Program

Tuesday, December 4, 2018

9:45 **Opening Remark**

Takasumi Tanabe (Keio University, Japan)

10:00-12:00 **Oral session: Microresonator combs**

10:00 **(Keynote) Soliton microcombs for miniature spectrometers, optical synthesizers, and clocks**

Kerry J. Vahala (California Institute of Technology, USA)

11:00 **(Invited) Broadband optical frequency comb generation in eptixially grown AlN microresonators**

Changzheng Sun (Tsinghua University, China)

11:30 **Theoretical study on dual-comb generation and soliton trapping in a single microresonator**

Ryo Suzuki (Keio University, Japan)

11:45 **Third-order nonlinear frequency conversion in a silica toroid microresonator**

Shun Fujii (Keio University, Japan)

Lunch Time

13:00-14:30 **Fiber based frequency comb and applications**

13:00 **(Invited) Optical frequency comb with 10^{-18} frequency instability**

Naoya Kuse (IMRA America, Inc., USA)

13:30 **(Invited) Wideband, wavelength tunable optical frequency comb generation at NIR and MIR region based on fiber laser**

Norihiko Nishizawa (Nagoya University, Japan)

14:00 **(Invited) Ultrafast fiber lasers for frequency comb generation**

Sze Yun Set (The University of Tokyo, Japan)

Coffee Break

15:00-17:45 **High precision frequency comb and dual-comb**

15:00 **(Invited) Precise mid-infrared molecular spectroscory using an optical frequency comb**

Hiroyuki Sasada (Keio University, Japan)

15:30 **Mode density multiplication of an optical frequency comb without power dissipation**
Taro Hasegawa (Keio University, Japan)

15:45 **Development of polarization-sensitive dual-comb spectroscopy**
Kana A. Sumihara (Keio University, Japan)

16:00 **(Keynote) Optical frequency comb applications beyond frequency metrology by use of versatile optical wave manipulation**
Kaoru Minoshima (The University of Electro-Communications, Japan)

17:00 **Carrier-envelope-offset frequency of dual-comb fiber laser**
Yoshiaki Nakajima (The University of Electro-Communications, Japan)

17:15 **(Invited) Design/use frequency combs with Kerr-optics and electro-optics**
Scott B. Papp (National Institute of Standards and Technology, USA)

18:00-20:00 **Reception**

Wednesday, December 5, 2018

10:00-12:00 **Novel comb devices and applications**

10:00 **(Keynote) Generation and manipulation of high rate optical frequency combs: Classical and Quantum**
Andrew M. Weiner (Purdue University, USA)

11:00 **(Invited) Electro-optics-modulation (EOM) combs**
Atsushi Ishizawa (NTT Basic Research Laboratories, Japan)

11:30 **(Invited) Frequency combs in synchronously-driven microresonators**
Tobias Herr (Swiss Center for Electronics and Microtechnology, Swizerland)

Lunch Time

13:00 **(Welcome remark) Quantum computing research at Keio University**
Kohei M. Itoh (Keio University, Japan)

13:30-15:00 **Low power integrated comb and telecom applications**

13:30 **(Invited) On-chip frequency combs**
Yoshitomo Okawachi (Columbia University, USA)

14:00 **(Invited) Ultralow-power photonic chip-based soliton microcombs**
Junqiu Liu (Swiss Federal Institute of Technology in Lausanne (EPFL), Swizerland)

14:30 **(Invited) Coherent optical communications with microresonator-based frequency combs**
Pablo Marin-Palomo (Karlsruhe Institute of Technology, Germany)

15:00 **Poster session / Exhibition**

16:00-17:00 **RF photonics, stabilization and new wavelength**

16:00 **(Invited) Integrated Kerr frequency comb RF photonic oscillators**
Andrey Matsko (OEwaves, USA)

16:30 **Control of Kerr-microresonator optical frequency comb by a dual-parallel Mach-Zehnder interferometer**
Naoya Kuse (IMRA America, Inc., USA)

16:45 **Visible Kerr comb and dynamical Raman comb in WGM resonators**
Sho Kasumie (Okinawa Institute of Science and Technology Graduate University, Japan)

17:00-18:30 **Lab Tour (for speakers)**

Thursday, December 6, 2018

9:30-11:15 **Theory and experiments**

9:30 **(Invited) Dynamics of frequency combs in cubic and quadratic microresonators**
Tobias Hansson (Linkoping University, Sweden)

10:00 **(Invited) Mathematical understanding of Kerr frequency combs from a viewpoint of a pattern-formation phenomenon**
Tomoyuki Miyaji (Meiji University, Japan)

10:30 **(Invited) Nonlinear photonics using ultra-high Q whispering-gallery mode resonators**
Yanne K. Chembo (Franche-Comte Electronics Mechanics Thermal Science and Optics - Sciences and Technologies, France)

11:00 **Prametrically-seeded Kerr frequency coms**
Hossein Taheri (University of California at Riverside, USA)

11:15 **Closing remark**
Takasumi Tanabe (Keio University, Japan)

Poster Session

15:00-16:00 Wednesday, December 5, 2018

P1	**Precise measurement of the frequency of continuous wave infrared laser for realizing dual comb spectroscopy** ***Ryosuke Tabuchi (Keio University, Japan)***
P2	**Scan-less fluorescence microscopy by combination of dual-comb optical beats and 2D spectral disperser** **Takahiko Mizuno *(Tokushima University, Japan)***
P3	**Saturable absorption by carbon nanotubes on silica microtoroids** ***Tomoki S. L. Prugger Suzuki (Keio University, Japan)***
P4	**Towards the development of a small mode locking laser** ***Rammaru Ishida (Keio University, Japan)***
P5	**Er-doped silica thin film produced by the sol-gel method** ***Riku Imamura (Keio University, Japan)***
P6	**Towards soliton stabilization in an MgF_2 microresonator** ***Shuya Tanaka (Keio University, Japan)***
P7	**Numerical simulation on erbium-doped microresonator using nonlinear Schrödinger equation coupled with rate equation** ***Mizuki Ito (Keio University, Japan)***
P8	**Optimization of thermal characteristics of CaF_2 microcavity with Cu heat sink** ***Koichiro Handa (Keio University, Japan)***
P9	**Ultrahigh-*Q* crystalline WGM microcavity fabrication without polishing** ***Mika Fuchida (Keio University, Japan)***
P10	**Brillouin laser in coupled microresonator system** ***Yoshihiro Honda (Keio University, Japan)***