COST Action CA20116

OPERA

European Network for Innovative and Advanced Epitaxy

CENTER FOR PHYSICAL SCIENCES AND TECHNOLOGY

PROGRAM

	June 11, 2024	June 12, 2024	June 13, 2024	June 14, 2024
8:30 - 9:00		Registration	Registration	Registration
9:00 - 10:20	Registration	**Talk-13 Aistė Butkutė** The influence of graded AlGaAs barriers on optical properties of GaAsBi single quantum wells	**Talk-20 Edgars Butanovs** Growth of Ga2O3 and ZnGa2O4 thin films by liquid metal target sputtering	**Talk-34 Sevinj Nuriyeva** The role of structural changes in the formation of optical and dielelectrical properties of a nanocomposite based on PP-ZnO
		Talk-14 Aivaras Špokas GaAsBi Emitters Grown Using Temperature Limited MBE Regime		
		Talk-15 Andrea Zelioli Growth of A3-B5 Heterostructures for Vertical-External-Cavity Surface-Emitting-Laser designed for NIR Emission	**Talk-21 Jorge Serrano** Measurement of phonon dispersion relations in epitaxial films by Inelastic X-ray Scattering: Wurtzite-InP nanowires and ε-Ga2O3 films	**Talk-35 Matthew Zervos** Challenges in the Growth of High Crystal Quality Cu2O
		Invited-4 Zoran Jovanović PLD growth of functional oxides on silicon substrate using various template techniques	**Invited-6 Brian Rodriguez** Nanoscale characterization of functional materials with voltage modulated atomic force microscopy modes	**Invited-10 Katharina Lorenz** Ion beam analysis and modification of group III nitride epitaxial structures
10:20 - 11:00	Welcome	coffee break	coffee break	coffee break
11:00 -13:00	**Invited-1 Evelyne Gil** Epitaxial processes, the fundamentals of the 80's are still at play: fast/slow growth - planar/3D growth; complementary or competing VPE/MBE processes?	**Invited-5 Jean-Noel Aqua** Anomalous growth of epitaxial 2D Si: a kinetic Monte-Carlo approach	**Invited-7 Rusnė Ivaškevičiūtė-Povilauskienė** Optical Engineering in Terahertz Imaging	**Invited-11 Linas Minkevičius** C-shaped Metasurfaces for Terahertz Imaging
	Talk-1 Huaide Zhang Ga Adsorption and Desorption Processes on the GaN(0001) Surface Monitored by Four Different In-situ Techniques	**Talk-16 Iva Tokovic** DFT calculations of lanthanum manganite epitaxial films	**Talk-22 Dudu Unal** Epitaxial Growth, Characterization and Device Performance of InGaAs based Metal-Semiconductor-Metal Photodetector	**Talk-36 Nuno Ferreira** Laser technology to promote local surface transformation
	Talk-2 Christian Heyn Self-assembled droplet-etching during molecular beam epitaxy for various semiconductor quantum structures	**Talk-17 Cosimin Romanitan** Photodegradation of methylene blue under visible light using GaN nanowires grown by PA-MBE	**Talk-23 Ifra Bibi** Achieving Remarkable Enhancement in the Mobility of Organic Field Effect Transistors by Molecular Doping in Ambient Conditions	**Talk-37 Pavels Onufrijevs** Laser-Assisted Redistribution of Sn Atoms in GeSn Epilayers: The Potential for IR Device Applications
	Talk-3 Tadas Malinauskas GaN MOVPE on Si with Sc2O3 interlayer	**Talk-18 Elmahdi Amar** Large-area synthesis of hexagonal boron nitride thin films grown by atomic pressure chemical vapor deposition	**Talk-24 Sara El-Houbbadi** Revealing the true configuration of copper phosphonate units inside silica pores with X-ray Absorption Spectroscopy	**Talk-38 Martynas Skapas** In situ HRTEM investigation of Bi quantum dots in annealed GaAsBi/GaAs
	Talk-4 Ignas Grigelionis Studying similarity of shapes via terahertz emission spectroscopy: The case of Ukrainian and Lithuanian symbols	**Talk-19 Lina Grinevičiūtė** Advances in thin films: periodic modulation for spatial filtering and polarization control	**Talk-25 Alphonsa Mathew Juby** Eu-doped ZnMgO-based short-period multi quantum well structures structure	**Talk-39 Evaldas Pabrėža** Printed Optical Circuit Board technology – bridging the gap between bulk optics and PICs
13:00 - 13:40	Lunch	Lunch	Lunch	End Workshop
13:40 - 15:20	**Invited-2 Edith Bellet-Amalric** ZnTe nanowires grown in MBE and in MEB-TEM	**STSM-1 Ewa Przezdziecka** Formation of Twin Domains in {CdO/MgO} superlattices grown by PA-MBE	**Invited-8 Sara Martí-Sánchez** New methodologies to perform a direct correlation between the structural and chemical/optical properties at the atomic scale and sub-nanometer scale	
		STSM-2 Kamil Dudek Nickel nanoparticles deposited on activated carbon as potential catalyst for CO2 methanation		
	Talk-5 Giorgio Biasiol Metamorphic InAs 2DEGs for quantum computation platforms	**STSM-3 E. Venkata Ramana** Effect of La doping on ferroelectric and electrocaloric response of pulsed laser deposition grown La:HfO2 epitaxial thin films	**Talk-26 Lala Gahramanli** Influence of gamma irradiation and thermal annealing on the physical properties of GO/PVA composite materials	
	Talk-6 Filip Dominec Why do InGaN/GaN samples grow inhomogeneous?	**STSM-4 Nogueira Rosa Gomes Mariana Melo** Epitaxial growth of NdFeO3 thin films for ultrafast nonlinear phononic applications	**Talk-27 Elsharkawy Safya** The influence of the homogenous magnetic field intensity on the properties of Ni thin films deposited from citrate bath and their catalytic performance towards hydrogen evolution reaction	
	Talk-7 Paloma Tejedor Epitaxial InAs/InxGa1-xAs/Al hybrid nanowires with in situ-grown tunnel barriers	**STSM-5 Mahmoud M. Youssif** Adsorption performance of amino-functionalized magnetic Fe2O3@SiO2 core shell for effective removal of mercury ion from aqueous solution	**Talk-28 Aynura Karimova** Structural Analysis of Chitosan and Cross-Linked Chitosan Coated Iron Oxide Nanoparticles Loaded with 5,7-DHF	
15:20 - 16:00	coffee break	**STSM-6 Anastasiia Lysak** Molecular Beam Epitaxy Techniques for Fabricating in situ Eu-doped Cd(Zn)O/Zn(Mg)O Superlattice Structures	coffee break	
16:00 - 18:20	**Invited-3 Lenka Zajickova** Hydrothermal and spontaneous formation of nitrogen-doped graphene quantum dots aimed for theranostics applications	coffee break & Poster session	**Invited-9 Alexandre Arnoult** Technological innovation strategy in the field of MBE based on the real-time measurement and analysis of key parameters of epitaxial growth	
	Talk-8 Danica Piper Synthesis and Characterization of Epitaxial Bilayer Thin Films Based on LaMnO3 and BaTiO3		**Talk-29 Tamara Potlog** Temperature-dependent epitaxial growth of ZnSe thin films for photovoltaic applications	
	Talk-9 Abderrazzak Ait Bassou Hexagonal LuMnO3 thin films as a potential low-band gap photo-ferroelectric materials for photovoltaic applications		**Talk-30 Piotr Wojnar** Formation of one dimensional nanostructures in the molecular beam epitaxy of antimony triselenide	
	Talk-10 Rui Vilarinho Silva Electric-field engineered lattice distortions of YMnO3 onto LXMO (X = Sr, Ca, Ba)		**Talk-31 Catarina Dias** 2D NbSe2/Graphene as artificial synapse	
	Talk-11 Fatih Akyol Chemical Vapor Deposition Grown Ultra-Wide Energy Band Gap Rutile Germanium Dioxide		**Talk-32 Zouhair Hanini** Giant capacitive energy density of Sm-doped Pb(Mg1/3Nb2/3)O3–PbTiO3 epitaxial thin films	
	Talk-12 Piotr Wojnar Optically active indium selenide crystal phase heterostructures grown by molecular beam epitaxy		**Talk-33 Ingrid Hallsteinsen** The interface between oxides and van der Waals materials	
18:20	Women in Sciences	Lab. tour	Student event	

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	Talk-21 Jorge Serrano Measurement of phonon dispersion relations in epitaxial films by Inelastic X-ray Scattering: Wurtzite-InP nanowires and ε-Ga2O3 films
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	Invited-10 Katharina Lorenz Ion beam analysis and modification of group III nitride epitaxial structures
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	Talk-36 Nuno Ferreira Laser technology to promote local surface transformation
	Talk-37 Pavels Onufrijevs Laser-Assisted Redistribution of Sn Atoms in GeSn Epilayers: The Potential for IR Device Applications
	Talk-38 Martynas Skapas In situ HRTEM investigation of Bi quantum dots in annealed GaAsBi/GaAs
	Talk-39 Evaldas Pabrėža Printed Optical Circuit Board technology – bridging the gap between bulk optics and PICs
13:00 - 13:40	End Workshop

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Poster Session

1	Nima Gorji	Measuring the Valence Band of Nano-Size Patterns on Epitaxial Silicon Substrates Using XPS (STSM)
2	Baby Dhanalakshmi R.	Nano Engineered Solid State Ionic Metal Oxides for Near-Room Temperature Oxygen Conductivity (STSM)
3	Maria D'Antuono	Alternative approaches for obtaining α-Phase in Tantalum Thin Film
4	Eelis Kamula	Semi-automated defect detection from semiconductor gain mirrors
5	Šarūnas Badzevičius	Large area PLD PZT thin films for fast growing piezoelectric thin film demand for internet of things (IOT)
6	Abdul Mannan Majeed	PVP additive for the improving structural, morphological, and optical properties of Zn alloyed perovskite films
7	Karmen Kasputic	Visualizing intercalation of 2D material using AFM based techniques: MoS2 on graphene/Ir(111) case study
8	Alina Marinela Badea (Ionescu)	The importance of deposition conditions on the quality of YBa2Cu3O7-x thin films
9	Yevhen Brych	Scanning Microwave Impedance Microscopy for the Electrical Characterization of Epitaxially Grown Materials
10	Lucija Bučar	Pulsed laser deposition of epitaxial SrTiO3 thin film on Ge
11	Archit Dhingra	Growth and Characterization of Monolayer NbTe2 on Epitaxial Graphene
12	Blaž Jaklič	Revealing the structural and electrochemical properties of LiNi1/3Mn1/3Co1/3O2 through controlled epitaxial growth using pulsed laser deposition
13	Ali Ercetin	Enhancing Biocorrosion Resistance and Biocompatibility of Mg5Sn-xZn Alloys Through Grain Refinement and Protective Apatite Layer Formation
14	Pradyumna Bawankule	2-dimensional multiferroic with ferroelectric-ferromagnetic coupling
15	Hamide Kavak	Fabrication and characterization of ZnO/Cu2O heterostructures
16	Vitalii Deibuk	Effect of Substrate on the Thermodynamic Stability of CdxZn1-xSb Pseudomorphic Films
17	Arzu Baxisova	Influence of cation to anion ratio on the optical properties of CdS nanomaterials
18	Monika Jokubauskaitė	Multiple GaAsBi quantum wells with parabolic AlGaAs barriers: growth and optical characterization
19	Mantas Migauskas	Understanding the role of InGaN V-defects in non-radiative recombination
20	Lukas Šiaulys	Carrier Dynamics in Ga-polar and N-polar InGaN Quantum Well Structures
21	Arnoldas Solovjovas	Study of the emission properties of (Lu,Gd)3(Ga,Al)5O12:Ce scintillators
22	Mónica Susana Campos Covarrubias	Enhancement of the ionic conductivity in heteroepitaxial growth of barium cerate thin film in (001) oriented yttria-stabilized zirconia (YSZ)
23	Ignas Dailidėnas	Formation and investigation of complex ridge GaN waveguide
24	Ugnė Cibulskaitė	Investigation of beryllium doped GaAs layers with submicrometric spatial resolution
25	Justina Žemgulytė	Capturing energy from thin air: Radio wave energy harvesting