CSW 2024

3-6 June in Lund, Sweden

Preliminary program for CSW 2024 - Monday June 3rd

MONDAY JUNE 3RD

Time	MA6	MA7
09.00 - 10.00	**Registration**	
10.00 - 12.00	Nanoscale Integration (tentative) Short course	Advanced Characterization Methods (tentative) Short course
12.00 - 14.00	**Registration** No lunch will be served	
	Aula Kårhuset	
14.00 - 14.20	Opening Ceremony	
14.20 - 14.40	Award Ceremony	
14.40 - 15.20	Plenary I Powering up with Gallium Nitride technologie *Srabanti Chowdhury, Stanford*	
15.20 - 16.00	Plenary II Connecting the Dots - Heterogeneous Integration, III-V, and the Future of Connectivity *Nadine Collaert, IMEC*	
16.00 - 18.00	**Welcome Mingle** Pre-registration is required	

Preliminary program for CSW 2024 - Tuesday June 4th

TUESDAY JUNE 4TH

Time	MA6	MA7
07.30 - 08.30	**Registration**	
08.30 - 09.00	**Session Gallium Oxide and related** High performance gallium oxide devices, *Uttam Singisetti*	**Nano and Micro Optics** III-V nanowires for applications in quantum technologies and THz photodetection, *Anna Fontcuberta e Morral*
09.00 - 10.00	**Contributed talks** 09.00 Ga2O3/GaN HETEROSTRUCTURE FOR DEEP UVC SENSING AND LED APPLICATIONS, *Peter Ramvall* 09.15 The epitaxial strain and stress relationships in the alpha and beta phases of (Al,Ga)2O3 and their effects onto phonon and electronic properties, *Mathias Schubert* 09.30 HIGH-CRYSTALLINE QUALITY Si-DOPED β-Ga2O3 WITH DIFFERENT SURFACE ORIENTATIONS BY HOT-WALL MOCVD, *Daniela Gogova* 09.45 HfO2/β-Ga2O3(−201) interface electrical properties after thermal treatment, *Karim Cherkaoui*	**Contributed talks** 09.00 High-performance Micro-Size Light-Emitting and Detecting Diodes with Triangular shapes, *Huabin Yu* 09.15 1.5μm SINGLE-PHOTON EMISSION FROM GaSb QUANTUM DOT EXCITED RESONANTLY WITH A SEMICONDUCTOR LASER, *Teemu Hakkarainen* 09.30 EFFICIENT COLOR CONVERSION FROM COLLOIDAL QUANTUM DOTS EMBEDDED IN RESONANT CAVITY, *Tae-Yun Lee* 09.45 TUNEABLE STRUCTURAL COLORS FROM TiO2 MIE RESONATOR ARRAYS IN GLASS, *Mikko Kjellberg*
10.00 - 10.30	**Coffee Break at Matteannexet**	
10.30 - 11.00	**UWB materials** AlN substrates, *Elke Meissner*	**Lasers I** Perspectives on the future of hybrid and regrown PCSELs, *Weidong Zhou*
11.00 - 12.00	**Contributed talks** 11.00 Fully coalesced thin GaN growth on AlN substrates for AlN-based HEMTs by hot-wall MOCVD, *Minho Kim* 11.15 Polarization Induced Doping in N-Polar Graded AlN□AlGaN Films Grown by Plasma-Assisted Molecular Beam Epitaxy, *Md Irfan Khan* 11.30 Fabrication at the speed of light: towards analyte-specific sensors made of diamond using UV laser as energy source, *Joana-Catarina Mendes* 11.45 THE ROLE OF GLASS-FRIT BONDING IN ACHIEVING CRACK-FREE GaN-HEMT TRANSFER TO SILICON CARRIER FOR DIAMOND GROWTH, *Rizwana Khanum*	**Contributed talks** 11.00 ENHANCED PERFORMANCE OF MULTIWAVELENGTH NANOWIRE LASERS, *Mattias Jansson* 11.15 PHOTONIC CRYSTAL SURFACE-EMITTING LASERS FABRICATED BY DEEP-HOLE DRY ETCHING, *Myeongeun Kim* 11.30 Selectively Grown Buried InGaAs/InP Quantum Wells on (001) SOI for Lateral Laser Diodes, *Donghui Fu* 11.45 New contact approach for optical loss reduction in nano-ridge laser diodes grown on 300 mm silicon wafers, *Davide Colucci*
12.00 - 13.00	**Lunch at Matteannexet**	
13.00 - 13.30	**THz Electronics** Progress in Epitaxy of Ultra-High-Speed InP-based Transistors for Future Wireless Communication Systems, *Takuya Hoshi*	**Wide Bandgap Photonics** Progress in AlGaN-based Far-UVC LED Technologies and Their Applications, *Michael Kneissl*
13.30 - 14.30	**Contributed talks** 13.30 InP/GaAsSb DHBT Emitter Etching Process Optimization with a Simultaneous fT/fMAX = 451/914 GHz and 86% Device Yield, *Mojtaba Ebrahimi Marouf*i 13:45 Terahertz Oscillators Integrated with Multiple Resonant Tunneling Diodes into Cavity Resonator, *Feifan Han* 14.00 A 4.7-THz GaAs Schottky barrier diode mixer, *Divya Jayasankar* 14.15 Coherent Coupling in a Two-Dimensional Arrayed Resonant-Tunneling-Diode Terahertz Oscillator, *Zhenling Tang*	Nitride nanowire light emitting diodes: from single wire properties to device applications, *Maria Tchernycheva* **Contributed talks** 14.00 Development of Rocksalt-structured-MgZnO-based UV-C Lamp Emitting in 190-220 nm Spectral Range, *Kotaro Ogawa* 14:15 III-nitride-based photonic crystal surface-emitting lasers with UVC emission, *Dogukan Apaydin*

Preliminary program for CSW 2024 - Tuesday June 4th

TUESDAY JUNE 4TH

Time	MA6	MA7
14.30 - 15.00	**Coffee Break**	
15.00 - 16.00	Postersession at Matteannexet	
16.00 - 16.30	**Wide Bandgap Devices** HETEROGENEOUS INTEGRATION: BRINGING THE BEST MATERIAL FOR THE FUNCTION, *Tomas Palacios*	**Integrated Photonics** Semiconductor quantum dots for integrated photonics and long distance implementations, *Simone Portalupi*
16.30 - 17.30	**Contributed talks** 16.30 Diamond growth for power and quantum device applications, *Okhyun Nam* 16.45 FIRST GAN DETECTOR ARRAY FOR HIGH ENERGY PROTON BEAM IMAGING, *Matilde Siviero* 17.00 Trap Characterization And Microwave Power Performance In Buffer-Free AlGaN/GaN-On-SiC MISHEMTs, *Amit Bansal* 17.15 Short-term reliability assessment of sub-micron thick AlN/GaN-on-Silicon HEMTs grown by MBE for RF applications, *Elodie Carneiro*	**Contributed talks** 16.30 INTEGRATED AMPLITUDE AND PHASE MODULATOR FOR FREE-SPACE OPTICAL COMMUNICATIONS ESTABLISHED IN THE LWIR ATMOSPHERIC WINDOW, *Salvatore Pes* 16.45 Compact light couplers for III-V membrane devices laterally grown on SOI, *Zhaojie Ren* 17.00 RIDGE QUANTUM CASCADE DETECTORS FOR FREE-SPACE OPTICAL COMMUNICATIONS ESTABLISHED IN THE LWIR, *Nour Nawfal*

Preliminary program for CSW 2024 - Wednesday June 5th

WEDNESDAY JUNE 5TH

Time	MA6	MA7
07.30 - 08.30	**Registration**	
08.30 - 09.00	**GaN and SiC Power Devices** Breaking Barriers with GaN: Crystal Growth and Ultra-High-Pressure Annealing Strategies, *Michal Bockowski*	**Epitaxial synthesis of nanomaterials** Quantum Device Epitaxy, *Erik Bakkers*
09.00 - 10.00	Growth, defects and applications of 3C-SiC, *Francesco La Via* **Contributed talks** 09.30 VERTICAL GAN PN DIODE WITH TRIPLE-ZONE EDGE TERMINATION USING STREAMLINED SINGLE-IMPLANT PROCESSING, *Yu Duan* 09.45 Fully-Vertical GaN-on-SiC Trench MOSFETs, *Jialun Li*	**Contributed talks** 09.00 Template-Assisted Selective Epitaxy of InAs on W metal films, *Johannes Svensson* 09.15 Growth of GaSb nanowires revealed by environmental TEM, *Mikelis Marnauza* 09.30 III-V NANOWIRES WITH LIGHT-ABSORBING/EMITTING PROPERTIES ON A 2-INCHI Si WAFER, *Keisuke Minehisa* 09.45 Charge carrier diffusion induced nanowire light-emitting diodes, *Yue Zhao*
10.00 - 10.30	**Coffee Break at Matteannexet**	
10.30 - 11.00	**III-V HEMT & HBTs** InGaAs HEMTs for Cryogenic Applications, *Arnulf Leuther*	**Lasers II** Temporal control of photonic-crystal surface-emitting lasers, *Takuya Inoue*
11.00 - 12.00	**Contributed talks** 11.00 High fT and fmax of double δ-doped GaInSb channel HEMTs, *Ryosuke Kouno* 11.15 INVESTIGATION OF ATOMIC LAYER ETCHING FOR FABRICATION OF InP HEMTS, *Austin Minnich* 11.30 Enhanced electron mobility in InSb/Ga0.22In0.78Sb composite channel HEMT structure, *Tomoki Jinnai* 11.45 TiW-based InP DHBT technology for next generation communication systems analog front-end integrated circuits, *Virginie Nodjiadjim*	**Contributed talks** 11.00 Type-I and type-II interband cascade lasers emitting below 3 µm, *Maëva fagot* 11.15 OPTIMIZATION OF PL- AND LASING-WAVELENGTH DETUNING OF MEMBRANE LASERS FOR UNCOOLED OPERATION, *Takuro Fujii* 11.30 Robust Measurement of Nanowire Laser Performance Across 8 Designs using Experimental Big-Data, *Stephen Church* 11.45 Investigation of device length dependence of 1.55-µm-band QD-RSOA in threshold current of SiPh-based heterogeneous tunable laser, *Taisuke Matsuki*
12.00 - 13.00	**Lunch at Matteannexet**	
13.00 - 13.30	**GaN HEMTs** Advances in Field Control and Exploitation in III-N Devices, *Patrik Fay*	**Nanowires and Advanced Characterization** Nanoscale compositional and luminescence fluctuations in Zn-doped GaAs nanowires, *Stephen Church*
13.30 - 14.30	**Contributed talks** 13.30 BUFFER ENGINEERING OF ALGAN CHANNEL TRANSISTORS ON SILICON GROWN BY MOLECULAR BEAM EPITAXY FOR HIGH VOLTAGE APPLICATIONS, *Antoine BARBIER-CUEIL* 13:45 GaN HEMT using partial high-k films at G-D spacing to improve breakdown voltage, *Yasuyuki Miyamoto* 14.00 High threshold voltage p-GaN/p-AlGaN/AlGaN/GaN HEMT, *Min Gi Jeong* 14.15 CONTROL OF COMPOSITION AND CHANNEL-BARRIER INTERFACE SHARPNESS IN MOCVD GROWN HIGH-Al CONTENT AlGaN/GaN HEMTS, *Alexis Papamichail*	**Contributed talks** 13.30 ANNEALING EFFECT ON GaAs AND GaNAs NANOWIRES AT VARIOUS TEMPERATURES, *HIDETOSHI HASHIMOTO* 13:45 Visualizing the Vapor-Solid-Solid Growth of Wurtzite GaP Nanowires, *Tianyi Hu* 14.00 SINGLE INDIUM PHOSPHIDE NANOWIRE DIODES AS ULTRAHIGH-RESOLUTION DETECTORS FOR IMAGING X-RAY AND OPTICAL FOCI, *Nils Lamers* 14.15 STRAINED CORE/DUAL-SHELL NANOWIRES: THE DIFFERENT INTERFACE ROLES AND THEIR IMPORTANCE FOR APPLICATIONS OF GAAS ACROSS NEAR-INFRARED, *Xiaoxiao Sun*

Preliminary program for CSW 2024 - Wednesday June 5th

WEDNESDAY JUNE 5TH

Time	MA6	MA7
14.30 - 15.00	**Coffee Break at Matteannexet**	
15.00 - 16.00	**Postersession at Matteannexet**	
16.00 - 16.30		**Heterostructures and interfaces** **Three-Dimensional Monolithic and Heterogeneous Integration of Two-Dimensional Materials,** *Saptarshi Das*
16.30 - 17.30		**Contributed talks** **16.30 NANOCLUSTERS IN HIGH-MOBILITY ULTRAFAST InGaAs PHOTOCONDUCTORS ON InP,** *Steffen Breuer* **16.45 INVESTIGATION OF INP-SI INTERFACE BAND STRUCTURE USING DENSITY FUNCTIONAL THEORY,** *Kyro Odyssefs Kosmatos* **17.00 III-V semiconductor epitaxy based on machine learning and in-situ feedback control,** *Chao Zhao* **17.15 OPTICALLY ACTIVE InGaAs AXIAL NANOWIRE HETEROSTRUCTURES FOR QUANTUM INTEGRATED PHOTONIC CIRCUITS,** *Hyowon Jeong*
19.00	**Conference Dinner at Grand Hotel** Pre-registration is required	

Preliminary program for CSW 2024 - Thursday June 6th

THURSDAY JUNE 6TH

Time	MA6	MA7
07.30 - 08.30	**Registration**	
08.30 - 09.00	**Optical Detectors and Solar** 2D Materials optics, *Elisa Antolín*	**Neuromorphic Computing** Analog bilayer memristors for neuromorphic computing, *Saketh Mamidala Ram*
09.00 - 10.00	**Contributed talks** 09.00 Sustainable high efficiency multi-junction nanowire solar cells, *Mariia Shcherbakova* 09.15 Monolithically integrated InAs/InGaAs dual-band infrared photodetector, *Seungwan Woo* 09.30 DYNAMICS OF HOT CARRIERS IN InGaAs NANOWIRES MONOLITHICALLY GROWN ON SILICON, *Hamidreza Esmaielpour* 09.45 Multijunction-type PIN photodetector with pinhole reflection for optical communication applications, *Toshimasa Umezawa*	**Contributed talks** 09.00 Optoelectronic Nanowire Neuron, *Thomas Kjellberg Jensen* 09.15 Semiconductor-Oxide Interfaces of InAs-based Ferroelectric and Memristive Devices, *Wenshan Chen* 09.30 III-V NANOWIRE BASED NEUROMORPHIC NANOPHOTONIC DEVICES, *Vidar Flodgren* 09.45 Investigation of energy barrier height and polarization-dependent conduction characteristics in ferroelectric capacitors on Indium Arsenide, *Hannes Dahlberg*
10.00 - 10.30	**Coffee Break at Matteannexet**	
10.30 - 11.00	**AlScN and ferroelectrics** Thermal conductivity of III-Nitrides, *Plamen Paskov*	**III-V Quantum and Nanowire Devices** TBD, *Cezar Zota*
11.00 - 12.00	Polarization order and emerging device applications of wurtzite ferroelectrics, *Zetian Mi* **Contributed talks** 11.30 MOLECULAR BEAM EPITAXY OF (Al,Sc)N NANOWIRES FOR PIEZOELECTRIC ENERGY HARVESTING, *Philipp John* 11.45 TERAHERTZ OPTICAL HALL EFFECT IN AlScN/GaN AND AlYN/GaN HEMT STRUCTURES, *Vallery Stanishev*	**Contributed talks** 11.00 Investigation of Noise Performance in InP HEMTs with Varying Indium Channel Composition from 80 K to 300 K, *Junjie Li* 11.15 Gate-Controlled Near-Surface Josephson junctions, *Louise Olausson* 11.30 Demonstration of vertical resonant tunneling field-effect transistor using InGaAs/GaAs super lattice nanowires, *Yoshiki Tai* 11.45 Enhancing III-V Nanowire MOSFET RF Performance through Optimized Gate Resistance, *Marcus Sandberg*
12.00 - 13.00	**Lunch at Matteannexet**	
13.00 - 13.30	**Oxide Enabled Electronics** TBD	**Semiconductor nanostructures, surfaces, and synchrotron studies** Exploring semiconductor nanostructures with synchrotron nanobeams, *Gema Martinez Criado*
13.30 - 14.30	**Contributed talks** 13.30 Lattice-matching epitaxy of rutile-type GexSn1−xO2 alloy film on TiO2 substrate for device applications, *Hitoshi Takane* 13:45 SOLID-PHASE-EPITAXY OF RUTILE-GeO2 IN MOLECULAR BEAM EPITAXY (MBE), *Wenshan Chen* 14.00 Non-volatilely Reconfigurable Frequency Modulation with a III-V Ferroelectric Transistor, *Zhongyunshen Zhu* 14.15 DEVELOPMENT OF AN ITO-BASED FERRO-ELECTRICAL MOSFET, *Karl-Magnus Persson*	**Contributed talks** 13.30 SURFACE PROPERTIES OF P-GAN AND INTERACTION WITH NICKEL, *Mikko Miettinen* 13:45 Bismuth-trimer adlayer on In- and Sb- terminated InSb(111) surfaces, *Rohit Yadav* 14.00 Quasi-ALE process for GaN: High etching rate without compromising the surface roughness, *Paula Mouriño-Miñambres* 14.15 Evaluating Atomic Layer Etching: Analytical Approaches to Ion Energy Control for semiconductor devices, *Oscar Danielsson*

Preliminary program for CSW 2024 - Thursday June 6th

THURSDAY JUNE 6TH

Time	MA6	MA7
14.30 - 15.00	**Coffee Break at Matteannexet**	
15.00 - 15.30	**Quantum Dots and Advanced Characterization** Growth and properties of GaAs quantum dots for quantum science and technology, *Armando Rastelli*	**UV LEDs and mLEDs** UV LEDs/micro-LEDs for optical wireless communications, *Martin Dawson*
15.30 - 16.30	**Contributed talks** 15.30 In-situ OBSERVATION OF InAs/GaAs QUANTUM DOTS USING THE MAGNIFICATION INFERRED CURVATURE METHOD, *Jinkwan Kwoen* 15.45 IN-SITU SYNTHESIS OF FexPy NANOPARTICLES, *Azemina Kraina* 16.00 Monodisperse InAs QDs investigation through Atom Probe Tomography, *Binita Tongham* 16.15 THz electron paramagnetic resonance ellipsometry for defect characterization in semiconductor materials: Bloch equations and superconvergence rules in the frequency-dependent magnetic susceptibility, *Mathias Schubert*	**Contributed talks** 16.30 SCALABLE TOP-DOWN FABRICATION OF (IN,GA)N NANOWIRES FROM EPITAXIAL LAYERS, *Lutz Geelhaar* 16.45 OPTICAL INVESTIGATIONS OF NANO-LEDS BASED ON MICRON SIZED III NITRIDE PLATELETS, *Anders Gustafsson* 17.00 InGaN platelets for red micro LEDs, *Magnus Heurlin*