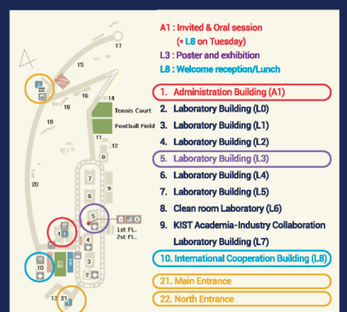
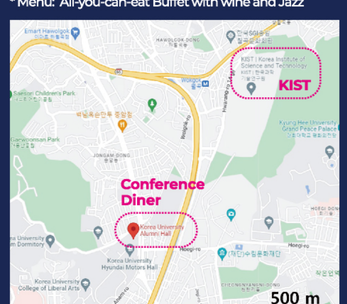
KIST Map

* Entry is prohibited except for areas marked in color.



Conference dinner

* Menu: All-you-can-eat Buffet with wine and Jazz



General Information

- **Invited & Oral session**
  31(Mon) - 4(Fri) @ Johnson Auditorium (A1)
  * Only on 1(Tue) @ Inter. Coop. Building (L8)
- **Poster presentation and exhibition**
  1(Tue) & 3 (Thur) @ Laboratory Building (L3)
- **Welcome reception**
  31(Mon) 17:30 ~ 19:00 @ Inter. Coop. Building (L8)
- **Lunch**
  31(Mon) - 4(Fri) @ Inter. Coop. Building (L8)
- **Conference dinner**
  2(Wed) 18:00 ~ @ Korea Univ. Alumni Hall (B1F)

Support

Organizer

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Host

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SPW 2022

Date : 31 Oct – 4 Nov 2022

Place : KIST, Seoul, South Korea

Workshop topics

- Single-Photon Detectors
- Single-Photon Sources
- Metrology
- Applications
- Optical Quantum Computing and Simulation

SPW 2022

Monday (Oct. 31)

09:00	Registration
09:30	
09:50	
10:10	(Coffee)
10:30	(Opening)
11:00	Session 1 - Applications I Chair: Yoon-Ho Kim — Paul G. Kwiat – Entanglement-enhanced attosecond-scale time-of-flight measurements(Invited)
11:30	Sebastian Ecker – Entanglement purification with a single photon pair
11:50	I. Burenkov - In situ calibration and single-molecule resolution of flow cytometers via an optical quantum measurement
12:10	Soeren Wengerowsky – Cavity-assisted highly efficient AFC optical memory in Pr3+:Y2SiO5
12:30	Sponsor presentation: ID Quantique
12:35	Lunch
14:00	Session 2 - Sources I Chair: Thomas Gerrits — Andreas Pfenning – Title TBD(Invited)
14:30	Jehyung Kim - Plug & play single-photon source based on quantum dots with a highly efficient photonic interface
14:50	Lucas Rickert - A QKD testbed using a plug & play telecom-wavelength single-photon source
15:30	D. Northeast - Approaching transform-limited single photon linewidths with nanowire quantum dot emitters
15:35	Sponsor presentation : Wooriro
16:00	Session 3 – Networking, Detectors I Chair: Christopher Chunnilall — Coffee break
16:30	Robert Thew - Quantum networks: single photons to multipartite entanglement(Invited)
16:50	Simone Ferrari - Investigation of the latency time and jitter in waveguide-integrated SNSPDs
17:10	Thomas Hummel - Nanosecond gating of superconducting nanowire single-photon detectors
17:30	Giovanni Resta - Multipixel SNSPD for high system detection efficiency at GHz count rates
17:35 - 19:00	Sponsor presentation : QuantumOpus/MPD
	Welcome reception

Tuesday (Nov. 1)

09:00	Session 4 Sources II Chair: Jehyung Kim — Angela Gamouras - Enabling direct SI-traceable measurements of quantum dot single-photon sources(Invited)
09:30	Marco López - Single-photon sources for quantum radiometry at PTB
09:50	Junyeop Song - Improved quantum dot spectral broadening in multimode nanobeam photonic crystal cavities
10:10	Colin Lualdi - Efficient quantum information processing via multiplexing
10:30	Sponsor presentation : Hamamatsu Photonics
10:30	Coffee break
11:00	Session 5 - Detectors II Chair: Felix Bussieres — C. Y. Park - InGaAs/InP SPAD with high photon detection efficiency and low dark count noise(Invited)
11:30	Fabio Signorelli - Si and Ge-on-Si self-assembled micro-crystal SPADs
11:50	Ilya Charaev - Single-photon detection in superconducting MgB2 microstrips operating up to 20 K
12:10	Ankit Kumar - Ultrafast optical response in high-temperature superconducting microwires
12:30	Lunch
14:00	Poster Session I
14:30	
14:50	
15:10	
15:30	Coffee break
16:00	Session 6 - Networking, Detectors I Chair: Christopher Chunnilall — M. Gramegna - Developing metrology at the photon counting regime for testing the implementation security of quantum communications (Invited)
16:30	Hsuan-Hao Lu – Randomized tomography of high-dimensional biphoton frequency combs
16:50	I. Burenkov - Coexistence of quantum channels with classical clock synchronization in an optical quantum network
17:10	Anna Paterova – Quantum interferometry for a broadband infrared spectroscopy
17:30	Ivo Pietro Degiovanni - Noise diagnostics by repeated quantum measurements
17:50	(End)

Workshop Program

Wednesday (Nov. 2)

09:00	Session 7 - Computing & Simulation I Chair: Yong-Su Kim — Andrew White - Rise of the machines: Making better photons by getting rid of experimentalists(Invited)
09:30	Anton Vetlugin - Photon-transmon analogy: modeling optical experiments on a quantum computer
09:50	Sergey Polyakov - Single-shot accuracy estimates for quantum measurements and their use for quantum-enabled error correction
10:10	Gaëtan Gras - Quantum entropy model of an integrated QRNG chip
10:30	Coffee break
11:00	Session 8 – Detectors III Chair: Alberto Tosi — Ivan Michel Antolovic - SPAD arrays advance spatial and temporal resolution(Invited)
11:30	M. V. Jabir - Quantum enabled telecom receiver for resource efficient communication
11:50	Giulia Acconcia - Beyond pile-up in time-correlated single photon counting with a single-channel SPAD system
12:10	Anton Vetlugin - Photon number resolving detection of light without optical mode multiplication
12:30	Lunch
14:00	Session 9 - Sources III Chair: Ivo Pietro Degiovanni — Pascale Senellart - High-rate entanglement between a semiconductor spin and indistinguishable photons (Invited)
14:30	Mathias Pont - 2-Photon interference with remote bright electrically tunable quantum dot sources
14:50	Edith Yeung - Generation of indistinguishable photons using hybrid quantum photonic integrated circuits
15:10	Changmin Lee - Post-selected indistinguishable single photons at telecom wavelengths
15:30	Coffee break
16:00	Session 10 - Networking, Detectors IV Chair: Ivan Michel Antolovic — Taofiq Paraiso - On-chip quantum secure communications(Invited)
16:30	Benedikt Hampel - Trap-integrated SNSPDs for trapped-ion qubit state readout
16:50	Filippo Martinelli - A bound state in the continuum platform for integrated SNSPD.
17:10	Kaori Hattori - An optical transition-edge sensor with high energy resolution
17:30 -	Conference dinner

Thursday (Nov. 3)

09:00	Session 11 - Sources IV Chair: TBD — Elizabeth Goldsmidt – New materials platforms for quantum memory(Invited)
09:30	Dima Panna - Andreev reflection in Nb-WS-2-Nb junction
09:50	Shlomi Bouscher - Photon pair correlations in semiconductor-superconductor light sources
10:10	Tobias Heindel – Employing atomically-thin single-photon sources in quantum communication
10:30	Coffee break
11:00	Session 12 - Applications II Chair: Hojoong Jung — Yoon-Ho Kim - Noise-resistant quantum communications using hyper-entanglement(Invited)
11:30	Sergei Slussarenko – Quantum channel correction via heralded amplification
11:50	G. Carvacho - QKD and violation of local causality in an urban network using entangled photons generated on demand by a quantum dot.
12:10	Gautam Kavuri - A randomness beacon augmented with device-independent random number generation
12:30	Damián Pitalúa-García – Multiphoton and side-channel attacks in mistrustful quantum cryptography
12:50	Lunch
14:00	Poster Session I
14:30	
14:50	
15:10	
15:30	Coffee break
16:00	Session 13 - Computing & Simulation II Chair: Andrew White — Chao-Yang Lu – Quantum advantage with photons (Invited)
16:30	Niccolo Somaschi - On-chip DI quantum random number generation with a bright single-photon source in the solid-state
16:50	Mathias Pont - Quantifying n-photon indistinguishability with a cyclic integrated interferometer
17:10	Taira Giordani - Boson sampling in reconfigurable continuously-coupled 3D architectures
17:30	Ilya Kondratyev – Reconstruction of a unitary transformation of an integrated interferometer using coherent light
17:50	(End)

Friday (Nov. 4)

09:00	Session 14 - Detectors V Chair: Angelo Gulinatti — Val Zwiller – Improving superconducting nanowire single photon detectors: where is the limit?(Invited)
09:30	Boris Korzh - Development of SNSPDs with optimized timing resolution, efficiency, noise and maximum count rate
09:50	Dmitry Morozov - Arrays of superconducting single photon detectors for the mid-infrared wavelengths
10:10	Denis Bandurin - Single-photon detection using high-temperature superconductors
10:30	Coffee break
11:00	Session 15 - Sources V Chair: Elizabeth Goldschmidt — Kevin Füchsel – Title TBD
11:20	Artur Czerwinski - Quantification of time-bin entanglement by time-resolved photon counting
11:40	Imbert Wang - Single-chip photon pair source with frequency locking and pump rejection
12:00	Lijun Ma - Microring-based photon pair sources in the 4H-SiC-on-insulator platform
12:20	(Closing)
	Lunch
1400	Committee meeting
14:30	
14:50	
15:10	
15:30	
16:00	
16:30	
16:50	
17:10	
17:30	
17:50	

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