full-field real-time measurements with sub-30 fs resolution  |
| <b>STUDENTS SESSION 1</b> |  |
| 18:40-18:50               | <b>Dennis Kirsch</b> (Leibniz Institute of Photonic Technology)<br><i>Self-mode-locking in Thulium-doped fibres via nonlinear ion pairs excited-state absorption</i> |
| 18:50-19:00               | <b>Mikko Närhi</b> (Tampere University)<br><i>Design on all-fiber, single-cavity dual-comb laser</i>   |
| 19:00-19:10               | <b>Mathilde Hary</b> (Tampere University)<br><i>Machine Learning Control of Nonlinear Fiber Supercontinuum Generation</i>  |
| <b>19:10-20:00</b>        | <b>Discussion with Snacks and Drinks</b>   |
| <b>20:00</b>              | <b>Dinner at restaurant Tavolata</b>   |

### WEDNESDAY 26<sup>th</sup> OCTOBER

|  |   |
|--|---|
| <b>8:00-9:00</b>                           | <b>Breakfast at Grande Buffet</b>   |
| <b>SESSION 3 - Integrated Photonics</b>    |   |
| 9:00-9:25                                  | <b>Alessia Pasquazi</b> (Loughborough University)<br><i>Self-emerging laser cavity solitons as dominant attractors of a microcomb system</i>  |
| 9:25-9:50                                  | <b>Christelle Monat</b> (Ecole Central de Lyon, INL)<br><i>Hybrid nonlinear integrated waveguides with 2D materials</i>   |
| 9:50-10:15                                 | <b>Camille Bres</b> (EPFL)<br><i>Field-induced nonlinearities in silicon nitride nanophotonics</i>  |
| 10:15-10:40                                | <b>Christian Grillet</b> (INL-CNRS)<br><i>Recent progress in Broadband Mid-Infrared Supercontinuum Generation on (Si)Ge-based chips</i>   |
| <b>10:40-16:30</b>                         | <b>Free time in Stockholm</b>   |
| <b>16:45</b>                               | <b>Boat leaves from Stockholm</b>   |
| <b>SESSION 4 – Lasers and applications</b> |   |
| 17:00-17:25                                | <b>Maxime Jacquot</b> (Université Bourgogne Franche-Comté)<br><i>Computer microvision-based precision motion measurement by digital holographic microscopy and photonic neural networks</i> |
| 17:25-17:50                                | <b>Massimo Giudici</b> (Université Côte d'Azur)<br><i>Temporal Localized Patterns in Vertical External-Cavity Surface-Emitting Lasers (VECSELs).</i>  |
| 17:50-18:15                                | <b>Giovanna Tissoni</b> (Université Côte d'Azur, Institut de Physique de Nice)<br><i>Spatiotemporal extreme events in a broad-area semiconductor laser with coherent injection</i>          |
| 18:15-18:40                                | <b>Marco Ornigotti</b> (Tampere University)<br><i>Harmonic Generation in 2D Materials in the Presence of Magnetic Fields</i>  |

| <b>STUDENTS SESSION 2</b> |  |
|---------------------------|--|
| 18:40-18:50               | <b>Antonio Cutrona</b> (Loughborough University)<br><i>Stability Property of Laser Cavity-Solitons for Metrological Applications</i> |
| 18:50-19:00               | <b>Boris Zabelich</b> (EPFL)<br><i>Linear electro-optic modulator based on electric-field poling of silicon nitride microring</i>    |
| 19:00-19:10               | <b>Debayan Das</b> (Loughborough University)<br><i>High parametric efficiency in laser cavity-soliton microcombs</i>                 |
| <b>19:10-20:00</b>        | <b>Discussion with Snacks and Drinks</b>   |
| <b>20:00</b>              | <b>Dinner at restaurant Tavolata</b>   |

**THURSDAY 27<sup>th</sup> OCTOBER**

|                  |                                   |
|------------------|-----------------------------------|
| <b>8:00-9:00</b> | <b>Breakfast at Grande Buffet</b> |
| <b>10:30</b>     | <b>Boat arrives in Helsinki</b>   |