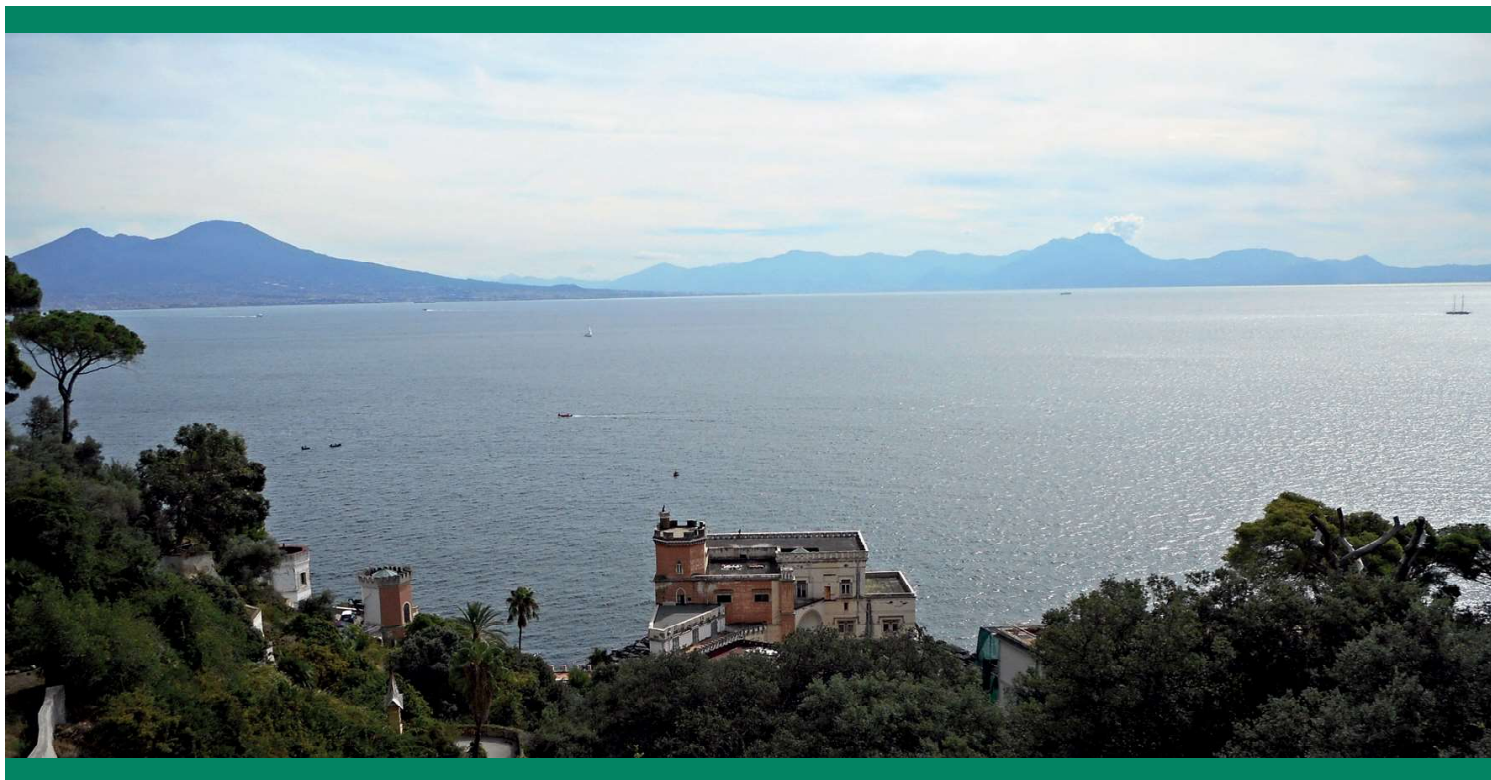




# icCGE20

International Conference on Crystal Growth and Epitaxy  
30 July - 4 August 2023, Naples (Italy)



## Conference Chairs

Antonio Vecchione, SPIN-CNR, Salerno, Italy

Andrea Zappettini, IMEM-CNR, Parma, Italy

## Conference Program Chairs

Geetha Balakrishnan, University of Warwick, United Kingdom

Giuseppe Falini, University of Bologna, Italy

## Local Organizing Committee

Salvatore Amoruso, University of Naples Federico II, Naples, and INFN, Naples, Italy

Raja Arumugam, SPIN-CNR, Salerno, Italy

Matteo Bosi, IMEM-CNR, Parma, Italy

Marco Cannavacciuolo, University of Salerno, Salerno, and INFN, Naples, Italy

Davide Calestani, IMEM-CNR, Parma, Italy

Rosalba Fittipaldi, SPIN-CNR, Salerno, and INFN, Naples, Italy

Anita Guarino, SPIN-CNR, Salerno, Italy

Annalisa Guerri, University of Florence, Florence, Italy

Mariateresa Lettieri, SPIN-CNR, Salerno, Italy

Antonella Secondulfo, IMEM-CNR, Parma, Italy

## Organising Secretariat



Scientific Communication srl

[info@jeangilder.it](mailto:info@jeangilder.it)

## PROGRAM AT A GLANCE

TIME	Mon, 31 Jul	Tue, 1 Aug	Wed, 2 Aug	Thu, 3 Aug	Fri, 4 Aug
08:45-09:00	Opening				
09:00-09:45	Frank Prize	Plenary Lecture	Plenary Lecture	Plenary Lecture	Plenary Lecture
09:45-11:00	Parallel sessions	Parallel sessions	Parallel sessions	Parallel sessions	Parallel sessions
11:00-11:30	Coffee break	Coffee break	Coffee break	Coffee break	Coffee break
11:30-12:45	Parallel sessions	Parallel sessions	Parallel sessions	Parallel sessions	Parallel sessions
12:45-14:00	Lunch	Lunch	Lunch	Lunch	Closing
13:50-14:00		Industrial talk	Excursions	Industrial talk	
14:00-14:45	Frank Prize	Laudise Prize		Schieber Prize	
14:45-16:00	Parallel sessions	Parallel sessions		IOCG General Assembly	
16:00-16:30	Coffee break	Coffee break		Coffee break	
16:30-18:30	Poster session-01	Poster session-02		Poster session-03	

# TABLE OF CONTENTS

Sun, 30 Jul .....	5
Registration .....	5
Welcome reception .....	5
Mon, 31 Jul .....	6
Opening .....	6
Frank Prize .....	6
Fundamentals of nucleation and crystal growth-01 .....	7
Growth at the nanoscale: nanocrystals, nanowires, nanomaterials-01.....	7
Bulk crystal growth-01 .....	8
Optical crystals-01 .....	8
New methods and techniques for crystal growth-01.....	9
Functional crystals-01 .....	9
Advances in observation and characterization methods-01.....	10
Coffee break .....	10
Fundamentals of nucleation and crystal growth-02 .....	10
Modelling and artificial intelligence of crystal growth processes-01.....	11
Bulk crystal growth-02 .....	11
Optical crystals-02.....	12
New methods and techniques for crystal growth-02.....	12
Functional crystals-02 .....	13
Advances in observation and characterization methods-02.....	13
IOCG Executive Committee Meeting.....	14
Lunch.....	14
Frank Prize.....	14
Fundamentals of nucleation and crystal growth-03 .....	15
Modelling and artificial intelligence of crystal growth processes-02.....	15
Bulk crystal growth-03 .....	16
Optical crystals-03.....	16
New methods and techniques for crystal growth-03.....	17
Functional crystals-03 .....	17
Structural defects and impurities in crystalline materials-01 .....	18
Coffee break .....	18
POSTER SESSION 03.....	18
Tue, 1 Aug .....	19
Plenary Lecture-02 .....	19

Fundamentals of nucleation and crystal growth-04 .....	20
Modelling and artificial intelligence of crystal growth processes-03.....	20
Bulk crystal growth-04 .....	21
Thin films and epitaxial growth-01.....	21
Crystalline solids for drugs and pharmaceuticals-01.....	22
Optical crystals-04.....	22
Functional crystals-04 .....	23
Coffee break.....	23
Fundamentals of nucleation and crystal growth-05 .....	24
Modelling and artificial intelligence of crystal growth processes-04.....	24
Bulk crystal growth-05 .....	25
Crystallization of organic and biological systems-01.....	25
Composite and hybrid crystals-01.....	26
Optical crystals-05 .....	26
Functional crystals-05 .....	27
IOCG Council Meeting .....	28
Lunch.....	28
Industrial talk: Semiconductor Technology Research d.o.o. Beograd.....	28
Laudise Prize.....	28
Fundamentals of nucleation and crystal growth-06 .....	29
Thin films and epitaxial growth-02.....	29
Bulk crystal growth-06 .....	30
Crystallization of organic and biological systems-02.....	30
Composite and hybrid crystals-02.....	31
Optical crystals-06.....	31
Crystals for photovoltaics and green energy-01 .....	32
Coffee break.....	32
POSTER SESSION 02.....	32
Wed, 2 Aug.....	33
Plenary Lecture-03 .....	33
Fundamentals of nucleation and crystal growth-07 .....	34
Bulk crystal growth-07 .....	34
Crystallization of organic and biological systems-03.....	35
Semiconductors-01 .....	35
2D Materials-01.....	36
Optical crystals-07.....	36
Topological quantum materials-01 .....	37

Coffee break .....	37
Fundamentals of nucleation and crystal growth-08 .....	37
Thin films and epitaxial growth-03.....	38
Bulk crystal growth-08 .....	38
Semiconductors-02 .....	39
2D Materials-02.....	39
Crystals for photovoltaics and green energy-02 .....	40
Topological quantum materials-02 .....	40
Lunch .....	41
Excursion .....	41
Thu, 3 Aug .....	42
Plenary Lecture-04 .....	42
Fundamentals of nucleation and crystal growth-09 .....	43
Thin films and epitaxial growth-04.....	43
Bulk crystal growth-09 .....	44
Semiconductors-03 .....	44
2D Materials-03.....	46
Surfaces and Interfaces-01.....	46
Growth at the nanoscale: nanocrystals, nanowires, nanomaterials-02.....	47
Coffee break .....	47
Bulk crystal growth-10 .....	47
Topological quantum materials-03 .....	48
Thin films and epitaxial growth-05.....	48
Semiconductors-04 .....	49
2D Materials-04.....	49
Surfaces and Interfaces-02.....	50
Lunch .....	51
ENCG Council Meeting .....	51
Industrial talk: Photonic Science and Engineering .....	51
Schieber Prize .....	51
IOCG General Assembly .....	51
Coffee break .....	51
IOCG Executive Committee Meeting.....	51
POSTER SESSION 03.....	51
Fri, 4 Aug .....	52
Plenary Lecture-05 .....	52
Thin films and epitaxial growth-06.....	53

2D Materials-05.....	53
Growth at the nanoscale: nanocrystals, nanowires, nanomaterials-04.....	54
Semiconductors-05 .....	54
Structural defects and impurities in crystalline materials-02 .....	55
Coffee break.....	55
Thin films and epitaxial growth-07.....	55
2D Materials-06.....	56
Growth at the nanoscale: nanocrystals, nanowires, nanomaterials-05.....	56
Industrial crystal growth technology and equipment-01.....	57
Structural defects and impurities in crystalline materials-03 .....	57
Closing .....	57
MON, 31 JUL – POSTER SESSION 01 .....	58
TUE, 1 AUG – POSTER SESSION 02 .....	66
THU, 3 AUG – POSTER SESSION 03.....	74

This material is based upon work supported by the Air Force Office of Scientific Research under award number FA8655-23-1-7014. Any opinions, finding, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the United States Air Force.

# SUN, 30 JUL

17:30 - 20:00

REGISTRATION

18:30 - 21:00

WELCOME RECEPTION

**Santa Maria la Nova**

At 17:30 and 18:00 guided tours of the Convent and Church will be offered. Limited to 180 participants, on a first come first served basis

18:30 Welcome address

19:00 Cocktail



# MON, 31 JUL

08:45 - 09:00	OPENING
09:00 - 09:45	<p>FRANK PRIZE</p> <p>Aula Magna Chair/s: Koichi Kakimoto</p> <p><b>Molecular mechanisms to control crystal nucleation</b> Peter Vekilov, University of Houston</p>

# MON, 31 JUL – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>FUNDAMENTALS OF NUCLEATION AND CRYSTAL GROWTH-01</b></p> <p>Aula Magna Chair/s: Linda Pastero</p>
09:45	<p>Invited talk-01 <b>Controls of Interfacial Structure on Nanorod Self-Assembly at Liquid-Crystal Interfaces</b> Jim De Yoreo, Pacific Northwest National Laboratory   University of Washington</p>
10:15	<p>Oral presentation-02 <b>Promotion of calcite dissolution in succinic acid and L-malic acid aqueous solution.</b> Koudai Imura, Ritsumeikan University</p>
10:30	<p>Oral presentation-03 <b>Do metastable polymorphs always grow faster? Challenges of measuring and comparing crystal growth rates of tolfenamic acid polymorphs</b> Pietro Sacchi, Cambridge Crystallographic Data Centre</p>
10:45	<p>Oral presentation-04 <b>Regrowth Behaviour in Pharmaceutical Crystals - A Case Study on Paracetamol</b> Isha Bade, Chemical Engineering, Imperial College London</p>
09:45 - 11:00	<p><b>GROWTH AT THE NANOSCALE: NANOCRYSTALS, NANOWIRES, NANOMATERIALS-01</b></p> <p>SG-T-1 Chair/s: Stefano Sanguinetti</p>
09:45	<p>Invited talk-01 <b>Selectivity Control of InAs Shells on Crystal Phase Engineered GaAs Nanowires</b> Victor Gomez, Universitat Politecnica de Valencia</p>
10:15	<p>Oral presentation-02 <b>Quantum Dot Nanowires For Telecom Single Photon Emission at Elevated Temperatures</b> Sofiane Haffouz, National Research Council of Canada</p>
10:30	<p>Oral presentation-03 <b>Crystal phase selection in semiconductor nanowires</b> Vincent Sallet, GEMAC, CNRS-UVSQ</p>
10:45	<p>Oral presentation-04 <b>The spontaneous amorphous-to-crystal transition in rubrene thin films: a combined morphological and photo-physical study</b> Adele Sassella, University of Milano-Bicocca</p>

# MON, 31 JUL – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>BULK CRYSTAL GROWTH-01</b></p> <p>SG-T-2 Chair/s: Rosalba Fittipaldi</p>
09:45	<p>Invited talk-01 <b>Self-selecting vapor growth of transition metal halide single crystals</b> Jiaqiang Yan, Oak Ridge National Laboratory</p>
10:15	<p>Oral presentation-02 <b>Flux growth and characterization of bulk <math>\text{InVO}_4</math> crystals</b> Olesia Voloshyna, IFW Dresden, Germany</p>
10:30	<p>Oral presentation-03 <b>Growth and properties of <math>\text{Ti}^{3+}:\text{Al}_2\text{O}_3</math> single-crystal</b> Jan Havlíček, Crytur, spol. s r.o.</p>
10:45	<p>Oral presentation-04 <b>Growth of <math>\text{NaBaCr}_2(\text{PO}_4)_3</math> crystals by high temperature solution method</b> Alexandra Peña Revellez, Université Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, 38000 Grenoble, France</p>
09:45 - 11:00	<p><b>OPTICAL CRYSTALS-01</b></p> <p>SG-I-1 Chair/s: Carlo Altucci</p>
09:45	<p>Invited talk-01 <b>Optically active plasmonic glass composites fabricated by crystal growth techniques</b> Piotr Piotrowski, Centre of Excellence ENSEMBLE3   University of Warsaw</p>
10:15	<p>Oral presentation-02 <b>Crystal Growth of KBBF and Prism-free Doubler for deep-UV Generation</b> Xiaoyang Wang, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, et al.</p>
10:30	<p>Oral presentation-03 <b>Heteroepitaxy of patterned ternary nonlinear optical materials for frequency conversion of laser sources in the mid and longwave IR</b> Vladimir Tassev, Air Force Research Laboratory</p>
10:45	<p>Oral presentation-04 <b>Crystal structure variation of rare earth-doped <math>\text{LiNbO}_3</math> during milling</b> Gabriella Dravec, Wigner RC</p>

# MON, 31 JUL – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>NEW METHODS AND TECHNIQUES FOR CRYSTAL GROWTH-01</b></p> <p>SG-I-2 Chair/s: Christo Gugushev, Jan Pejchal</p>
09:45	<p>Invited talk-01 <b>Oxide Crystal growth from Cold Crucible; Ce doped <math>Gd_3(Al,Ga)_5O_{12}</math> and <math>\beta-Ga_2O_3</math> as examples.</b> Akira Yoshikawa, Tohoku University   C&amp;A corporation</p>
10:15	<p>Oral presentation-02 <b>SiGe epitaxial growth via pulsed laser annealing of Al-Ge pastes on Si</b> Takeshi Sato, Nagoya University, et al.</p>
10:30	<p>Oral presentation-03 <b>Ultrahigh-quality SiC single crystal grown by multi-step</b> Peng Gu, Meishan Boya Advanced Materials Co., Ltd.   School of Earth and Space Sciences, Peking University</p>
10:45	<p>Oral presentation-04 <b>Seed-free solid-state growth, structure and electrical properties of bulk KNN-based crystals</b> Minhong Jiang, Guilin University of Electronic Technology</p>
09:45 - 11:00	<p><b>FUNCTIONAL CRYSTALS-01</b></p> <p>SG-II-1 Chair/s: Alberta Bonnani, Adele Sassella</p>
09:45	<p>Invited talk-01 <b>Study on Pulsed Electron Deposition as an effective method for thin films growth of room temperature multiferroic <math>BaFe_2O_4</math></b> Michele Casappa, University of Parma Department of Chemistry, Life Sciences and Environmental Sustainability</p>
10:15	<p>Oral presentation-02 <b>Study of the mechanism for electrically erasable writing of ZnS films by conductive atomic force microscopy</b> Lingyan Xu, Northwestern Polytechnical University</p>
10:30	<p>Oral presentation-03 <b>Growth and characterization of <math>Dy_{1-x}Y_xMnO_3</math> single crystals by optical floating zone technique: A combined X-ray diffraction and DC magnetization study</b> Anandha babu Govindan, Sri Sivasubramaniya Nadar College of Engineering   Indian Institute of Technology (Banaras Hindu University)   Indira Gandhi Centre for Atomic Research</p>
10:45	<p>Oral presentation-04 <b>Crystallization of thick polycrystalline layers of hybrid perovskites on pixel matrices: specific opportunities and challenges for direct X-ray detection.</b> Julien ZACCARO, Institut Néel - CNRS</p>

# MON, 31 JUL – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>ADVANCES IN OBSERVATION AND CHARACTERIZATION METHODS-01</b></p> <p>SG-II-2 Chair/s: Cinzia Giannini, Luke Rhodes</p>
09:45	<p>Invited talk-01 <b>X-ray Interference in Colloidal Nanocrystal Superlattices: a Parallel with Multilayer Epitaxial Thin Films</b> Stefano Toso, Istituto Italiano di Tecnologia, Via Morego 30, 16163, Genova, IT   Università Cattolica del Sacro Cuore, 25121 Brescia, Italy</p>
10:15	<p>Oral presentation-02 <b>Characterization of Defects in SiC Substrates for Power Device Applications by Birefringence Imaging</b> Shunta Harada, Nagoya University, et al.</p>
10:30	<p>Oral presentation-03 <b>A first step towards the identification of Herbertsmithite <math>Zn_xCu_{4-x}(OH)_6Cl_2</math> single crystal growth and point defects formation mechanisms</b> Matias Velazquez, CNRS, et al.</p>
10:45	<p>Oral presentation-04 <b>THz Raman spectroscopy to probe lattice dynamics and phase transitions in molecular crystals</b> Elena Ferrari, Università di Parma   IMEM-CNR, Parma</p>
11:00 - 11:30	<p><b>COFFEE BREAK</b></p>
11:30 - 12:45	<p><b>FUNDAMENTALS OF NUCLEATION AND CRYSTAL GROWTH-02</b></p> <p>Aula Magna Chair/s: Elias Vlieg</p>
11:30	<p>Invited talk-01 <b>Laser-Induced Crystallization Process of an Anthracene Observed by High-Speed Shadowgraphy</b> Yuka Tsuru, Nara Institute of Science and Technology   Osaka University</p>
12:00	<p>Oral presentation-02 <b>Spatiotemporal Control of Ice Crystallization in Supercooled Water by Focused Irradiation with Laser Pulses</b> Hozumi Takahashi, Osaka University, et al.</p>
12:15	<p>Oral presentation-03 <b>Polymorph transition-mediated non-classical nucleation and growth in the colloidal heteroepitaxial growth</b> Jun Nozawa, Tohoku University, Institute for Materials Research</p>
12:30	<p>Oral presentation-04 <b>Droplet nucleation on a vicinal surface: temperature-activated transitions of a density dependence</b> Artur Tuktamyshev, University of Milano Bicocca</p>

# MON, 31 JUL – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>MODELLING AND ARTIFICIAL INTELLIGENCE OF CRYSTAL GROWTH PROCESSES-01</b></p> <p>SG-T-1 Chair/s: Natasha Dropka, Toru Ujihara</p>
11:30	<p>Invited talk-01 <b>Data-Driven Automated Control Algorithm for Floating-Zone Crystal Growth Using Reinforcement Learning</b> Shunta Harada, Nagoya University</p>
12:00	<p>Oral presentation-02 <b>Data-Driven Flux-Method Crystal Growth of Inorganic Materials Using Bayesian Predictive Simulation</b> Tetsuya Yamada, Faculty of engineering, Shinshu university, Japan   Research Initiative for Supra-Materials, Shinshu university, Japan</p>
12:15	<p>Oral presentation-03 <b>NOMAD Electronic Laboratory Notebook (ELN) to generate Findable and AI-ready Crystal Growth Data</b> Andrea Albino, HU Berlin, et al.</p>
12:30	<p>Oral presentation-04 <b>Ising model-based analysis of the GaN(0001) surface reconstructed structures sampled from Bayesian optimization</b> Akira Kusaba, Kyushu University</p>
11:30 - 12:45	<p><b>BULK CRYSTAL GROWTH-02</b></p> <p>SG-T-2 Chair/s: Ryan Morrow</p>
11:30	<p>Invited talk-01 <b>Crystal growth and characterization of hexagallate bulk single crystals</b> Christo Gugushev, Leibniz-Institut für Kristallzüchtung (IKZ)</p>
12:00	<p>Oral presentation-02 <b>Growth of <math>\text{Li}_2^{100}\text{MoO}_4</math> scintillating crystals by LTG Czochralski technique for neutrinoless double beta-decay search</b> Veronika Grigorieva, Nikolaev Institute of Inorganic Chemistry SB RAS, et al.</p>
12:15	<p>Oral presentation-03 <b><math>\text{Ca}_3(\text{TeO}_3)_2(\text{MO}_4)</math> (M = Mo, W): Mid-Infrared Nonlinear Optical Tellurates with Ultrawide Transparency Ranges and Super-high Laser Induced Damage Thresholds</b> Qian Wu, Beijing Center for Crystal Research and Development, Key Laboratory of Functional Crystals and Laser Technology, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences</p>
12:30	<p>Oral presentation-04 <b>The effect of chemical doping on a lattice parameter of InP.</b> Dmitry Sokolov, Freiburger Compound Materials</p>

# MON, 31 JUL – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>OPTICAL CRYSTALS-02</b></p> <p>SG-I-1 Chair/s: Dobrosława Kasprowicz</p>
11:30	<p>Invited talk-01 <b>Multiphonon-assisted lasing beyond the fluorescence spectrum in Yb:YCOB crystal</b> Fei Liang, Shandong University</p>
12:00	<p>Oral presentation-02 <b>X-ray diffraction studies on the orientation patterned heteroepitaxial GaP and GaAsP to assess the domain fidelity</b> Vladimir Tassev, Air Force Research Laboratory</p>
12:15	<p>Oral presentation-03 <b>Improvement of ZnGeP<sub>2</sub> optical quality by investigating growth conditions and high energy electron irradiation</b> Charlotte VERNOZY - - TROUILLET, DMAS/ONERA, Université Paris-Saclay, F-92322 Chatillon, France   LSI, CEA/DRF/IRAMIS, CNRS, École Polytechnique, Institut Polytechnique de Paris, 91120 Palaiseau, France</p>
12:30	<p>Oral presentation-04 <b>Growth of La<sub>2</sub>Zr<sub>2</sub>O<sub>7</sub>, La<sub>2</sub>Hf<sub>2</sub>O<sub>7</sub> and Lu<sub>3</sub>TaO<sub>7</sub> single crystals with high melting point by micro-pulling-down method and their optical properties</b> Yuui Yokota, Tohoku University, et al.</p>
11:30 - 12:45	<p><b>NEW METHODS AND TECHNIQUES FOR CRYSTAL GROWTH-02</b></p> <p>SG-I-2 Chair/s: Christo Gugushev, Jan Pejchal</p>
11:30	<p>Invited talk-01 <b>Combined crystal growth methods for extended chemical composition possibilities obtained from a high temperature solution</b> Philippe VEBER, University of Lyon, CNRS, Institut Lumière Matière, F-69622, Villeurbanne, France</p>
12:00	<p>Oral presentation-02 <b>The Effects of High Pressure on Crystal Growth in an Optical Floating Zone System</b> Jeffrey Derby, University of Minnesota</p>
12:15	<p>Oral presentation-03 <b>Innovative high pressure high temperature solid state synthesis of InN and GaN</b> Lorenzo Fornari, IMEM-CNR   SCVSA Department, University of Parma</p>
12:30	<p>Oral presentation-04 <b>Lithium triborate crystal growth in an inhomogeneous heat field</b> Alexander Kokh, Institute of geology and mineralogy, Russian Federation</p>

# MON, 31 JUL – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>FUNCTIONAL CRYSTALS-02</b></p> <p>SG-II-1 Chair/s: Alberta Bonnani, Adele Sassella</p>
11:30	<p>Invited talk-01 <b>(Eu,Ca,La)(Fe, Co)As<sub>2</sub> single crystal growth and investigation of physical and superconducting properties</b> Hiraku Ogino, AIST   National Institute of Advanced Industrial Science and Technology (AIST), Japan   Tokyo University of Science</p>
12:00	<p>Oral presentation-02 <b>Single crystal growth and physical properties of layered oxychalcogenide Sr<sub>2</sub>ZnCu<sub>2</sub>(S<sub>1-x</sub>Se<sub>x</sub>)<sub>2</sub>O<sub>2</sub></b> Takahiro Kato, Tokyo university of science   National Institute of Advanced Industrial Science and Technology, et al.</p>
12:15	<p>Oral presentation-03 <b>High Pressure – High Temperature solid-state reactions: how to play with the chemistry to tune physical properties in multifunctional materials</b> Chiara Coppi, IMEM-CNR   Università degli Studi di Parma, et al.</p>
12:30	<p>Oral presentation-04 <b>High pO<sub>2</sub> flux growth and characterization of perovskite NdNiO<sub>3</sub> crystals</b> Junjie Zhang, Shandong University</p>
11:30 - 12:45	<p><b>ADVANCES IN OBSERVATION AND CHARACTERIZATION METHODS-02</b></p> <p>SG-II-2 Chair/s: Cinzia Giannini, Luke Rhodes</p>
11:30	<p>Invited talk-01 <b><i>In situ</i> microbeam surface X-ray scattering reveals alternating step kinetics during OMVPE of GaN</b> Guangxu Ju, Peking University</p>
12:00	<p>Oral presentation-02 <b>μLaue diffraction and XEOL to study structure and light emission in materials</b> Joel Eymery, Univ. Grenoble Alpes   CEA, IRIG, MEM, NRX, 38000 Grenoble Cedex, France</p>
12:15	<p>Oral presentation-03 <b>Probing Ferroelectricity in Lead Halide Perovskites Using Second Harmonic Generation Microscopy</b> Giorgia Rizzi, KU Leuven</p>
12:30	<p>Oral presentation-04 <b>k-resolved electronic structure of bulk crystals, buried heterostructures and impurity systems by soft-X-ray ARPES</b> Vladimir N. Strocov, Paul Scherrer Institute</p>



# MON, 31 JUL

12:45 - 14:00	<b>IOCG EXECUTIVE COMMITTEE MEETING</b>
12:45 - 14:00	LUNCH
14:00 - 14:45	<b>FRANK PRIZE</b> Aula Magna Chair/s: Giuseppe Falini  <b>Crystal growth patterns in nature: the science behind the beauty</b> Juan Garcia-Ruiz, Instituto Andaluz de Ciencias de la Tierra

# MON, 31 JUL – PARALLEL SESSIONS PM

14:45 - 16:00	<p><b>FUNDAMENTALS OF NUCLEATION AND CRYSTAL GROWTH-03</b></p> <p>Aula Magna Chair/s: Wenhao Sun</p>
14:45	<p>Invited talk-01 <b>In situ optical spectroscopy of crystallization: One crystal nucleation at a time</b> Takuji Adachi, University of Geneva</p>
15:15	<p>Oral presentation-02 <b>Growth Promotion of Targeted Crystal Faces of Organics Compounds and Proteins by Nano-Processing via Laser Ablation</b> Hiroshi Yoshikawa, Graduate School of Engineering, Osaka University, Japan, et al.</p>
15:30	<p>Oral presentation-03 <b>Heterogeneous two-step crystallization from colloid suspensions: surface geometry and confinement effects on mechanisms and rates</b> Aaron Finney, University College London</p>
15:45	<p>Oral presentation-04 <b>Mechanisms of nucleation and post-nucleation of bismuth tri-iodide onto graphene substrates</b> Laura Fornaro, Universidad de la República, Centro Universitario Regional del Este, Departamento de Desarrollo Tecnológico</p>
14:45 - 16:00	<p><b>MODELLING AND ARTIFICIAL INTELLIGENCE OF CRYSTAL GROWTH PROCESSES-02</b></p> <p>SG-T-1 Chair/s: Natasha Dropka, Toru Ujihara</p>
14:45	<p>Invited talk-01 <b>Machine learning applications for crystal growth</b> Kentaro Kutsukake, RIKEN   Nagoya University</p>
15:15	<p>Oral presentation-02 <b>Growth of mc-Silicon ingot by DS Process: Experimental and Machine Learning</b> Srinivasan Manikam, Associate Professor</p>
15:30	<p>Oral presentation-03 <b>Optimization method of crystal growth conditions by tacit knowledge (for large-diameter SiC solution growth)</b> TORU UJIHARA, Nagoya University   UJ-Crystal   RIKEN</p>
15:45	<p>Oral presentation-04 <b>Evaluation of Numerical Modeling on Constitutional Supercooling during Heavily Boron Doped Silicon Single Crystal Growth using Cz Method</b> Yuji Mukaiyama, STR Japan K.K.</p>

# MON, 31 JUL – PARALLEL SESSIONS PM

14:45 - 16:00	<p><b>BULK CRYSTAL GROWTH-03</b></p> <p>SG-T-2 Chair/s: Hanna Dabkowska</p>
14:45	<p>Invited talk-01 <b>Numerical analysis of heat and mass transfer of Ga<sub>2</sub>O<sub>3</sub> grown by skull melting method</b> Koichi KAKIMOTO, NICHe, Tohoku Univ. JAPAN   C&amp;A Co.2, JAPAN   RIAM, Kyushu Univ. JAPAN IMR, Tohoku Univ. JAPAN</p>
15:15	<p>Oral presentation-02 <b>Analysis of the Engulfment of Argon Bubbles during Silicon Crystal Growth</b> Jeffrey Derby, University of Minnesota, et al.</p>
15:30	<p>Oral presentation-03 <b>Growth dynamics of lattice dislocations and small-angle grain boundaries in multicrystalline silicon during directional solidification</b> Lu-Chung Chuang, Institute for Materials Research, Tohoku University, et al.</p>
15:45	<p>Oral presentation-04 <b>Optimization of temperature distribution transition in Directional Solidification method without restriction of growth furnace structure</b> Kentaro Kutsukake, Nagoya University /Graduate School of Engineering</p>
14:45 - 16:00	<p><b>OPTICAL CRYSTALS-03</b></p> <p>SG-I-1 Chair/s: Ebrahim Karimi</p>
14:45	<p>Invited talk-01 <b>Design and application of upconversion nanocrystals for sensing and lasing at single particle level</b> Yunfei Shang, Harbin Insitute of Technology</p>
15:15	<p>Oral presentation-02 <b>Growth and Scintillation Properties of Carbazole and p-Terphenyl</b> Shunsuke Kurosawa, Tohoku University   Osaka University</p>
15:30	<p>Oral presentation-03 <b>Investigation of the phase diagram of the CsI-LiBr system and fabrication of the eutectic scintillator for thermal neutron detection</b> Rei Sasaki, The Department of Materials Science, Graduate School of Engineering, Tohoku University, Japan   The Institute for Materials Research, Tohoku University, Japan</p>
15:45	<p>Oral presentation-04 <b>Growth and characterization of <sup>6</sup>LiI:Ag crystal scintillators for lunar surface thermal and epithermal neutron detection</b> Hongjoo Kim, Kyungpook National University</p>

# MON, 31 JUL – PARALLEL SESSIONS PM

14:45 - 15:45	<p><b>NEW METHODS AND TECHNIQUES FOR CRYSTAL GROWTH-03</b></p> <p>SG-I-2 Chair/s: Christo Gugushev, Jan Pejchal</p>
14:45	<p>Invited talk-01 <b>Recent Progress in MOCVD Technology for PE Device Production</b> Bernd Schineller, AIXTRON SE Dornkaulstrasse 2 52134 Herzogenrath, Germany</p>
15:15	<p>Oral presentation-02 <b>Electrochemical control of crystallization at soft interfaces</b> Franca Jones, Curtin University, Western Australia</p>
15:30	<p>Oral presentation-03 <b>Investigation of shape control criteria for wire fabrication of alloys by the dewetting micro-pulling-down method</b> Rikito Murakami, Institute for Materials Research, Tohoku University   C&amp;A Corporation</p>
15:45	<p>Oral presentation-04 - <b>CANCELLED</b> <b>A Very Simple, Pleasant and Trouble-Free Crystal Growth Method: Introduced A Novel ISR Method for Unidirectional Growth</b> Karuppasamy Pichan, Sri Sivasubramaniya Nadar College of Engineering, Chennai-603110, Tamil Nadu, India.   Raja Ramanna Centre for Advanced Technology (RRCAT), Indore-452013, Madhya Pradesh, India</p>
14:45 - 15:45	<p><b>FUNCTIONAL CRYSTALS-03</b></p> <p>SG-II-1 Chair/s: Alberta Bonnani, Adele Sassella</p>
14:45	<p>Invited talk-01 <b>Growth of high quality rare earth iron garnet single crystals by the flux-Bridgman method</b> Hui Shen, Shanghai Institute of Technology</p>
15:15	<p>Oral presentation-02 <b>Growth of Rare Earth Iron Garnet Single Crystals</b> Dharmalingam Prabhakaran, University of Oxford</p>
15:30	<p>Oral presentation-03 <b>Structural Design, Crystal Growth and Optical Properties of Sr<sub>2</sub>Be<sub>2</sub>B<sub>2</sub>O<sub>7</sub>-type Deep-UV Birefringent Materials</b> Ruixin Guo, Shenzhen Institute for Quantum Science and Engineering, Southern University of Science and Technology   International Quantum Academy   Beijing Center for Crystal Research and Development, Key Laboratory of Functional Crystals and Laser Technology, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences, Beijing 100190, China</p>
15:45	<p>Oral presentation-04 - <b>CANCELLED</b> <b>Large KTiOPO<sub>4</sub> crystal hydrothermally grown from 27 L autoclave for electro-optical application</b> Haitao Zhou, Tianjin University of Technology/Guilin Bairay Photoelectric Technology Co., Ltd, et al.</p>

# MON, 31 JUL – PARALLEL SESSIONS PM

14:45 - 16:00	<p><b>STRUCTURAL DEFECTS AND IMPURITIES IN CRYSTALLINE MATERIALS-01</b></p> <p>SG-II-2 Chair/s: Claudio Ferrari</p>
14:45	<p>Invited talk-01 <b>Laser diode degradation: mechanisms and defects</b> Juan Jimenez, Universidad de Valladolid Valladolid, Spain</p>
15:15	<p>Oral presentation-02 <b>Challenges in growth of nitride semiconductors epi structures: minimizing effects of dislocations and point defects</b> Mike Leszczynski, Institute of High Pressure Physics</p>
15:30	<p>Oral presentation-03 <b>Origin of Surface Defects in Homoepitaxially Grown (010) <math>\beta</math>-Ga<sub>2</sub>O<sub>3</sub> films</b> Mark Goorsky, Department Materials Science and Engineering, University of California Los Angeles</p>
15:45	<p>Oral presentation-04 <b>The influence of point defects present in the different substrates on InGaN/GaN QWs properties and stability at elevated temperatures</b> Mikolaj Grabowski, Institute of High Pressure Physics of the Polish Academy of Sciences</p>
16:00 - 16:30	<p>COFFEE BREAK</p>
16:30 - 18:30	<p><b>POSTER SESSION 03</b></p>

# TUE, 1 AUG

09:00 - 09:45	<b>PLENARY LECTURE-02</b> Aula Magna Chair/s: Giuseppe Falini
	<b>From Unraveling Crystal Growth Strategies in Nature to Their Implementation in Synthetic Systems</b> Boaz Pokroy, Technion - Israel Institute of Technology

# TUE, 1 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>FUNDAMENTALS OF NUCLEATION AND CRYSTAL GROWTH-04</b></p> <p>Aula Magna Chair/s: Juan M Garcia-Ruiz</p>
09:45	<p>Invited talk-01 <b>"Seeing is believing" Surface Catalysis in Crystal Nucleation and Epitaxy</b> Masaya Sakakibara, Department of Chemistry, The University of Tokyo</p>
10:15	<p>Oral presentation-02 <b>Growth kinetics of elementary spiral steps on prism faces of ice crystals grown in vapor and their temperature dependence</b> Gen Sazaki, Hokkaido University</p>
10:30	<p>Oral presentation-03 <b>Vapor Growth of ZnSe-based Compound Semiconductors in Low Gravity environment on International Space Station</b> Ching-Hua Su, NASA Marshall Space Flight Center</p>
10:45	<p>Oral presentation-04 <b>Van der Waals SnSe<sub>2</sub> epitaxial films on Bi<sub>2</sub>Se<sub>3</sub>(0001) and Si(111) surfaces</b> Sergei Ponomarev, Rzhanov Institute of Semiconductor Physics Siberian Branch of Russian Academy of Sciences   Novosibirsk State University   Sobolev Institute of Geology and Mineralogy Siberian Branch of Russian Academy of Sciences, et al.</p>
09:45 - 11:00	<p><b>MODELLING AND ARTIFICIAL INTELLIGENCE OF CRYSTAL GROWTH PROCESSES-03</b></p> <p>SG-T-1 Chair/s: Natasha Dropka, Toru Ujihara</p>
09:45	<p>Invited talk-01 <b>Fast prediction of transport structures in bulk single crystal growth by Physics Informed Neural Networks</b> Yasunori Okano, Osaka University</p>
10:15	<p>Oral presentation-02 <b>Effect of crystal and crucible rotation on the thermal and oxygen instabilities in a Czochralski process for solar silicon growth</b> Daniel Vizman, West University of Timisoara</p>
10:30	<p>Oral presentation-03 <b>Optimization of the thermal field of 8-inch SiC crystal growth by PVT method with "3 separation heater method"</b> Binjie Xu, State Key Laboratory of Silicon Materials and School of Materials Science and Engineering, Zhejiang University, Hangzhou 310027, China   Zhejiang Provincial Key Laboratory of Power Semiconductor Materials and Devices, ZJU-Hangzhou Global Scientific and Technological Innovation Center, Hangzhou 311215, China</p>
10:45	<p>Oral presentation-04 <b>Investigation of the turbulent silicon melt flow in a model geometry under a horizontal magnetic field</b> Andrey Smirnov, Semiconductor Technology Research d.o.o. Beograd</p>

# TUE, 1 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>BULK CRYSTAL GROWTH-04</b></p> <p>SG-T-2 Chair/s: Ryan Morrow</p>
09:45	<p>Invited talk-01 <b>Mg<sub>2</sub>Si crystal growth by the vertical Bridgman method: scale-up and optimization by modeling and growth experiments</b> Xin Liu, Nagoya University, et al.</p>
10:15	<p>Oral presentation-02 <b>Dislocation Interaction with Faceted Groove at Grain Boundary in Multicrystalline Silicon</b> Fan Yang, Institute for Materials Research, Tohoku University</p>
10:30	<p>Oral presentation-03 <b>On the origin of cracks in thick GaN crystals grown by HVPE</b> Gleb Lukin, Fraunhofer Institute for Integrated Systems and Device Technology IISB, et al.</p>
10:45	<p>Oral presentation-04 <b>Stress analysis of multicrystalline Si with artificial grain boundaries to investigate the generation mechanism of dislocation clusters</b> Haruki Tajika, Graduate School of Engineering, Nagoya University, Japan, et al.</p>
09:45 - 11:00	<p><b>THIN FILMS AND EPITAXIAL GROWTH-01</b></p> <p>SG-I-1 Chair/s: Fabio Miletto-Granozio</p>
09:45	<p>Invited talk-01 <b>Effect of different substrates and growth conditions on nucleation and properties of k - and b -Ga<sub>2</sub>O<sub>3</sub> thin films grown by MOVPE</b> Roberto Fornari, University of Parma</p>
10:15	<p>Oral presentation-02 <b>Mist chemical vapor deposition of α-Ga<sub>2</sub>O<sub>3</sub> and α-Fe<sub>2</sub>O<sub>3</sub> thin films on corundum-structured rh-ITO electrode</b> Kazuki Shimazoe, Department of Electronics, Kyoto Institute of Technology, et al.</p>
10:30	<p>Oral presentation-03 <b>Research on the Crystal Phase and Microstructure of Pure Phase ε-Ga<sub>2</sub>O<sub>3</sub> Film by Plasma Enhanced Atomic Layer Deposition</b> Yang Li, Shandong University</p>
10:45	<p>Oral presentation-04 <b>a-plane GaN microchannel epitaxy on r-plane sapphire substrate using nano-patterned graphene mask</b> Shigeya Naritsuka, Fac. Science and Technology, Meijo University, Japan</p>



# TUE, 1 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>CRYSTALLINE SOLIDS FOR DRUGS AND PHARMACEUTICALS-01</b></p> <p>SG-I-2 Chair/s: Tariq Mahmud, Lucia Maini</p>
09:45	<p>Invited talk-01 <b>Artificial neural networks for co-crystal prediction</b> Elias Vlieg, Radboud University</p>
10:15	<p>Oral presentation-02 <b>Challenges, Solutions and Opportunities within Pharmaceutical API Development: Overview and Case Study</b> Peter Kaskiewicz, AstraZeneca</p>
10:30	<p>Oral presentation-03 <b>Effect of impurities on supersaturation control during batch cooling crystallisation of an organic compound</b> Ryan Leeming, School of Chemical and Process Engineering, University of Leeds, UK</p>
10:45	<p>Oral presentation-04 <b>Modular microfluidic platform for solubility measurement, nucleation statistics and polymorph screening of active pharmaceutical ingredients.</b> Mathilde Lambert, CINaM - CNRS - Aix-Marseille Université   Sanofi R&amp;D - Global CMC / Synthetics - Early Development France</p>
09:45 - 11:00	<p><b>OPTICAL CRYSTALS-04</b></p> <p>SG-II-1 Chair/s: Giulio Cerullo</p>
09:45	<p>Invited talk-01 <b>Novel borate-based crystalline materials for efficient generation of red light</b> Mitrabhanu Behera, National Institute of Technology Andhra Pradesh, Andhra Pradesh, India</p>
10:15	<p>Oral presentation-02 <b>Research Progress of Nonlinear Optical Crystal CLBO</b> Shuangshuang Shi, Beijing Sinoma Synthetic Crystals Co., Ltd, , et al.</p>
10:30	<p>Oral presentation-03 <b>Growth and optical properties of Nd:LYSB as a new laser and nonlinear optical borate crystal</b> Alin Broasca, National Institute for Laser, Plasma and Radiation Physics, ECS Laboratory, Romania   Doctoral School of Physics, University of Bucharest, Faculty of Physics, Romania</p>
10:45	<p>Oral presentation-04 <b>Synthesis and study of novel dysprosium doped yttrium calcium borate (Dy:Y<sub>2</sub>CaB<sub>10</sub>O<sub>19</sub>) crystalline materials for white LED applications</b> Mitrabhanu Behera, National Institute of Technology Andhra Pradesh, Andhra Pradesh, India</p>

# TUE, 1 AUG – PARALLEL SESSIONS AM

09:45 - 10:45	<p><b>FUNCTIONAL CRYSTALS-04</b></p> <p>SG-II-2 Chair/s: Alberta Bonnani, Adele Sassella</p>
09:45	<p>Invited talk-01 <b>Metal-organic crystals: shaping, uniformity and symmetry breaking</b> Maria Chiara di Gregorio, Department of Chemistry, Sapienza University, Rome, Italy</p>
10:15	<p>Oral presentation-02 <b>Plastic Crystals and Solid-Solutions: From Modulation of the Plastic Transition to the Development of Novel Solid-State Electrolytes</b> simone d'agostino, the University of Bologna</p>
10:30	<p>Oral presentation-03 <b>Electro-optic Effects of Borate Crystals Studied by First Principles Method</b> Rukang Li, Beijing Centre for Crystal Research and Development, Key Laboratory of Functional Crystals and Laser Technology, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences. Beijing 100190, China</p>
10:45	<p>Oral presentation-04 - <b>CANCELLED</b> <b>Effective third harmonic generation based on Ba<sub>3</sub>(ZnB<sub>5</sub>O<sub>10</sub>)PO<sub>4</sub> crystal</b> Shihui Ma, Tianjin University of Technology   School of Materials Science and Engineering, Linyi University, Linyi 276000, China.</p>
11:00 - 11:30	<p><b>COFFEE BREAK</b></p>

# TUE, 1 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>FUNDAMENTALS OF NUCLEATION AND CRYSTAL GROWTH-05</b></p> <p>Aula Magna Chair/s: Jim De Yoreo</p>
11:30	<p>Invited talk-01 <b>Dynamic observation of polymorphic phase transition of calcium oxalate crystals; A novel system to elucidate the process and kinetics of urinary stones formation</b> Mihoko Maruyama, Osaka University/ Graduate School of Engineering   Kyoto Prefectural University/ Graduate School of Life and Environment Science, et al.</p>
12:00	<p>Oral presentation-02 <b>Effects of additives on the crystallisation of solids contributing to crystal arthritis</b> Franca Jones, Curtin University</p>
12:15	<p>Oral presentation-03 <b>Chiral Crystallization Directed by Superchiral Plasmonic Near-field Force</b> Hiromasa Niinomi, Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University</p>
12:30	<p>Oral presentation-04 <b>Silicate Spherulites Rapidly Crystallized from Hypercooled Melt Droplets</b> Katsuo Tsukamoto, Tohoku University</p>
11:30 - 12:45	<p><b>MODELLING AND ARTIFICIAL INTELLIGENCE OF CRYSTAL GROWTH PROCESSES-04</b></p> <p>SG-T-1 Chair/s: Natasha Dropka, Toru Ujihara</p>
11:30	<p>Invited talk-01 <b>Role of electronic degrees of freedom in adsorption and the dynamics of the growth of semiconductor crystals and layers</b> Stanislaw Krukowski, Institute of High Pressure Physics Polish Academy of Sciences</p>
12:00	<p>Oral presentation-02 <b>Modeling of Convective Transport in Crystallization of Gallium Nitride by Basic Ammonothermal Method</b> Marek Žak, Institute of High Pressure Physics Polish Academy of Sciences</p>
12:15	<p>Oral presentation-03 <b>Lattice Boltzmann Model (LBM) inspired radiative heat transport modeling with applications to crystal growth</b> Simon Brandon, Department of Chemical Engineering, Technion</p>
12:30	<p>Oral presentation-04 <b>Data-driven Cz-Si scale-up under conditions of partial similarity</b> Natasha Dropka, Leibniz-Institut für Kristallzüchtung (IKZ), Berlin, Germany</p>

# TUE, 1 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>BULK CRYSTAL GROWTH-05</b></p> <p>SG-T-2 Chair/s: Rosalba Fittipaldi</p>
11:30	<p>Invited talk-01 <b>Czochralski growth of Yb- and Eu-based intermetallic compounds</b> Kristin Kliemt, Goethe Universität Frankfurt</p>
12:00	<p>Oral presentation-02 <b>Crystal growth and magnetic properties of rare-earth(RE) palladium silicides, RE<sub>2</sub>PdSi<sub>3</sub></b> Daniel Alexander Mayoh, University of Warwick, et al.</p>
12:15	<p>Oral presentation-03 <b>Crystal growth of multicomponent high entropy rare-earth oxides and aluminates</b> Mariya Zhuravleva, Department of Materials Science and Engineering, University of Tennessee   Scintillation Materials Research Center, University of Tennessee</p>
12:30	<p>Oral presentation-04 <b>Fundamental studies on crystallization and reaching the equilibrium shape in basic ammonothermal method</b> Tomasz Sochacki, Institute of High Pressure Physics Polish Academy of Sciences</p>
11:30 - 12:45	<p><b>CRYSTALLIZATION OF ORGANIC AND BIOLOGICAL SYSTEMS-01</b></p> <p>SG-I-1 Chair/s: Simona Fermani, Consiglia Tedesco</p>
11:30	<p>Invited talk-01 <b>Organic crystallization mechanisms elucidated by electron microscopy</b> Boris Rybtchinski, Weizmann Institute of Science</p>
12:00	<p>Oral presentation-02 <b>Controlled Crystallization of Centimeter-Size 4HCB Organic Single Crystalline Semiconductors for Novel Radiation Sensor Applications</b> Yadong Xu, Northwestern Polytechnical University, China, et al.</p>
12:15	<p>Oral presentation-03 <b>BSA nanoparticles as nano-bio heterogeneous nucleant for protein crystallization.</b> Silvia Fanti, University of Bologna</p>
12:30	<p>Oral presentation-04 <b>Purification of monoclonal antibody by Membrane Assisted Crystallization</b> Elvira Pantuso, Istituto per la Tecnologia delle Membrane (ITM-CNR)</p>

# TUE, 1 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>COMPOSITE AND HYBRID CRYSTALS-01</b></p> <p>SG-I-2 Chair/s: Abel Moreno, Dritan Siliqi</p>
11:30	<p>Invited talk-01 <b>Cocrystallizing polymers with small molecules: towards a new class of organic supermolecules</b> Dritan Hasa, University of Trieste</p>
12:00	<p>Oral presentation-02 <b>Cocrystal formation and crystal polymorph selection by patchy particles</b> Bogdan Ranguelov, Institute of Physical Chemistry, Bulgarian Academy of Sciences</p>
12:15	<p>Oral presentation-03 <b>Material design and fabrication of a novel optical guiding crystal scintillator</b> Kei Kamada, Tohoku Univ.   C&amp;A corporation</p>
12:30	<p>Oral presentation-04 <b>Eutectic Materials for 5G and 6G Technology</b> Hamid Reza Darabian, ENSEMBLE3 Centre of Excellence, ul. Wolczynska 133, 01-919 Warsaw, Poland</p>
11:30 - 12:45	<p><b>OPTICAL CRYSTALS-05</b></p> <p>SG-II-1 Chair/s: Carlo Altucci, Dobrosława Kasprowicz</p>
11:30	<p>Invited talk-01 <b>Lanthanide activated fluoride nanoparticles as luminescent probes and optical thermometers</b> Adolfo Speghini, NRG, Department of Biotechnology, University of Verona and INSTM, RU Verona, Strada Le Grazie 15, I-37134 Verona, Italy.</p>
12:00	<p>Oral presentation-02 <b>Crystal growth and characterization of Cs<sub>4</sub>Mg<sub>3</sub>F<sub>10</sub> prepared by the micro-pulling-down method</b> Vojtěch Vaněček, Institute of Physics of Czech Academy of Sciences</p>
12:15	<p>Oral presentation-03 <b>Kyropoulos Growth of a Large SrB<sub>4</sub>O<sub>7</sub> Single Crystal</b> Ryoh Noguchi, Osaka University, et al.</p>
12:30	<p>Oral presentation-04 <b>Structural origin of the optical anisotropy in Ce<sup>3+</sup>-doped fluoride crystals</b> Mayrene Uy, The Department of Materials Structure Science, School of High Energy Accelerator Science, The Graduate University for Advanced Studies, Japan   Institute of Laser Engineering, Osaka University, Japan</p>

# TUE, 1 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<b>FUNCTIONAL CRYSTALS-05</b> SG-II-2 Chair/s: Alberta Bonnani, Adele Sassella
11:30	Invited talk-01 <b>Growth, applications and defect characterizations of <math>\alpha</math>-GeO<sub>2</sub> bulk crystals</b> Alexandra Peña Revellez, Université Grenoble Alpes, CNRS, Grenoble INP, Institut Néé   Université Grenoble Alpes, CNRS, Grenoble INP, SIMaP
12:00	Oral presentation-02 <b>Growth of Mg<sub>2</sub>Si thermoelectric crystals with eutectic morphology by unidirectional solidification</b> Naomoto Hayashi, Graduate School of Engineering, Tohoku University, Japan   Tohoku University Institute for Materials Research, Tohoku University, Japan, et al.
12:15	Oral presentation-03 <b>Enhancements on the Performance of Thermoelectric Materials by Directional Solidification</b> Ching-Hua Su, NASA Marshall Space Flight Center
12:30	Oral presentation-04 <b>NiTiO<sub>3</sub>/TiO<sub>2</sub> hybrid crystal for efficient overall water splitting</b> Sanjit Saha, ENSEMBLE3 Centre of Excellence, Wolczynska 133, 01-919 Warsaw, Poland

# TUE, 1 AUG

12:45 - 14:00	IOCG COUNCIL MEETING
12:45 - 14:00	LUNCH
13:50 - 14:00	INDUSTRIAL TALK: SEMICONDUCTOR TECHNOLOGY RESEARCH D.O.O. BEOGRAD
14:00 - 14:45	<p>LAUDISE PRIZE</p> <p>Aula Magna Chair/s: Thierry Duffar</p> <p><b>Contributions to the development of crystal growth technologies</b> Peter Rudolph, Crystal Technology Consulting</p>

# TUE, 1 AUG – PARALLEL SESSIONS PM

14:45 - 16:00	<p><b>FUNDAMENTALS OF NUCLEATION AND CRYSTAL GROWTH-06</b></p> <p>Aula Magna Chair/s: Matteo Salvalaglio</p>
14:45	<p>Invited talk-01 <b>The Evolution and Morphological Stability of a Particle in a Binary Alloy Melt</b> Mingwen Chen, University of Science and Technology Beijing</p>
15:15	<p>Oral presentation-02 <b>Analysis of Macrostep Interaction via Carbon Diffusion Field in SiC Solution Growth</b> Yuki Nakanishi, Nagoya University, et al.</p>
15:30	<p>Oral presentation-03 <b>Thermodynamic relationship between norsethite [BaMg(CO<sub>3</sub>)<sub>2</sub>] and witherite[BaCO<sub>3</sub>]</b> Harutoshi Asakawa, Graduate School of Sciences and Technology for Innovation Yamaguchi University, et al.</p>
15:45	<p>Oral presentation-04 <b>Observation of phase transition of calcium oxalate in a human kidney stone for elucidation of the stone formation mechanism</b> Uta Michibata, Osaka University, et al.</p>
14:45 - 15:30	<p><b>THIN FILMS AND EPITAXIAL GROWTH-02</b></p> <p>SG-T-1 Chair/s: Gabriele De Luca</p>
14:45	<p>Invited talk-04 - <b>CANCELLED</b> <del><b>Functional Oxide Thin Films for Applications in Optical, Electronic and Health</b></del> <del>Wilfrid Prellier, Laboratoire CRISMAT, ENSICAEN, UNICAEN, CNRS-UMR 6508, Bd Mal Juin, Caen, 14050 France</del></p>
14:45	<p>Oral presentation-02 <b>Metal-to-Insulator Transition in Antiferromagnetic SrCrO<sub>3</sub> Thin Films</b> Simon Jöhr, Universität Zürich</p>
15:00	<p>Oral presentation-03 <b>Group-IV Ge<sub>1-x</sub>Sn<sub>x</sub> alloys: growth challenge and isothermal heteroepitaxy for electronic, photonic, and energy harvesting applications</b> Omar Concepción, Peter Gruenberg Institute 9 (PGI-9), Forschungszentrum Juelich, 52428 Juelich, Germany</p>
15:15	<p>Oral presentation-04 <b>SrFe<sub>0.9</sub>Mo<sub>0.1</sub>O<sub>3-δ</sub> epitaxial thin films grown by PLD</b> Eugenia Sebastiani, SpLine CRG-BM25 - ESRF ICMM CSIC</p>



# TUE, 1 AUG – PARALLEL SESSIONS PM

14:45 - 16:00	<p><b>BULK CRYSTAL GROWTH-06</b></p> <p>SG-T-2 Chair/s: Hanna Dabkowska</p>
14:45	<p>Invited talk-01 <b>NOVEL VISIBLE-INFRARED FARADAY CRYSTAL <math>TB_3AL_3GA_2O_{12}</math> EXHIBITING SUPERIOR MAGNETO-OPTICAL PERFORMANCE</b> Xiuwei Fu, Shandong University</p>
15:15	<p>Oral presentation-02 <b>Ternary cesium lithium iodide crystals grown by vertical Bridgman method for scintillation applications</b> Robert Kral, Institute of Physics, Czech Academy of Sciences, Cukrovarnicka 10, Prague, Czech Republic</p>
15:30	<p>Oral presentation-03 <b>Non-destructive synchrotron probes of optical floating zone crystal growth: cm-scale grain maps, interfaces, mosaicity, and temperature profiles</b> Peter Khalifah, Brookhaven National Laboratory</p>
15:45	<p>Oral presentation-04 <b>Automation Increases Productivity of Czochralski Crystal Growth in Solar Industry</b> Zhixin Li, Linton Technologies Group</p>
14:45 - 16:00	<p><b>CRYSTALLIZATION OF ORGANIC AND BIOLOGICAL SYSTEMS-02</b></p> <p>SG-I-1 Chair/s: Simona Fermani, Consiglia Tedesco</p>
14:45	<p>Invited talk-01 <b>Mesocrystalline Ordering and Phase Transformation of Iron Oxide Biominerals in the Ultrahard Teeth of Chitons</b> David Kisailus, University of California at Irvine</p>
15:15	<p>Oral presentation-02 <b>Valorization of waste mussel shells by recovering aragonite and calcite single crystals from the shells</b> Carla Triunfo, Department of Chemistry "Giacomo Ciamician", University of Bologna, Italy.   Fano Marine Center, The Inter-Institute Center for Research on Marine Biodiversity, Resources and Biotechnologies, Italy.</p>
15:30	<p>Oral presentation-03 <b>One-step hydrothermal transformation of oyster shell Mg-calcite to biomimetic nanocrystalline apatite</b> Jaime Gómez Morales, Laboratorio de Estudios Cristalográficos Instituto Andaluz de Ciencias de la Tierra CSIC-University of Granada</p>
15:45	<p>Oral presentation-04 <b>Mg-rich nanoparticles within Mg-poor calcite matrices: from coralline red algae to a widespread phenomenon in Biomineralization</b> Iryna Polishchuk, Technion - Israel Institute of Technology</p>

# TUE, 1 AUG – PARALLEL SESSIONS PM

14:45 - 16:00	<p><b>COMPOSITE AND HYBRID CRYSTALS-02</b></p> <p>SG-I-2 Chair/s: Abel Moreno, Dritan Siliqi</p>
14:45	<p>Invited talk-01 <b>Composite materials in biologically controlled mineralization</b> Linda Pastero, Università degli Studi di Torino</p>
15:15	<p>Oral presentation-02 <b>Biosilicification and biocalcification of membrane fibers mantles of the eggshells of ratite birds and archosaurs reptiles (crocodiles)</b> Nerith Elejalde-Cadena, National Autonomous University of Mexico</p>
15:30	<p>Oral presentation-03 <b>Nonequilibrium synthesis of nature-inspired multicomponent iron salt</b> Simon Lepinay, University of Amsterdam</p>
15:45	<p>Oral presentation-04 <b>Biological Blueprints For Architected Impact Resistant Materials</b> David Kisailus, University of California at Irvine</p>
14:45 - 16:00	<p><b>OPTICAL CRYSTALS-06</b></p> <p>SG-II-1 Chair/s: Adolfo Speghini</p>
14:45	<p>Invited talk-01 <b>Parametric nonlinear optics with two-dimensional materials</b> Giulio Cerullo, Politecnico di Milano</p>
15:15	<p>Oral presentation-02 <b>Relationship of Single Crystal Growth and Luminescence Properties of Garnet-type Single Crystals for Radiation Dose-Rate Monitoring Systems</b> Daisuke Matsukura, Institute for Materials Research, Tohoku University</p>
15:30	<p>Oral presentation-03 <b>Growth of Large CsLiB<sub>6</sub>O<sub>10</sub> Crystal from Li-Poor Self-Flux</b> Masashi Yoshimura, Osaka University, et al.</p>
15:45	<p>Oral presentation-04 <b>Development of LYSB and Yb-doped LYSB crystals as new candidates for the next generation of nonlinear optical and/or laser crystals</b> Madalin Greculeasa, National Institute for Laser, Plasma and Radiation Physics, ECS Laboratory, Romania   Doctoral School of Physics, University of Bucharest, Faculty of Physics, Romania</p>

# TUE, 1 AUG – PARALLEL SESSIONS PM

14:45 - 16:00	<p><b>CRYSTALS FOR PHOTOVOLTAICS AND GREEN ENERGY-01</b></p> <p>SG-II-2 Chair/s: Jochen Friedrich, Stefano Rampino</p>
14:45	<p>Invited talk-01 <b>Study of III-V thin films growth directly on silicon by remote-plasma CVD: Towards a reduction in solar cell industrialisation costs</b> Lise Watrin, Ecole Polytechnique   Institut Photovoltaïque d'Ile-de-France (IPVF)</p>
15:15	<p>Oral presentation-02 <b>Effect of Cu-doping on crystallization and photovoltaic performance of Sb<sub>2</sub>Se<sub>3</sub> thin films.</b> Giulia Spaggiari, Department of Mathematical, Physical and Computer Sciences, University of Parma.   Institute of Materials for Electronics and Magnetism (IMEM), CNR.</p>
15:30	<p>Oral presentation-03 <b>Doping Effects of Conductivity Improvement in Anti-perovskite Na<sub>3</sub>OX Solid Electrolytes</b> Mariko Murayama, Department of Physics, Tokyo University of Science 1-3 Kagurazaka, Shinjuku-ku, Tokyo 162-8601, Japan</p>
15:45	<p>Oral presentation-04 <b>Si-Epitaxy with mixtures of trichlorosilane and silicon tetrachloride precursors at different temperatures</b> Marion Drießen, Fraunhofer-Institut for Solar Energy Systems ISE</p>
16:00 - 16:30	<p><b>COFFEE BREAK</b></p>
16:30 - 18:30	<p><b>POSTER SESSION 02</b></p>

# WED, 2 AUG

09:00 - 09:45

PLENARY LECTURE-03

Aula Magna  
Chair/s: Andrea Zappettini

**20 years crystal growth of solar silicon: my serendipity journey**  
Chung-wen Lan, Department of Chemical Engineering, National Taiwan University

# WED, 2 AUG – PARALLEL SESSIONS AM

09:45 - 10:45	<p><b>FUNDAMENTALS OF NUCLEATION AND CRYSTAL GROWTH-07</b></p> <p>Aula Magna Chair/s: Laura Fornaro</p>
09:45	<p>Invited talk-01 <b>How mild dissolution can actually promote bulk crystal growth--the case of dolomite <math>\text{CaMg}(\text{CO}_3)_2</math></b> Wenhao Sun, University of Michigan, Ann Arbor</p>
10:15	<p>Oral presentation-02 <b>Effect of the Anticaking Agent FeCN on the Creeping Properties of Alkali Halide Crystals</b> Elias Vlieg, Radboud University</p>
10:30	<p>Oral presentation-03 <b>Conversion of stable crystals to metastable crystals in a solution during temperature cycling</b> Hiroyasu Katsuno, Hokkaido University</p>
10:45	<p>Oral presentation-04 - <b>CANCELLED</b> <b>On fibrous growth during the discontinuous precipitation: A phase-field study</b> Lynda AMIROUCHE, 1Laboratoire de Physique Théorique, Faculté de Physique, U. S. T. H. B., BP 32, El Alia, BabEzzouar16311, Algiers</p>
09:45 - 11:00	<p><b>BULK CRYSTAL GROWTH-07</b></p> <p>SG-T-1 Chair/s: Giuseppe Falini</p>
09:45	<p>Invited talk-01 <b>Soft and deformable hydrated salt crystals under deliquescence</b> Noushine Shahidzadeh, University of Amsterdam/ Institute of Physics</p>
10:15	<p>Oral presentation-02 <b>Chemical textures on rare earth carbonates: an experimental approach to mimic the formation of bastnasite</b> Melanie Maddin, Trinity College Dublin</p>
10:30	<p>Oral presentation-03 <b>Oxalates for non-conventional greenhouse carbon mineralization</b> Linda Pastero, Università degli Studi di Torino</p>
10:45	<p>Oral presentation-04 <b>Transient epitaxial overgrowths in the <math>\text{CaCO}_3</math>-<math>\text{REECO}_3\text{OH}</math> system formed during mineral replacement reactions</b> Juan Diego Rodriguez-Blanco, Trinity College Dublin, et al.</p>

# WED, 2 AUG – PARALLEL SESSIONS AM

09:45 - 10:30	<p><b>CRYSTALLIZATION OF ORGANIC AND BIOLOGICAL SYSTEMS-03</b></p> <p>SG-T-2 Chair/s: Simona Fermani, Consiglia Tedesco</p>
09:45	<p>Invited talk-01 - <b>CANCELLED</b> <del>Microdialysis on chip crystallization of soluble and membrane proteins with the MicroCrys platform and <i>in situ</i> X-ray diffraction case studies</del> Monika Budayova – Spano, Université Grenoble Alpes/Institut de Biologie Structurale</p>
09:45	<p>Oral presentation-02 <b>Combined <i>in vivo</i> and <i>in vitro</i> studies of BaSO<sub>4</sub> formation in green alga <i>Spirogyra</i></b> Natercia Barbosa, Department of Physical Chemistry, University of Geneva   Department of Earth and Environmental sciences, University of Geneva</p>
10:00	<p>Oral presentation-03 <b>Adaptations to unusual environments: spines of sea urchins with cryptic morphologies</b> Devis Montroni, Department of Chemistry “Giacomo Ciamician”, Alma Mater Studiorum - University of Bologna, via Selmi 2, 40126, Bologna, Italy</p>
10:15	<p>Oral presentation-04 <b>Computational investigations of the formation mechanism of bone-like minerals from phospholipids</b> Nilson Kunioshi, Waseda University</p>
09:45 - 11:00	<p><b>SEMICONDUCTORS-01</b></p> <p>SG-I-1 Chair/s: Markus Pristovsek</p>
09:45	<p>Invited talk-01 <b>A study of iron-doped SiGe growth for thermoelectric applications</b> Sheng-Min Hu, Department of Chemical Engineering, National Taiwan University</p>
10:15	<p>Oral presentation-02 <b>Effect of oxygen concentration during growth on crystalline quality of <math>\beta</math>-Ga<sub>2</sub>O<sub>3</sub> crystals grown by crucible free growth techniques</b> Isao Takahashi, C &amp; A corporation   Tohoku university</p>
10:30	<p>Oral presentation-03 <b>Crystal Growth and Planar Defects of <math>\beta</math>-Ga<sub>2</sub>O<sub>3</sub> Single Crystal</b> Wenxiang Mu, Shandong University</p>
10:45	<p>Oral presentation-04 <b>Investigation of factors influencing the zone refining process of very high-purity germanium</b> Pradeep Chandra Palleti, Leibniz-Institute for Crystal Growth (IKZ), Max-Born Str. 2, 12489 Berlin, Germany</p>

# WED, 2 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<b>2D MATERIALS-01</b> SG-I-2 Chair/s: Silvia Milita, Joan M. Redwing
09:45	Invited talk-01 <b>Mass-producible graphene replacing Indium Tin-Oxide in OLEDs</b> Zhichao Weng, Queen Mary University of London
10:15	Oral presentation-02 <b>CVD graphene on Ge substrate: how properties are tuned by growth and annealing temperature</b> Luciana Di Gaspare, Dipartimento di Scienze, Università Roma Tre
10:30	Oral presentation-03 <b>Influence of the sapphire surface termination in the PECVD synthesis of graphene</b> Miguel Sinusia Lozano, Nanophotonics Technology Center, Universitat Politècnica de València, et al.
10:45	Oral presentation-04 <b>Synthesis of ZnO/WS<sub>2</sub> and ZnS/MoS<sub>2</sub> core-shell nanowires and possible applications</b> Boris Polyakov, Institute of Solid State Physics, University of Latvia, Latvia
09:45 - 11:00	<b>OPTICAL CRYSTALS-07</b> SG-II-1 Chair/s: Yunfei Shang
09:45	Invited talk-01 <b>Spatially Structured Optical Beams via Geometrical Phase</b> Ebrahim Karimi, University of Ottawa
10:15	Oral presentation-02 <b>Cyanurates with new types of <math>\pi</math>-conjugated anions for optical materials</b> Mingjun Xia, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences
10:30	Oral presentation-03 <b>Birefringence dispersion management of langasite nonlinear crystals for the improvement of mid-infrared amplification</b> Dazhi LU, Shandong University
10:45	Oral presentation-04 <b>LBO and RTP crystal growth improvement leading to large and optically perfect material</b> DENIS BALITSKI, CRISTAL LASER SAS

# WED, 2 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>TOPOLOGICAL QUANTUM MATERIALS-01</b></p> <p>SG-II-2 Chair/s: Mario Cuoco, Anna Isaeva</p>
09:45	<p>Invited talk-01 <b>Crystal growth and characterization of polymorphic PtBi<sub>2</sub></b> Saicharan Aswartham, IFW-Dresden</p>
10:15	<p>Oral presentation-02 <b>Development of a semiconductor-superconductor hybrid 2DEG with in-situ Nb.</b> Sjoerd Telkamp, ETH Zürich, Laboratory of Solid State Physics</p>
10:30	<p>Oral presentation-03 <b>MBE growth and topological phases of <math>\alpha</math>-Sn epilayers on insulating (001) CdTe/GaAs substrates</b> Valentyn Volobuev, Institute of Physics PAS/International Research Centre MagTop   National Technical University "KhPI"</p>
10:45	<p>Oral presentation-04 <b>Multiple Dirac points and surface nonlinear optics in topological semimetal HfGe<sub>0.92</sub>Te</b> Gang Wang, Institute of Physics, Chinese Academy of Sciences   University of Chinese Academy of Sciences</p>
11:00 - 11:30	<p><b>COFFEE BREAK</b></p>
11:30 - 12:45	<p><b>FUNDAMENTALS OF NUCLEATION AND CRYSTAL GROWTH-08</b></p> <p>Aula Magna Chair/s: Linda Pastero, Elias Vlieg, Katsuo Tsukamoto</p>
11:30	<p>Invited talk-01 <b>Harmonic light scattering probes structure and defects during the fast crystallization of ZIF-8</b> Stijn Van Cleuvenbergen, KULAK Div. KU Leuven</p>
12:00	<p>Oral presentation-02 <b>Faceted-Rough Surface in the Non-Equilibrium Steady State Near Equilibrium</b> Noriko Akutsu, Osaka Electro-Communication University</p>
12:15	<p>Oral presentation-03 <b>Effect of crystallization conditions for the enlargement of the size of DNA-functionalized nanoparticles crystals</b> Lidong Zhang, Grad. School of Eng. Nagoya Univ., Japan   IMaSS Nagoya Univ., Japan   Japan Synchrotron Radiation Research Institute., Japan</p>
12:30	<p>Oral presentation-04 <b>Molecular Dynamics Simulations of Small Organic Molecules in Confined Spaces</b> Luca Sironi, Università degli Studi di Milano</p>



# WED, 2 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<b>THIN FILMS AND EPITAXIAL GROWTH-03</b> SG-T-1 Chair/s: Bharat Jalan
11:30	Invited talk-01 <b>Epitaxial p-type Copper Iodide Thin Films with controlled Carrier Concentration grown by Pulsed Laser Deposition</b> Michael Lorenz, University Leipzig, Felix Bloch Institute for Solid State Physics, Semiconductor Physics Group, Leipzig, Germany
12:00	Oral presentation-02 <b>Evaluation of crystal quality of 3C-SiC layers grown on vicinal carbon-face 4H-SiC substrates with various off-orientations and off-angles</b> Hiroyuki Sazawa, National Institute of Advanced Industrial Science and Technology Advanced Power Electronics Research Center
12:15	Oral presentation-03 <b>Grown Considering Lattice Mismatch and Crystal Quality and Magneto-Optical Properties of Bismuth and Manganese co-doped Rare Earth Iron Garnet Crystal</b> Anhua Wu, Key Laboratory of Transparent Optical Functional Inorganic Materials, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 201899, China   Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China
12:30	Oral presentation-04 <b>Surprising Surfactant Properties of Zn in MOVPE Grown III-V Materials</b> Ayse Ozcan Atar, Tyndall National Institute
11:30 - 12:45	<b>BULK CRYSTAL GROWTH-08</b> SG-T-2 Chair/s: Hanna Dabkowska
11:30	Invited talk-01 <b>High-pressure growth of BaPrO<sub>3</sub> single crystal</b> Dharmalingam Prabhakaran, University of Oxford
12:00	Oral presentation-02 <b>High-purity single crystal growth of Sm<sub>1-x</sub>Y<sub>x</sub>FeO<sub>3</sub> using the zone-refining process in an optical float zone furnace</b> Suja Elizabeth Saji, Indian Institute of Science
12:15	Oral presentation-03 <b>Unravelling Superstructure and Electronic Ordering in LiNiO<sub>2</sub> bulk single crystals grown by Optical floating zone technique</b> Uthayakumar Sivaperumal, Department of Physics, Royal Holloway, University of London, Egham, TW20 0EX, United Kingdom   ISIS Pulsed Neutron and Muon Source, STFC Rutherford Appleton Laboratory, Didcot, Oxfordshire OX11 0QX, United Kingdom, et al.
12:30	Oral presentation-04 <b>Growth and characterization of Dy<sub>(1-x)</sub>Sm<sub>(x)</sub>MnO<sub>3</sub> single crystals by optical floating zone technique</b> Anandha babu Govindan, Sri Sivasubramaniya Nadar College of Engineering

# WED, 2 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>SEMICONDUCTORS-02</b></p> <p>SG-I-1 Chair/s: Siddha Pimputkar</p>
11:30	<p>Invited talk-01 <b>Detailed study of HVPE-GaN doped with silicon</b> Mikolaj Amilusik, Institute of High Pressure Physics Polish Academy of Sciences</p>
12:00	<p>Oral presentation-02 <b>High electron density of Sn-doped GaN layer by halide vapor phase epitaxy</b> Kansuke Hamasaki, Department of Electronics, Nagoya University, et al.</p>
12:15	<p>Oral presentation-03 <b>Characteristics of high order silane-based Si and SiGe epitaxial growth under 600°C</b> Dongmin Yoon, Yonsei University, Seoul, Republic of Korea</p>
12:30	<p>Oral presentation-04 <b>Suppression of Inclusions in GaN Crystals Formed During Na-Flux Growth Through the Flux-Film-Coated Technique</b> Masayuki Imanishi, Graduate School of Engineering, Osaka University</p>
11:30 - 12:45	<p><b>2D MATERIALS-02</b></p> <p>SG-I-2 Chair/s: Silvia Milita, Joan M. Redwing</p>
11:30	<p>Invited talk-01 <b>Spatially Controlled Growth of 2D Materials</b> Zakaria Al Balushi, University of California, Berkeley</p>
12:00	<p>Oral presentation-02 <b>Elemental Phosphorus Single Crystals: Growth and Application</b> Qingfeng Yan, Department of Chemistry, Tsinghua University</p>
12:15	<p>Oral presentation-03 <b>Photoluminescent Properties in 2D (C<sub>6</sub>H<sub>5</sub>CH<sub>2</sub>NH<sub>3</sub>)<sub>2</sub>(Pb,Mn)Br<sub>4</sub> Layered Metal Halide</b> Marta Campolucci, University of Genoa</p>
12:30	<p>Oral presentation-04 <b>Air passivation effect on two-dimensional InSe crystals and design for high-quality Schottky junctions</b> Qinghua Zhao, Northwestern Polytechnical University/School of Materials Science and Engineering</p>

# WED, 2 AUG

11:30 - 12:45	<p><b>CRYSTALS FOR PHOTOVOLTAICS AND GREEN ENERGY-02</b></p> <p>SG-II-1 Chair/s: Jochen Friedrich, Stefano Rampino</p>
11:30	<p>Invited talk-01 <b>Heteroepitaxial growth of ZnTiN<sub>2</sub> photoabsorbers on GaN for photoelectrochemical CO<sub>2</sub> reduction application</b> John Mangum, National Renewable Energy Laboratory, et al.</p>
12:00	<p>Oral presentation-02 <b>Flux growth of (Oxy)nitride and Oxysulfide Crystals in an Ammonia Atmosphere</b> Katsuya Teshima, Research Initiative for Supra-Materials, Shinshu university, Japan   Faculty of engineering, Shinshu university, Japan   Verne Crystal Inc., Japan</p>
12:15	<p>Oral presentation-03 <b>X-ray topographic characterization of structural defects in thick epitaxial silicon for solar cells</b> Paul Wimmer, Fraunhofer Institute for Integrated Systems and Device Technology IISB, Department Materials, Schottkystrasse 10, Erlangen, 91058, Germany</p>
12:30	<p>Oral presentation-04 <b>Perfect single crystals of novel chalcogenides for photovoltaics, grown by chemical vapor transport</b> Yvonne Tomm, Helmholtz-Zentrum Berlin</p>
11:30 - 12:45	<p><b>TOPOLOGICAL QUANTUM MATERIALS-02</b></p> <p>SG-II-2 Chair/s: Mario Cuoco, Anna Isaeva</p>
11:30	<p>Invited talk-01 <b>Crystal growth of candidate materials for topological Kondo semimetals</b> Andrey Prokofiev, Technische Universitaet Wien Institute of Solid State Physics</p>
12:00	<p>Oral presentation-02 <b>Searching for ideal Bi-system topological insulator, Pb-system topological crystalline insulator and their topological superconductor</b> genda gu, Brookhaven National Laboratory</p>
12:15	<p>Oral presentation-03 <b>Crystal Growth, Structure, and Magnetism of the 2D Equilateral Triangular Lattice Fluorides</b> Shu Guo, Shenzhen Institute for Quantum Science and Engineering, Southern University of Science and Technology, Shenzhen 518055, China   International Quantum Academy, Shenzhen 518048, China</p>
12:30	<p>Oral presentation-04 <b>3D Topological Insulator eutectic heterostructures: enabled by crystal growth</b> Kingshuk Bandopadhyay, ENSEMBLE3 Centre of Excellence, Wolczynska 133, 01-919 Warsaw, Poland, et al.</p>

# WED, 2 AUG

12:45 - 14:00	LUNCH
14:00 - 18:30	EXCURSION

# THU, 3 AUG

09:00 - 09:45

PLENARY LECTURE-04

Aula Magna  
Chair/s: Geetha Balakrishnan

**Selective area epitaxy for next generation quantum computing and photovoltaics**

Anna Fontcuberta i Morral, EPFL

# THU, 3 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p style="background-color: #008000; color: white; padding: 2px;"><b>FUNDAMENTALS OF NUCLEATION AND CRYSTAL GROWTH-09</b></p> <p>Aula Magna Chair/s: Linda Pastero, Elias Vlieg</p>
09:45	<p>Invited talk-01 <b>Rational Reduction of Computationally Predicted Crystal Energy Landscapes with Molecular Dynamics</b> Matteo Salvalaglio, University College London</p>
10:15	<p>Oral presentation-02 <b>A universal model of bulk GaN growth</b> Tomasz Sochacki, Institute of High Pressure Physics Polish Academy of Sciences, et al.</p>
10:30	<p>Oral presentation-03 <b>Modelling crystallization: When interfacial velocity depends on the expiring supersaturation</b> Vesselin Tonchev, Faculty of Physics, Sofia University, 1164 Sofia, Bulgaria</p>
10:45	<p>Oral presentation-04 <b>First-principles analysis of the activation energy of solute-additive bonds in the solvent of SiC solution growth</b> Shota Seki, Nagoya University, et al.</p>
09:45 - 11:00	<p style="background-color: #008000; color: white; padding: 2px;"><b>THIN FILMS AND EPITAXIAL GROWTH-04</b></p> <p>SG-T-1 Chair/s: Michael Lorenz</p>
09:45	<p>Invited talk-01 <b>Free-Standing Epitaxial SrTiO<sub>3</sub> Nanomembranes via Remote Epitaxy using Hybrid Molecular Beam Epitaxy</b> Bharat Jalan, University of Minnesota</p>
10:15	<p>Oral presentation-02 <b>Charge-Transfer Engineering at Polar Double-Perovskite/Perovskite Interfaces</b> Gabriele De Luca, University of Zurich, Switzerland   Instituto de Ciencia de Materiales de Barcelona (ICMAB-CSIC), et al.</p>
10:30	<p>Oral presentation-03 <b>Bandgap study of MBE grown {CdO/MgO} superlattices</b> Abinash Adhikari, Institute of Physics, Polish Academy of Sciences, Al. Lotnikow, 32/46, 02-668, Warsaw, Poland., et al.</p>
10:45	<p>Oral presentation-04 <b>Epitaxial growth of insulating oxides on germanium substrates (001) by pulsed laser deposition</b> Ana Garcia-Prieto, BM25-SpLine The Spanish CRG Beamline at the European Synchrotron Radiation Facility, CS40220 38043 Grenoble Cedex 9 France   ICMM-CSIC Materials Science Institute of Madrid, Sor Juana Ines de la Cruz Cantoblanco 28049 Madrid España</p>

# THU, 3 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>BULK CRYSTAL GROWTH-09</b></p> <p>SG-T-2 Chair/s: Ryan Morrow</p>
09:45	<p>Invited talk-01 <b>Optimization of single-crystal growth of the quantum spin liquid candidate NdTa<sub>7</sub>O<sub>19</sub> by flux method</b> Lia Šibav, Jožef Stefan Institute, Jamova cesta 39, 1000 Ljubljana, Slovenia   Jožef Stefan International Postgraduate School, Jamova cesta 39, 1000 Ljubljana, Slovenia</p>
10:15	<p>Oral presentation-02 <b>Growth and characterization of high quality La<sub>2</sub>CoO<sub>4.25</sub> single crystals</b> Monica CERETTI, CNRS / Institut Charles Gerhardt Montpellier (ICGM)</p>
10:30	<p>Oral presentation-03 <b>Crystal growth, phase stability and structural transition of orthorhombic Sr<sub>2</sub>TiO<sub>4</sub></b> Enrico Giannini, University of Geneva</p>
10:45	<p>Oral presentation-04 <b>Floating-zone growth of single-crystal olivine (Mg<sub>1-x</sub>Fe<sub>x</sub>)<sub>2</sub>SiO<sub>4</sub></b> Yong Liu, Crystal Growth Facility, Institute of Physics, École Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland   College of Humanities, École Polytechnique Fédérale de Lausanne, CH-1015 Lausanne, Switzerland</p>
09:45 - 10:45	<p><b>SEMICONDUCTORS-03</b></p> <p>SG-I-1 Chair/s: Jeffrey Derby</p>
09:45	<p>Invited talk-01 <b>Computational Fluid Dynamics modeling of a Novel High-Pressure Spatial Chemical Vapor Deposition Reactor (HPS-CVD) Design for Growth of Indium-Containing Nitrides</b> Siddha Pimputkar, Department of Materials Science and Engineering, Center for Photonics and Nanoelectronics, Lehigh University, Bethlehem, PA 18015, USA</p>
10:15	<p>Oral presentation-02 <b>Growth and thermal properties of InSe crystal by using the ground simulation apparatus of China space station</b> Min Jin, College of Materials, Shanghai Dianji University</p>
10:30	<p>Oral presentation-03 <b>Suppression of Polycrystal Nucleation by Pre-Mixed Gas of Nitrogen and Methane in the Na-Flux Method</b> Kazuma Hamada, Graduate School of Engineering, Osaka University</p>
10:45	<p>Oral presentation-04 <b>Cesium Lead Bromide Crystal Growth: An investigation guided by lessons learned from the family of heavy metal compounds for radiation detection</b> Gilad Orr, Ariel University</p>

# THU, 3 AUG – PARALLEL SESSIONS AM

10:45

Oral presentation-04 - **CANCELLED**

**Growth of High Resistive  $\text{Cd}_{0.85}\text{Mn}_{0.15}\text{Te}$  Single Crystal Using Vertical Bridgman Method for Ambient Temperature Gamma-Ray Detectors**

Manivel Rajan, Department of Physics, Sri Sivasubramaniya Nadar College of Engineering, Chennai, India



# THU, 3 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>2D MATERIALS-03</b></p> <p>SG-I-2 Chair/s: Zakaria Y. Al Balushi</p>
09:45	<p>Invited talk-01 <b>Two-Dimensional Xenex: Synthesis, Processing, and Manipulation</b> Alessandro Molle, Consiglio Nazionale delle Ricerche (CNR), Istituto per la Microelettronica e Microsistemi (IMM)</p>
10:15	<p>Oral presentation-02 <b>X-ray quantitative investigation of <i>in situ</i> grown 2D Transition metal dichalcogenide <math>TiS_2</math> prepared by hybrid ALD/MLD</b> Ashok Kumar Yadav, Synchrotron SOLEIL, Beamline SIRIUS, L'Orme des Merisiers, Saint-Aubin, F-91192, Gif sur Yvette, France, et al.</p>
10:30	<p>Oral presentation-03 <b>Bismuth tri-iodide – Graphene 2D material</b> Laura Fornaro, Universidad de la República/Centro Universitario Regional del Este/ Departamento de Desarrollo Tecnológico</p>
10:45	<p>Oral presentation-04 <b>Magnetic spin textures in intercalated transition metal dichalcogenides.</b> Daniel Mayoh, University of Warwick</p>
09:45 - 11:00	<p><b>SURFACES AND INTERFACES-01</b></p> <p>SG-II-1 Chair/s: Raffaella Calarco, Letizia Savio</p>
09:45	<p>Invited talk-01 <b>Epitaxial Rules for van der Waals Epitaxy from <math>(GeTe)_m(Sb_2Te_3)_n</math> Phase Change Material Alloys</b> Fabrizio Arciprete, Department of Physics, University of Rome Tor Vergata, Italy   Paul-Drude-Institut für Festkörperelektronik, Berlin, Germany</p>
10:15	<p>Oral presentation-02 <b>Coherent X-ray measurement of local step-flow propagation during polycrystalline organic semiconductor thin film growth with desorption</b> Randall Headrick, University of Vermont</p>
10:30	<p>Oral presentation-03 <b>In situ observation of instability of crystal/melt interface in pure Sb and <math>Sb_{1-x}Bi_x</math></b> Kensaku Maeda, Tohoku University</p>
10:45	<p>Oral presentation-04 <b><i>In situ</i> reflection electron microscopy for investigation of surface processes on <math>Bi_2Se_3(0001)</math> during adsorption, sublimation, and growth</b> Dmitry Rogilo, Rzhanov Institute of Semiconductor Physics SB RAS</p>

# THU, 3 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>GROWTH AT THE NANOSCALE: NANOCRYSTALS, NANOWIRES, NANOMATERIALS-02</b></p> <p>SG-II-2 Chair/s: Richard Noetzel</p>
09:45	<p>Invited talk-01 <b>MOVPE self-assembly and nano-scale properties of III-V core-(multi)shell nanowires for photonics and photovoltaics</b> Paola Prete, IMM-CNR, et al.</p>
10:15	<p>Oral presentation-02 <b>Pushing group IV epitaxy by means of UHV-CVD: high-quality Ge/SiGe heterostructures for integrated photonic devices</b> Monica De Seta, Dipartimento di Scienze Università Roma Tre, Rome Italy</p>
10:30	<p>Oral presentation-03 <b>Femtosecond laser induced periodic surface structuring of Bi<sub>2</sub>Te<sub>3</sub> crystal</b> Jijil JJ Nivas, Università di Napoli Federico II   CNR-SPIN, UOS Napoli</p>
10:45	<p>Oral presentation-04 <b>Directional growth of antimony triselenide by molecular beam epitaxy</b> Piotr Wojnar, Institute of Physics Polish Academy of Sciences</p>
11:00 - 11:30	<p>COFFEE BREAK</p>
11:30 - 12:45	<p><b>BULK CRYSTAL GROWTH-10</b></p> <p>Aula Magna Chair/s: Rosalba Fittipaldi</p>
11:30	<p>Invited talk-01 <b>Novel photonic materials enabled by crystal growth</b> Dorota Pawlak, ENSEMBLE3 Centre of Excellence, Poland</p>
12:00	<p>Oral presentation-02 <b>Hydrothermal growth of synthetic Rouaite (Cu<sub>2</sub>(NO<sub>3</sub>)(OH)<sub>3</sub>): A frustrated S=1/2 triangular-lattice magnet</b> Aswathi Mannathanath Chakkingal, INSTITUTE OF SOLID STATE AND MATERIALS PHYSICS, TU DRESDEN</p>
12:15	<p>Oral presentation-03 <b>Advances in VGF Crystal Growth of Cd<sub>1-x</sub>Zn<sub>x</sub>Te<sub>1-y</sub>Se<sub>y</sub> Alloys</b> José Luis Plaza, Crystal Growth Laboratory, Department of Materials Science, Faculty of Science, University Autónoma of Madrid, Spain</p>
12:30	<p>Oral presentation-04 <b>In-situ determination of crystal-melt interface shape evolutions via probing growth interface electromotive force</b> Yunzhong Zhu, Sun Yat-Sen University</p>

# THU, 3 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>TOPOLOGICAL QUANTUM MATERIALS-03</b></p> <p>SG-T-1 Chair/s: Mario Cuoco, Anna Isaeva</p>
11:30	<p>Invited talk-01 <b>Design of new topological materials</b> Carmine Autieri, International Research Centre MagTop, Institute of Physics, Polish Academy of Sciences, Aleja Lotników 32/46, PL-02668 Warsaw, Poland</p>
12:00	<p>Oral presentation-02 <b>Bismuth chalcogenides topological insulators crystals grown by optical floating zone technique</b> Anita Guarino, CNR-SPIN Salerno</p>
12:15	<p>Oral presentation-03 <b>Effects of Fe Deficiency and Co Substitution in Single Crystals of Fe<sub>3</sub>GeTe<sub>2</sub></b> Daniel Mayoh, University of Warwick</p>
12:30	<p>Oral presentation-04 <b>Crystal growth and structural variations of the perspective magnetic topological insulators Mn<sub>1+x</sub>Sb<sub>2-2x/3</sub>Te<sub>4</sub> (MST)</b> Ekaterina Kochetkova, Institute of Solid State Research, Leibniz IFW Dresden, Germany   Technische Universität Dresden, Germany</p>
11:30 - 12:45	<p><b>THIN FILMS AND EPITAXIAL GROWTH-05</b></p> <p>SG-T-2 Chair/s: Luca Pellegrino</p>
11:30	<p>Invited talk-01 <b>Novel (Euln)As/InAsSb Nanowires Grown by MBE</b> Hadas Shtrikman, Weizmann Institute of Science   Polish Academy of Science   Bar-Ilan University</p>
12:00	<p>Oral presentation-02 <b>Free-standing InSb nanostructures: growth, morphology control and electrical characterization</b> Lucia Sorba, NANO-CNR</p>
12:15	<p>Oral presentation-03 <b>Growth of Aluminum Nitride Thin Films by Thermal Laser Epitaxy</b> Dong Yeong Kim, Max Planck Institute for Solid State Research</p>
12:30	<p>Oral presentation-04 <b>Surface Stability of Reconstructions on BAs(001) Surface: An Ab Initio-Based Approach</b> PeiYang Cai, Grad. School of Eng. Nagoya Univ., Japan   Grad. School of Eng. Mie Univ., Japan   IMaSS Nagoya Univ., Japan, et al.</p>

# THU, 3 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>SEMICONDUCTORS-04</b></p> <p>SG-I-1 Chair/s: Roberto Fornari</p>
11:30	<p>Invited talk-01 <b>Growth of <math>\text{AlP}_y\text{N}_{1-y}</math> on GaN by Metal-Organic Vapour Phase Epitaxy</b> Markus Pristovsek, Nagoya University</p>
12:00	<p>Oral presentation-02 <b>Thermodynamic Analysis of Oxide Vapor Phase Epitaxy of GaN</b> Yuki Sakurai, Osaka University, et al.</p>
12:15	<p>Oral presentation-03 <b>Origins of Epitaxial Surface Haze on GaN Substrates for kV Power Devices</b> Mark Goorsky, Materials Science and Engineering, University of California Los Angeles, USA</p>
12:30	<p>Oral presentation-04 <b>Preliminary studies on halide vapor phase epitaxy of AlGaIn alloy on GaN substrates</b> Tomasz Sochacki, Institute of High Pressure Physics Polish Academy of Sciences, et al.</p>
11:30 - 12:45	<p><b>2D MATERIALS-04</b></p> <p>SG-I-2 Chair/s: Alessandro Molle</p>
11:30	<p>Invited talk-01 <b>IN SITU Characterisation of Graphene Growth on Liquid Metal Catalysts by Chemical Vapour Deposition</b> Valentina Belova, European Synchrotron Radiation Facility - ESRF, et al.</p>
12:00	<p>Oral presentation-02 <b>Growth of high purity CVD-grown <i>h</i>-BN using <math>\text{B}_2\text{H}_6</math> and <math>\text{NH}_3</math></b> Hisashi Yamada, The National Institute of Advanced Industrial Science and Technology</p>
12:15	<p>Oral presentation-03 <b>Crystal Phase Engineering of Silicene on Ag(111) by Molecular Beam Epitaxy Via Interface Engineering</b> Daya Dhungana, CNR-IMM</p>
12:30	<p>Oral presentation-04 <b>Anisotropic Magnetic Properties of the Layered Antiferromagnet <math>\text{LiCrTe}_2</math></b> Catherine Witteveen, University of Geneva</p>

# THU, 3 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>SURFACES AND INTERFACES-02</b></p> <p>SG-II-1 Chair/s: Raffaella Calarco, Letizia Savio</p>
11:30	<p>Invited talk-01 <b>Interfacing doped graphene with metal surfaces or molecular layers.</b> Cristiana Di Valentin, University of Milano Bicocca</p>
12:00	<p>Oral presentation-02 <b>Near Ambient Pressure reaction under graphene cover on Ni(111)</b> Giovanni Carraro, CNR-IMEM Genova</p>
12:15	<p>Oral presentation-03 <b>Low energy electronic structure in strontium ruthenates: from surface distortions to magnetic-field control of the electronic structure</b> Luke Rhodes, University of St Andrews</p>
12:30	<p>Oral presentation-04 <b>Cu-phthalocyanine long range ordered bulk growth due to the weak interaction with highly oriented pyrolytic graphite</b> Daniele Paoloni, Università degli studi Roma Tre</p>
11:30 - 12:45	<p><b>Growth at the nanoscale: nanocrystals, nanowires, nanomaterials-03</b> SG-II-2 Chair/s: Francesco Montalenti</p>
11:30	<p>Invited talk-01 <b>New Insights into Surfactant and Doping Effects in GaAs Nanowire Growth</b> Gregor Koblmüller, Walter Schottky Institut School of Natural Sciences Technical University of Munich</p>
12:00	<p>Oral presentation-02 <b>Surfactant-mediated Selective Area Growth of Germanium Nanowires.</b> Santhanu Panikar Ramanandan, Institute of Materials, Ecole Polytechnique Fédérale de Lausanne (EPFL), Switzerland</p>
12:15	<p>Oral presentation-03 <b>Nanocrystal growth of weak acid derivatives driven by acid-base neutralization</b> Arnaud Magrez, Crystal Growth Facility Ecole Polytechnique Fédérale de Lausanne - EPFL</p>
12:30	<p>Oral presentation-04 <b>Interplay between crystal structure and optical response in Plateau–Rayleigh Zn<sub>2</sub>GeO<sub>4</sub>/SnO<sub>2</sub> heterostructures</b> Jaime Dolado, European Synchrotron Radiation Facility (ESRF)</p>

# THU, 3 AUG

12:45 - 14:00	LUNCH
13:00 - 14:30	ENCG COUNCIL MEETING
13:50 - 14:00	INDUSTRIAL TALK: PHOTONIC SCIENCE AND ENGINEERING
14:00 - 14:45	SCHIEBER PRIZE Aula Magna Chair/s: Jeffrey Derby Bharat Jalan, University of Minnesota
14:45 - 16:00	IOCG GENERAL ASSEMBLY
16:00 - 16:30	COFFEE BREAK
16:00 - 17:00	IOCG EXECUTIVE COMMITTEE MEETING
16:30 - 18:30	POSTER SESSION 03

# FRI, 4 AUG

09:00 - 09:45

## PLENARY LECTURE-05

Aula Magna  
Chair/s: Antonio Vecchione

### **Oxide interfaces: a versatile platform for material design and ultrafast light control**

Andrea Caviglia, Department of Quantum Matter Physics, University of Geneva,  
24 Quai Ernest Ansermet, Geneva CH-1211, Switzerland

# FRI, 4 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>THIN FILMS AND EPITAXIAL GROWTH-06</b></p> <p>Aula Magna Chair/s: Fabio Miletto-Granozio</p>
09:45	<p>Invited talk-01 <b>The role of epitaxy in microelectromechanical systems made with transition metal oxide films</b> Luca Pellegrino, CNR-SPIN</p>
10:15	<p>Oral presentation-02 <b>Fabrication of face-to-face annealed sputter-deposited AlN templates with screw-dislocation densities of <math>10^3</math>-<math>10^4</math> cm<sup>-2</sup></b> Hideto Miyake, Mie University</p>
10:30	<p>Oral presentation-03 <b>Atomically sharp domain walls in epitaxial CuMnAs</b> Filip Krizek, Institute of Physics of the Czech Academy of Sciences</p>
10:45	<p>Oral presentation-04 <b>Growth of Commensurately Strained KTaO<sub>3</sub> by Suboxide Molecular-Beam Epitaxy</b> Tobias Schwaigert, Platform for the Accelerated Realization, Analysis, and Discovery of Interface Materials (PARADIM), Cornell University, Ithaca, NY 14853, USA   Department of Materials Science and Engineering, Cornell University, Ithaca, NY 14853, USA</p>
09:45 - 11:00	<p><b>2D MATERIALS-05</b></p> <p>SG-T-1 Chair/s: Raffaella Calarco</p>
09:45	<p>Invited talk-01 <b>Effect of pre-anneal chemistry on the growth and properties of epitaxial MoS<sub>2</sub> on sapphire</b> Nicholas Trainor, The Pennsylvania State University</p>
10:15	<p>Oral presentation-02 <b>Scalable growth of atomically-thin MoS<sub>2</sub> layers in conventional MOCVD system using molybdenum oxychloride as the molybdenum source.</b> Xu Yang, Nagoya University</p>
10:30	<p>Oral presentation-03 <b>Spectroscopic Ellipsometry for In Situ Monitoring of MoS<sub>2</sub> Growth at the Sub-Monolayer Limit</b> Thomas McKnight, The Pennsylvania State University</p>
10:45	<p>Oral presentation-04 <b>Impact of chemistry on the interface with substrate of MoS<sub>2</sub> nanosheets grown by ambient pressure chemical vapor deposition</b> Alessio Lamperti, CNR-IMM, Unit of Agrate Brianza</p>



# FRI, 4 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>GROWTH AT THE NANOSCALE: NANOCRYSTALS, NANOWIRES, NANOMATERIALS-04</b></p> <p>SG-T-2 Chair/s: Stefano Sanguinetti</p>
09:45	<p>Invited talk-01 <b>Two topics on InGaN-based photoelectrochemical sensors</b> Richard Noetzel, South China Normal University</p>
10:15	<p>Oral presentation-02 <b>Growth of Doped ZnO:GO hybrid nanostructure for piezoelectric wearable sensors and energy harvesters</b> Binay Kumar, University of Delhi</p>
10:30	<p>Oral presentation-03 <b>Red emission thin nanocolumns with diameters less than 200 nm prepared by nano-template selective area growth</b> Shunsuke Kudo, Sophia University</p>
10:45	<p>Oral presentation-04 <b>Cathodoluminescence of InP-InGaP Nanowires</b> Irene Mediavilla, Universidad de Valladolid, Valladolid, Spain</p>
09:45 - 11:00	<p><b>SEMICONDUCTORS-05</b></p> <p>SG-I-1 Chair/s: Mark Goorsky</p>
09:45	<p>Invited talk-01 <b>Comparative Etching Study of Dislocations in Bulk GaN grown by HVPE, Na-Flux and Ammonothermal method</b> Bhavpreeta Pratap Charan, Graduate School of Engineering, Osaka University</p>
10:15	<p>Oral presentation-02 <b><math>\beta</math>-Ga<sub>2</sub>O<sub>3</sub> thin films grown by Pulsed Electron Deposition</b> Stefano Rampino, IMEM-CNR   University of Parma, et al.</p>
10:30	<p>Oral presentation-03 <b>Macrostep flow behavior in 4H-SiC solution growth with different solvent compositions and surface orientations</b> Takeshi Mitani, National Institute of Advanced Industrial Science and Technology</p>
10:45	<p>Oral presentation-04 <b>Understanding Transport and Kinetic Effects during High-Pressure, High-Temperature (HPHT) Growth of Single-Crystal Diamond</b> Jeffrey Derby, University of Minnesota, et al.</p>

# FRI, 4 AUG – PARALLEL SESSIONS AM

09:45 - 11:00	<p><b>STRUCTURAL DEFECTS AND IMPURITIES IN CRYSTALLINE MATERIALS-02</b></p> <p>SG-I-2 Chair/s: Claudio Ferrari, Jean-Pierre Landesman</p>
09:45	<p>Invited talk-01 <b>Methods for Nanoscale Strain and Stress Mapping in Thin Films</b> Jozef Keckes, Montanuniversität Leoben</p>
10:15	<p>Oral presentation-02 <b>Influence of growth process and crystal defects on sapphire brittleness</b> Thierry Duffar, Grenoble Institute of Technology</p>
10:30	<p>Oral presentation-03 <b>Thermal equilibrium point defects in Si</b> Kentaro Kutsukake, Tohoku University</p>
10:45	<p>Oral presentation-04 <b>Methodology of line dislocation density mapping in aluminum bulk crystals using high energy X-ray transmission topography for quality control in crystal growth</b> Roland Weingärtner, Fraunhofer Institute for Integrated Systems and Device Technology IISB</p>
11:00 - 11:30	<p>COFFEE BREAK</p>
11:30 - 12:45	<p><b>THIN FILMS AND EPITAXIAL GROWTH-07</b></p> <p>Aula Magna Chair/s: Lucia Sorba</p>
11:30	<p>Invited talk-01 <b>MBE growth of terahertz quantum cascade lasers – the challenges and opportunities of working with the GaAs-AlGaAs materials system</b> Edmund Linfield, University of Leeds</p>
12:00	<p>Oral presentation-02 <b>Low temperature growth of magnesium gallate crystalline films</b> Qixin GUO, Saga University</p>
12:15	<p>Oral presentation-03 <b>Structural properties of ultra-thin Bi<sub>2</sub>Te<sub>3</sub> topological insulator on GaAs(100)</b> Sukarno Ferreira, Departamento de Física, Universidade Federal de Viçosa, Brazil</p>
12:30	<p>Oral presentation-04 <b>Long-range magnetic order in Mn<sub>2</sub>GaC films studied by NMR</b> Marek Wójcik, Institute of Physics, Polish Academy of Sciences</p>

# FRI, 4 AUG – PARALLEL SESSIONS AM

11:30 - 12:30	<p><b>2D MATERIALS-06</b></p> <p>SG-T-1 Chair/s: Nicholas Trainor</p>
11:30	<p>Invited talk-01 <b>Transformation of Epitaxial Gallium Telluride Hexagonal Phase into Two-Dimensional Single Crystal Monoclinic</b> Raffaella Calarco, Walter-Schottky-Institut and TUM School of Natural Sciences, Technische Universität München, Am Coulombwall 4, 85748 Garching, Germany   Dipartimento di Fisica, Università di Roma "Tor Vergata", Via della Ricerca Scientifica 1, 00133, Rome, Italy   CNR Institute for Microelectronics and Microsystems (IMM), Consiglio nazionale delle ricerche (CNR), Via del Fosso del Cavaliere 100, 00133, Rome, Italy</p>
12:00	<p>Oral presentation-02 <b>Novel quasicrystalline approximants in two-dimensional oxides</b> Vincent Fournée, Institut Jean Lamour, CNRS -University of Lorraine</p>
12:15	<p>Oral presentation-03 <b>Graphene nucleation on (100)Si using toluene as carbon precursor: A DFT study on early-decomposition steps and anthracene formation</b> Nico Lovergine, IMM-CNR, et al.</p>
12:30	<p><del>Oral presentation-04 - <b>CANCELLED</b></del> <del><b>Tuning of the topological Hall effect in <math>A_x\text{RhO}_2</math> (<math>A=\text{K, Rb, and Cs}</math>) crystals and realizing metastable van der Waals crystalline <math>\text{RhO}_2</math> magnet by Topochemical method</b></del> <del>Shuhua Yao, Nanjing university</del></p>
11:30 - 12:45	<p><b>GROWTH AT THE NANOSCALE: NANOCRYSTALS, NANOWIRES, NANOMATERIALS-05</b></p> <p>SG-T-2 Chair/s: Paola Prete</p>
11:30	<p>Invited talk-01 <b>Modeling growth of epitaxial nanostructures by continuum methods and machine learning</b> Francesco Montalenti, Università di Milano-Bicocca</p>
12:00	<p>Oral presentation-02 <b>Growth of metal oxide semiconductor microcrystals by optical vapor supersaturated precipitation: mechanism, equipment and applications</b> Yinzhou Yan, Beijing University of Technology</p>
12:15	<p>Oral presentation-03 <b>Evolution of disorder in crystalline structures between single crystal and polycrystal via chemical and physicochemical approaches</b> Hiroaki Imai, Keio University</p>
12:30	<p>Oral presentation-04 <b>A Growth Model for Selective Area Epitaxy of Horizontal GaAs Nanoridges by MOVPE</b> Valerio Piazza, Ecole Polytechnique Fédérale de Lausanne - EPFL</p>

# FRI, 4 AUG – PARALLEL SESSIONS AM

11:30 - 12:45	<p><b>INDUSTRIAL CRYSTAL GROWTH TECHNOLOGY AND EQUIPMENT-01</b></p> <p>SG-I-1 Chair/s: Jaime Gómez-Morales, Jose Luis Plaza</p>
11:30	<p>Invited talk-01 <b>New cold crucible technology for single crystal growth</b> Kader ZAIDAT, 1Univ. Grenoble Alpes, SIMAP, F-38000 Grenoble, France</p>
12:00	<p>Oral presentation-02 <b>Scaling bulk crystal growth processes between industry and research</b> Kaspars Dadzis, Leibniz Institute for Crystal Growth (IKZ)</p>
12:15	<p>Oral presentation-03 <b>Crystal orientation quantification in less than 10 seconds</b> Lars Grieger, MalvernPanalytical B.V.</p>
12:30	<p>Oral presentation-04 <b>New developments of KRISTMAG® technology for improved semiconductor crystal growth</b> Christiane Frank-Rotsch, Leibniz-Institut für Kristallzüchtung</p>
11:30 - 12:45	<p><b>STRUCTURAL DEFECTS AND IMPURITIES IN CRYSTALLINE MATERIALS-03</b></p> <p>SG-I-2 Chair/s: Claudio Ferrari</p>
11:30	<p>Invited talk-01 <b>Spatially resolved luminescence properties of quantum well etched microstructures</b> Jean-Pierre Landesman, University Rennes</p>
12:00	<p>Oral presentation-02 <b>Heavy ion irradiation introduced defects in CdZnTe crystals and their effects on carrier transport properties</b> Lingyan Xu, Northwestern Polytechnical University</p>
12:15	<p>Oral presentation-03 <b>Ultraviolet emission properties of undoped and indium-doped bulk zinc oxide single crystals irradiated with gamma rays</b> Keito Shinohara, Institute of Laser Engineering, Osaka University</p>
12:30	<p>Oral presentation-04 <b>Generation and Expansion of Stacking Faults in Physical Vapor Transport grown 4H-SiC Single-crystals</b> Rong Wang, Zhejiang University</p>
12:45 - 13:00	<p><b>CLOSING</b></p>

# POSTER SESSIONS

MON, 31 JUL – POSTER SESSION 01

16:30 - 18:30	Poster Area
	<p>Poster presentation-01  <b>A study on the influence of crystal structure and its effects on Li diffusion in <math>\text{Li}_{0.29}\text{La}_{0.57}\text{TiO}_3</math> single crystal grown by optical floating zone technique</b>            Uthayakumar Sivaperumal, Department of Physics, Royal Holloway, University of London, Egham, TW20 0EX, United Kingdom   ISIS Pulsed Neutron and Muon Source, STFC Rutherford Appleton Laboratory, Didcot, Oxfordshire OX11 0QX, United Kingdom</p>
	<p>Poster presentation-02  <b>Development and Characterization of <math>(1-x)\text{Bi}(\text{Mg}_{2/3}\text{Sb}_{1/3})\text{O}_3 - (x)\text{PbTiO}_3</math> Ceramics for Energy-Storage Applications</b>            Aravinthkumar Padmanaban, Oxide Single Crystals Group, Centre of Excellence, ENSEMBLE3 Sp. Z O. O. ul, Wolczynska 133, 01-9191 Warsaw, Poland.</p>
	<p>Poster presentation-03  <b>Growth and dielectric properties of <math>\text{Nb}_2\text{O}_5</math> single crystal by the optical floating zone method</b>            Yijian Jiang, Institute of Laser Engineering, Faculty of Materials and Manufacturing, Beijing University of Technology, Beijing 100124, China   Institute of Matter Science, Beijing University of Technology, Beijing 100124, China   College of Applied Sciences, Beijing University of Technology, Beijing 100124, P. R. China</p>
	<p>Poster presentation-04  <b>Single Crystal Growth and Characterization of Pyroelectric L-arginine Dibromide Monohydrate (LADB)</b>            Ruzan Sukiasyan, Institute of Applied Problems of Physics, NAS of Armenia, et al.</p>
	<p>Poster presentation-05  <b>Growth and Improved Properties Single Crystal <math>\alpha\text{-LiIO}_3</math> Doped with Amino Acids</b>            Ruzan Sukiasyan, Institute of Applied Problems of Physics, NAS of Armenia</p>
	<p>Poster presentation-06  <b>Experimental and Numerical Investigation of Photoluminescence in Rare-earth Doped <math>\text{LiBa}_{12}(\text{BO}_3)_7\text{F}_4</math> (LBBF) crystals</b>            Bekker Tatyana, Sobolev Institute of Geology and Mineralogy, Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia   Novosibirsk State University, Novosibirsk, Russia</p>

# MON, 31 JUL – POSTER SESSION 01

Poster presentation-07

**Influence of the ionic radius of the stabilizing oxide on the crystal structure and mechanical characteristics of tetragonal crystals of solid solutions of ZrO<sub>2</sub>-R<sub>2</sub>O<sub>3</sub> (R- Y, Gd, Sm)**

Artem Chislov, Prokhorov General Physics Institute of RAS | National University of Science and Technology «MISIS»

Poster presentation-08

**Neutron and x-ray scattering study of phonon dispersion and diffuse scattering in (Na,Bi)TiO<sub>3</sub>-xBaTiO<sub>3</sub> single crystals near the morphotropic phase boundary**

Chengtao Luo, Shanghai Jiaotong University

Poster presentation-09

**Growth of Bismuth Palladium single crystals by optical floating zone technique**

Raja Arumugam, CNR-SPIN, University of Salerno, Italy

Poster presentation-10

**Spontaneous off-stoichiometry as the knob to control dielectric properties of La<sub>3</sub>Te<sub>4</sub>**

Muhammad Rizwan Khan, Centre of Excellence ENSEMBLE3 Sp. z o. o., Wolczynska Str. 133, 01-919, Warsaw, Poland

Poster presentation-11

**Real gapped metals: when energy lowering symmetry breaking does not open the gap**

Harshan Reddy Gopidi, Ensemble3 center of excellence

Poster presentation-12

**Melt grown black Titanium Oxide: Novel optoelectronic material**

Kingshuk Bandyopadhyay, ENSEMBLE3 Centre of Excellence, Wolczynska 133, 01-919 Warsaw, Poland

Poster presentation-13

**Synthesis and characterization of NbSe<sub>2</sub> crystals and nanofilms**

Dimitre Dimitrov, Institute of Solid State Physics-Bulgarian Academy of Sciences | Institute of Optical Materials and Technologies, Bulgarian Academy of Sciences | Consiglio Nazionale delle Ricerche, Istituto per la Microelettronica e Microsistemi

Poster presentation-14

**Salts of amino acids with a dimeric cation of the [A(1)<sup>+</sup>...A(2)] type with polar symmetry**

Aram Petrosyan, Institute of Applied Problems of Physics

Poster presentation-15

**Crystal growth and optical properties of functional Tb<sup>3+</sup>-doped orthoborates**

Alexander Kokh, Institute of geology and mineralogy, Russia

Poster presentation-16

**Microscopic ordering of supercooled water on the ice basal face**

Kenji Mochizuki, Department of Chemistry, Zhejiang University, China

# MON, 31 JUL – POSTER SESSION 01

Poster presentation-17

**Effect of solution environment on the growth of DNA-functionalized nanoparticle crystals**

Shoko Kojima, Nagoya University, Japan | Japan Synchrotron Radiation Research Institute (JASRI) | Institute of Materials and Systems for Sustainability, Japan, et al.

Poster presentation-18

**Novel experimental data on hydrothermal growth of phenakite single crystals with Si-Ge substitution**

Valentin Kovalev, Lomonosov Moscow State University | DS Korzhinskii Institute of Experimental Mineralogy of the Russian Academy of Sciences, et al.

Poster presentation-19

**Crystal growth and high pressure Raman spectroscopy study of germanium-rich quartz-like solid solution**

Valentin Kovalev, Lomonosov Moscow State University | DS Korzhinskii Institute of Experimental Mineralogy of the Russian Academy of Sciences, et al.

Poster presentation-20

**Synthesis of Large Norsethite Crystals in Aqueous Ammonium Nitrate Solutions**

Harutoshi Asakawa, Graduate School of Sciences and Technology for Innovation Yamaguchi University, et al.

Poster presentation-21

**Atomistic Dynamics of "Floating Island" Transiently Formed in Two-Dimensional Nucleation**

Masaya Sakakibara, Department of Chemistry, The University of Tokyo, et al.

Poster presentation-22

**Investigation of metal-induced crystallization mechanism on amorphous SiO<sub>2</sub>**

Dario Florio, Università di Parma

Poster presentation-23

**Fast Crystal Growth: analysis of field and atomistic data of simulation**

Peter Galenko, Friedrich Schiller University Jena, Germany

Poster presentation-24

**Microstructure and properties of crystals growing from undercooled Ni-based superalloys**

Peter Galenko, Friedrich Schiller University Jena

Poster presentation-25

**Atomic-scale mechanisms on the stepwise growth of Mo<sub>x</sub>W<sub>1-x</sub>S<sub>2</sub> into hexagonal flakes**

Jiawei Huang, Nanchang University

Poster presentation-26

**An atomic-scale study on deoxidation process of MoO<sub>3</sub> via in situ transmission electron microscopy.**

Jiaqi Chen, Nanchang University

# MON, 31 JUL – POSTER SESSION 01

Poster presentation-27

**Investigation of the optoelectronic properties of hybrid heterojunction**

Roman Yatskiv, Institute of Photonics and Electronics of the Czech Academy of Sciences, Czech Republic

Poster presentation-28

**Growth dynamics and modelling of organic semiconductor thin films subject to post-growth processes**

Alice Pancaldi, Department of Materials Science, University of Milano-Bicocca

Poster presentation-29

**Growth of high-density InGaAs/AlInGaAs quantum dots by MOVPE targeting the 1.3-micron window**

Swati Mukherjee, Tyndall National Institute/ University College Cork

Poster presentation-30

**Different strategies for GaN-MoS<sub>2</sub> and GaN-WS<sub>2</sub> core-shell nanowire growth**

Kevon Kadiwala, Institute of Solid State Physics, University of Latvia

Poster presentation-31

**Chemical bath deposition of nanostructures in continuous-flow reactors**

Ondřej Černohorský, Institute of Photonics and Electronics, Prague, Czech Academy of Sciences

Poster presentation-32

**Growing Ga and In oxide hydroxide nanocrystals on GaAs and InAs crystalline substrates by hot water immersion**

Zahra Jahanshah Rad, University of Turku

Poster presentation-33

**Growth of GaInN/GaN MQWs on nanocolumns with thick GaInN buffer layer using RF-MBE**

Hiromi Akagawa, Kogakuin University

Poster presentation-34

**Dopants impact on planar GaAs nanowires growth**

Nikolai Sibirev, The Faculty of Physics, Saint-Petersburg State University

Poster presentation-35

**Nanowire ZnO/GaN heterostructures prepared by chemical bath deposition**

Jan Grym, Institute of Photonics and Electronics of the CAS

Poster presentation-36

**Investigating the structural, and Magnetic Properties of Fe<sub>3</sub>Se<sub>4</sub> nanoparticles**

Dimple Shah, Sardar Vallabhbhai National Institute of Technology, Surat, India

Poster presentation-37

**Effect of Mo doped in Vanadium Pentoxide (V<sub>2</sub>O<sub>5</sub>) for dye degradation**

Dimple Shah, Sardar Vallabhbhai National Institute of Technology, Surat, Gujarat



# MON, 31 JUL – POSTER SESSION 01

Poster presentation-38

**Single-crystal growth of multicomponent silicon clathrate compounds by using sodium-tin fluxes**

Haruhiko Morito, Institute for Materials Research, Tohoku University | Institute of Multidisciplinary Research for Advanced Materials, Tohoku University

Poster presentation-39

**Local droplet etching holes in vicinal InGaAs/GaAs(111)A**

Artur Tuktamyshev, University of Milano Bicocca

Poster presentation-40

**Improvement of SiC single crystal by a novel method**

Jun Fu, Meishan Tianle semiconductor materials Co., Ltd.

Poster presentation-41

**Study on future prospects for feasibility of novel modifications in melt technique to improve properties of crystals for the development of Reference Materials for Thermoelectric Applications**

ANUJ KRISHNA, CSIR-NATIONAL PHYSICAL LABORATORY

Poster presentation-42

**Growth and polarized spectral properties of Tm:Ca<sub>3</sub>TaGa<sub>3</sub>Si<sub>2</sub>O<sub>14</sub> crystal for mid-infrared laser**

Pingzhang Yu, Shandong University

Poster presentation-43

**Hydride Vapor Phase Epitaxial Growth of ZnSe on GaAs Substrates and Orientation-Patterned GaAs Templates for Nonlinear Optical Applications**

Shivashankar Vangala, Air Force Research Laboratory Wright-Patterson AFB, OH 45433, USA

Poster presentation-44

**Optical and laser properties of YAG:Nd crystals grown by the HDC method in carbon-containing atmosphere**

Igor Pritula, Institute for Single Crystals of NAS of Ukraine

Poster presentation-45

**Investigation of defect structure and domains in Ca<sub>9</sub>La(VO<sub>4</sub>)<sub>7</sub> and Ca<sub>10</sub>Li(VO<sub>4</sub>)<sub>7</sub> single crystals grown by the Czochralski method**

Igor Pritula, Institute for Single Crystals, NAS of Ukraine

Poster presentation-46

**Crystal growth and photorefractive properties of uranium-doped lithium niobate series crystals**

Tian Tian, Shanghai Institute of Technology | Nankai University

Poster presentation-47

**Ultraviolet laser-induced damage characteristics of 70% deuterated potassium dihydrogen phosphate crystals**

Baoan Liu, State Key Laboratory of Crystal Materials, Shandong University, Jinan 250100, China | Laboratory of Thin Film Optics, Shanghai Institute of Optics and Fine Mechanics, Shanghai 201800, China. | Research Center of Laser Fusion, China Academy of Engineering Physics, Mianyang 621900, China

# MON, 31 JUL – POSTER SESSION 01

Poster presentation-48

**Concentration distribution of Pb<sup>2+</sup> ions in PbF<sub>2</sub>:BaF<sub>2</sub> crystals**

Gabriel Buse, West University of Timisoara - ICAM

Poster presentation-49

**Czochralski-grown LGSB crystals as high-performance NIR laser crystals and SFD crystals in the VIS spectral range**

Lucian Gheorghe, National Institute for Laser, Plasma and Radiation Physics

Poster presentation-50

**Approach for AlN White-light luminescence by adjusting the bivalence and trivalence of Eu doped ratio**

YINGDA QIAN, Department of Physics, Tokyo University of Science, Kagurazaka, Tokyo, Japan

Poster presentation-51

**Crystal growth, morphology, and luminescence properties of selected multicomponent garnet single crystals for laser applications**

Jan Pejchal, Institute of Physics, Czech Academy of Sciences

Poster presentation-52

**The effect of TiO<sub>2</sub> crystalline form on microstructure and optical features of Zn<sub>2</sub>TiO<sub>4</sub> doped with Mn**

Tetyana Kryshtab, Instituto Politécnico Nacional

Poster presentation-53

**A new family of NLO crystals MSr<sub>3</sub>Be<sub>3</sub>B<sub>3</sub>O<sub>9</sub>F<sub>4</sub> (M=Na, Sr) for 266nm generation: crystal growth and optical properties**

Lijuan Liu, Technical Institute of Physics and Chemistry, Chinese Academy of Science

Poster presentation-54

**Investigation on Ce doped Lu( Y ) 3Al<sub>5</sub>O<sub>12</sub> single crystal fibers grown by laser heated pedestal growth method**

Anhua Wu, Key Laboratory of Transparent Optical Functional Inorganic Materials, Shanghai Institute of Ceramics, Chinese Academy of Sciences, Shanghai 201899, China | Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, Beijing 100049, China

Poster presentation-55

**Growth of (Lu<sub>1-x</sub>Tb<sub>x</sub>)<sub>2</sub>O<sub>3</sub> single crystals by the Optical Floating Zone**

Oleg Sidletskiy, Ensemble3 Centre of Excellence, et al.

Poster presentation-56

**First-principles calculation of phonon properties of KDP crystal**

Guokai Hao, Shandong University

Poster presentation-57

**Lithium Niobate Single Crystal: revisiting the properties for application in Galileo Solar Space Telescope**

Franciele Carlesso, National Institute for Space Research (INPE) | Federal University of São Paulo

# MON, 31 JUL – POSTER SESSION 01

Poster presentation-58

**Optical properties of pure and Sn-doped  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> single crystals grown by optical Float Zone technique**

Joseph Daniel Devasirvatham, Kyungpook National University

Poster presentation-59

**High-power ultraviolet laser generation at 355 nm and 266 nm using sum-frequency method based on La<sub>2</sub>CaB<sub>10</sub>O<sub>19</sub> crystal**

Lirong Wang, Technical Institute of Physics and Chemistry, Chinese Academy of Sciences

Poster presentation-60

**Formation of secondary phase particles in compound semiconductor bulk crystals grown from melt**

Yadong Xu, Northwestern Polytechnical University, et al.

Poster presentation-61

**Hybrid density functional theory calculations for the electronic and optical properties of Fe<sup>3+</sup>-doped KDP crystals**

Mingxia Xu, State Key Laboratory of Crystal Materials, Shandong University | Department of Physics, School of Mathematics and Physics, University of Science and Technology Beijing

Poster presentation-62

**Theoretical study for structural stability and electronic properties induced by various point defect of KDP and ADP crystals**

Tingting Sui, Department of Physics, School of Mathematics and Physics, University of Science and Technology Beijing, Beijing 100083, China

Poster presentation-63

**Approach of enhancing the crystal perfection in subsurface layer of *epi-ready* (-2 0 1)  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> substrates**

Pavel Butenko, Ioffe Institute

Poster presentation-64

**A study on the architecture of defects in co-doped ceria electrolytes using synchrotron light**

Sara Massardo, University of Genoa, et al.

Poster presentation-65

**Manifestation of the Kirkendall effect in the process of thermal decomposition of In<sub>x</sub>Ga<sub>1-x</sub>N/GaN MQWs – first principles studies**

Roman Hrytsak, Institute of High Pressure Physics "Unipress", PAS

Poster presentation-66

**Effect of noble gas defect on the acceptor formation in ZnO**

LOVELESH LOVELESH, Centre of Excellence ENSEMBLE3 Sp. z o. o., Wolczynska Str. 133, 01-919, Warsaw, Poland

Poster presentation-67

**New insights into design of the metamorphic buffer layers**

Mikhail Chernov, Ioffe Institute

# MON, 31 JUL – POSTER SESSION 01

Poster presentation-68

**Crystal growth of lattice-relaxed high-quality AlGaIn templates and fabrication of UV-B laser diodes on these templates**

Motoaki Iwaya, Meijo University, et al.

Poster presentation-69

**Growth and characterization of gallium phosphide on gallium oxide substrate for heterojunction diodes**

Sebastian Lourduoss, KTH - Royal Institute of Technology

Poster presentation-70

**MBE growth of SnTe films on GaAs substrates with ZnTe buffer layers**

Masakazu Kobayashi, Waseda University

Poster presentation-71

**The development of mid-infrared and far-infrared nonlinear ZGP crystals**

Chunhui Yang, Harbin Institute of Technology

16:30 - 18:30	
	<p>Poster presentation-01  <b>Growth of detector-grade CdTe crystal by the Vertical Gradient Freeze method with a Cd reservoir</b>  Tao Wang, Northwestern Polytechnical University   Imdetek Corp. Ltd.</p>
	<p>Poster presentation-02  <b>Reduction of heater power and oxygen content in Si crystals by modification of continuous Czochralski furnace</b>  Jyh-Chen Chen, National Central University</p>
	<p>Poster presentation-03  <b>The introduction of an experimental apparatus used for growing large size of crystals from low temperature solution in space</b>  Youting Song, Institute of Physics, Chinese Academy of Sciences</p>
	<p>Poster presentation-04  <b>3D analysis of dislocation density in a Ga<sub>2</sub>O<sub>3</sub> crystal grown by a vertical Bridgman method</b>  KOICHI KAKIMOTO, NICHe, Tohoku Univ.   C&amp;A Co.   Japan Fine Ceramics Center RIAM, Kyushu Univ. IMR, Tohoku Univ.</p>
	<p>Poster presentation-05  <b>The potential of the hen eggshell as rare earth element sorbent and segregator</b>  Remi Rateau, Trinity College Dublin, the University of Dublin</p>
	<p>Poster presentation-06  <b>The effect of rare earth elements in the crystallisation of calcium carbonate from solution at ambient temperature</b>  Luca Terribili, Trinity College Dublin</p>
	<p>Poster presentation-07  <b>-101 gypsum contact twins experimentally obtained from a calcium carbonate rich solutions: mineralogical implications for natural gypsum deposits</b>  ANDREA COTELLUCCI, UNIVERSITY OF TURIN</p>
	<p>Poster presentation-08  <b>Study on the Growth of Large-size Sapphire Plate by EFG Method</b>  Peng Zhao, Research Institute of Synthetic Crystals, et al.</p>
	<p>Poster presentation-09  <b>Bridgman growth of high - purity crystals for rare events physics</b>  Yong Zhu, Shanghai Institute of Ceramics, Chinese Academy of Sciences   Gran Sasso Science Institute</p>

Poster presentation-10

**Dislocation generation during Czochralski silicon growth**

Rania Hendawi, Norwegian University of science and technology, et al.

Poster presentation-11

**Growth of 2 inch diameter Li:Eu in carbon coated crucible and effect of post growth thermal treatment on scintillation light yield.**

Durgesh Singh Sisodiya, Homi Bhabha National Institute, Mumbai

Poster presentation-12

**Improvement of crystalline quality by using BN cap in solution growth of SiC single crystal**

Peng Gu, Meishan Boya Advanced Materials Co., Ltd. | School of Earth and Space Sciences, Peking University

Poster presentation-13

**Effect of macrostep height on formation of solvent inclusion in SiC solution growth**

Yuma Fukami, Nagoya University, et al.

Poster presentation-14

**AC poling of PMN-PT single crystals used for medical ultrasonic transducers**

Haosu Luo, Shanghai Institute of Ceramics, Chinese Academy of Sciences, China

Poster presentation-15

**Numerical Modeling on spiral formation of Cz-β-Ga<sub>2</sub>O<sub>3</sub> crystal growth considering solidification kinetic effect**

Masaya Iizuka, STR Japan K.K., et al.

Poster presentation-16

**Crystal growth and characterization of organic single crystal 2-amino 4-methyl pyridinium oxalate : (C<sub>7</sub>H<sub>9</sub>N<sub>2</sub>O<sub>2</sub>)**

Joseph Daniel Devasirvatham, The Center for high-energy Physics, Kyungpook National University, Daegu 41566, South Korea

Poster presentation-17

**Growth of pure and doped Bi<sub>4</sub>Si<sub>3</sub>O<sub>12</sub> single crystals for optical applications**

Jiayue Xu, Shanghai Institute of Technology

Poster presentation-18

**Optimization of thermal field for 8-inch 4H-SiC single crystal grown by PVT method**

Jun Fu, Meishan Tianle semiconductor materials Co., Ltd.

Poster presentation-19

**Coupled thermal-solidification process simulation of sapphire growth**

Raluca Trasca, Materials Center Leoben, Roseggerstr.12, 8700 Leoben, Austria

Poster presentation-20

**Investigating the various effects of boron doping during the growth of Czochralski germanium ingots**

Aravind Subramanian, Leibniz institute for crystal growth

Poster presentation-21

**The tendency of crystallization of bioactive borate glasses**

Tina Tasheva, Department of Silicate Technology, University of Chemical Technology and Metallurgy, 8, Kl. Ohridski Blvd., Sofia 1756, Bulgaria

Poster presentation-22

**Growth and characterization of Pr-doped Ca<sub>2</sub>RuO<sub>4</sub> single crystals**

Mariateresa Lettieri, CNR-SPIN

Poster presentation-23

**Study of gallium nitride solubility in ammonothermal alkaline solution under various physicochemical conditions**

Karolina Grabianska, Institute of High Pressure Physics Polish Academy of Sciences

Poster presentation-24

**Growth and composition control of Tb<sub>3</sub>Ga<sub>5</sub>O<sub>12</sub> crystals**

Miki Watanabe, OXIDE corporation | University of Yamanashi, et al.

Poster presentation-25

**Study on growth and doping of large scale gallium selenide crystals**

Chongqiang Zhu, Harbin Institute of Technology

Poster presentation-26

**PdSe<sub>2</sub> Single Crystals Synthesized by Flux Method**

Vera Marinova, Institute of Optical Materials and Technologies, Bulgarian Academy of Sciences, Sofia, Bulgaria

Poster presentation-27

**Experimental investigation of shape control criteria for wire fabrication of alloys by the dewetting micro-pulling-down method**

Rikito Murakami, Tohoku University | C&A Corporation, Japan

Poster presentation-28

**Concurrent crystallization of two active pharmaceutical ingredients using polymers**

Jonghwi Lee, Chung-Ang University

Poster presentation-29

**LaBr<sub>3</sub>:Ce -<sup>6</sup>LiBr composite crystal for dual gamma-neutron detection application, crystal growth and characterization**

Vladimir OUSPENSKI, Luxium Solutions | Saint-Gobain Research Paris

Poster presentation-30

**Rare-earths doped Y<sub>2</sub>O<sub>3</sub> laser materials**

George Stanciu, National Institute for Laser, Plasma and Radiation Physics, Laboratory of Solid-State Quantum Electronics, Magurele 077125, Romania

Poster presentation-31

**Enhancement of catalytic activity of MOF-74 by providing extra open metal sites for cyanosilylation of aldehydes**

Sojin Oh, Yonsei University

Poster presentation-32

**Compromising conflicted spatial-arrangements of two mixed linkers in metal-organic frameworks**

Gihyun Lee, Yonsei University

Poster presentation-33

**Surface charge-directed selective and outstanding catalytic activities of porous M@UiO-66 composites (M = Pt or Ag) for reduction of organic pollutants**

Sujeong Lee, Yonsei University

Poster presentation-34

**Hybrid nanofillers loaded epoxy resin; Synthesis, characterizations and dielectric spectroscopy**

DIMPLE SHAH, Sardar Vallabhbhai National Institute of Technology, Surat

Poster presentation-35

**Improved dissolution rates of naproxen and its cocrystals via eutectic formation**

IL WON KIM, Soongsil University

Poster presentation-36

**Predicting Particle Properties of Organic Materials using Surface Descriptors**

Alexandru Moldovan, Cambridge Crystallographic Data Centre

Poster presentation-37

**Impact of the efavirenz polymorphism on the mechanical properties and dissolution assays**

Ana Maria Santo, Post-Graduation Program on Engineering and Science Materials - PPGECEM Institute of Science and Technology - ICT Federal University of Sao Paulo - UNIFESP | Micro and nanostructures Laboratory - LMNano Institute of Technology on Pharmaceuticals - ITF Farmanguinhos (FIOCRUZ)

Poster presentation-38

**Eutectic mixtures containing ezetimibe (ingredient pharmaceutical active): phase diagrams, solid state characterization and dissolution essays**

Ana Maria Santo, Post Graduate on Engineering and Science Materials Program - PPGECEM Institute of Science and Technology - ICT Federal University of São Paulo - UNIFESP

Poster presentation-39

**Probing Nonlinear Optical (NLO) Microspectroscopy for Heterogeneous Crystallization Development**

Basanta Saikia, KU Leuven Kulak

Poster presentation-40

**Crystallization of poly (L-lactide) / Flax Fiber biocomposites: influence of the matrix Molecular weight**

SEVERINE A.E. BOYER, MINES Paris PSL CEMEF CNRS 7635 1, Rue Claude Daunesse 06904 SOPHIA ANTIPOLIS, FRANCE

Poster presentation-41

**2D Calculation of Propagating Thermal Waves surrounding Dendrites**

SEVERINE A.E. BOYER, MINES Paris PSL CEMEF CNRS 7635 1, Rue Claude Daunesse 06904 SOPHIA ANTIPOLIS, FRANCE



Poster presentation-42

**Crystallization on the eggshell membrane: calcium phosphate nucleation on a calcium carbonate nucleating membrane**

Jaime Gómez-Morales, Laboratorio de Estudios Cristalográficos Instituto Andaluz de Ciencias de la Tierra Consejo Superior de Investigaciones Científicas-University of Granada

Poster presentation-43

**Magnesium, manganese and cobalt substituted nanocrystalline apatites obtained by hydrothermal transformation of biogenic calcium carbonate.**

Sandra María Cano Plá, Laboratorio de Estudios Cristalográficos. Instituto Andaluz de Ciencias de la Tierra. Consejo Superior de Investigaciones Científicas / Universidad de Granada. Avda. de Las Palmeras, nº 4. E-18100, Spain

Poster presentation-44

**Europium and Terbium doped apatite obtained by hydrothermal transformation of biogenic calcium carbonate from oyster shells.**

Sandra María Cano Plá, Laboratorio de Estudios Cristalográficos. Instituto Andaluz de Ciencias de la Tierra. Consejo Superior de Investigaciones Científicas/ Universidad de Granada. Avda. de Las Palmeras, nº 4 E-18100, Spain.

Poster presentation-45

**Crystallization conditions, morphology and crystal structures of cyclic peptoids**

Giovanni Pierri, University of Salerno

Poster presentation-46

**Chitosan/oxidized chitin composite films with potential applications in food packaging**

Angelica Mucaria, Dipartimento di Chimica "Giacomo Ciamician", Alma Mater Studiorum – Università di Bologna, via F. Selmi 2, 40126 Bologna, Italy

Poster presentation-47

**Growth and characterization of InP templates for Zn<sub>2</sub>P<sub>3</sub> Absorbers**

Didem Dede, École Polytechnique Fédérale de Lausanne (EPFL)

Poster presentation-48

**Mechanochemistry for photovoltaics and green energy**

Elena Del Canale, IMEM-CNR | Università degli Studi di Parma, et al.

Poster presentation-49

**Metal halide perovskite single crystals for highly stable and efficient photovoltaic devices**

Sang Hyuk Im, Korea University, et al.

Poster presentation-50

**Enhancing intermediate band solar cells performances through quantum engineering of dot states by Droplet Epitaxy**

Stefano Sanguinetti, University of Milan-Bicocca

Poster presentation-51

**Spectroscopic properties of Bi<sub>3</sub>TeBO<sub>9</sub> ceramics doped with rare earth ions**

Dobrosława Kasprowicz, Faculty of Materials Engineering and Technical Physics, Poznan University of Technology, Poznan, Poland

Poster presentation-52

**Detailed model of diamond crystal growth by MPCVD**

Andrey Smirnov, Semiconductor Technology Research d.o.o. Beograd

Poster presentation-53

**Cs<sub>2</sub>AgBiBr<sub>6</sub> Lead-Free Perovskite for Solar cells and indoor-outdoor Applications**

Paola Prete, IMM-CNR

Poster presentation-54

**MOVPE-grown pseudomorphic GaAsP/(100)GaAs heterostructures for fabrication of 1.7 eV top junction in 4-terminal tandem III-V/Si solar cells**

Paola Prete, IMM-CNR, et al.

Poster presentation-55

**Optimizing the Performance of (Sb<sub>0.2</sub>Sn<sub>0.8</sub>)<sub>0.5</sub>(S<sub>0.9</sub>Se<sub>0.1</sub>)<sub>0.5</sub> Crystal-Based Self-Powered Photodetectors**

Dimple Shah, Sardar Vallabhbhai National Institute of Technology, Surat | Sardar Vallabhbhai National Institute of Technology, Surat | Sardar Vallabhbhai National Institute of Technology, Surat

Poster presentation-56

**Crystallization processes for photovoltaic silicon ingots and their effect on solar cell performance**

Marisa Di Sabatino, Norwegian University of Science and Technology (NTNU)

Poster presentation-57

**Growth and characterization of halogenobismuthates of amino acids**

Aram Petrosyan, Institute of Applied Problems of Physics

Poster presentation-58

**Polyiodides of amino acids**

Aram Petrosyan, Institute of Applied Problems of Physics

Poster presentation-59

**Thermodynamic and kinetic modulation of methylammonium lead bromide crystallization revealed by *in situ* monitoring**

Amnon Ortoll-Bloch, Bowdoin College, Department of Chemistry

Poster presentation-60

**Numerical studies on the dislocation density in the n-type 4H-SiC**

Xuefeng Han, State Key Laboratory of Silicon Materials & School of Materials Science and Engineering, Zhejiang University, China | Institute of Advanced Semiconductors & Zhejiang Provincial Key Laboratory of Power Semiconductor Materials and Devices, Hangzhou Global Scientific and Technological Innovation Center, Zhejiang University, China | Ultra-precision Machining Research Center, Zhejiang University of Technology, China, et al.

Poster presentation-61

**Numerical analysis of cryogenic preparation of methane and hydrogen**

Xuefeng Han, Hangzhou Global Scientific and Technological Innovation Center, Zhejiang University, China | Univ. Grenoble Alpes, CNRS, Grenoble INP, SIMaP, F-38000 Grenoble, France | INAC-SBT, Grenoble, France

Poster presentation-62  
**Growth of mc-Silicon ingot by DS Process: Computational Modeling and Experimental validation**  
Srinivasan Manikam, SSN College of Engineering

Poster presentation-63  
**Numerical study of thermal stresses and dislocation dynamics during growth of oxide and fluoride crystals from melt**  
Andrejs Sabanskis, Institute of Numerical Modelling, University of Latvia, et al.

Poster presentation-64  
**Numerical investigation of the effect of the temperature on surface supersaturation in the rapid growth of KDP crystals**  
Jianyu Bai, sunxun@sdu.edu.cn

Poster presentation-65  
**Effect of unsteady melt flow features on the melt/crystal interface shape and thermal stresses in Cz Ga<sub>2</sub>O<sub>3</sub> crystal growth**  
Vladimir Artemyev, STR Belgrade

Poster presentation-66  
**Numerical modelling of feed rod melting dynamics during floating zone silicon crystal growth**  
Maksims Surovovs, University of Latvia

Poster presentation-67  
**Determining the Complete Thermodynamics of Calcite Kink Sites for Crystal Growth and Dissolution**  
Blake Armstrong, Curtin University

Poster presentation-68  
**Crystal Shape and Topography: Prediction and Optimisation with the CrystalGrower Model**  
Alvin Walisinghe, Curtin University

Poster presentation-69  
**Serially diluting centrifugal microfluidics for high-throughput synthesis of various shape of gold nanoparticles**  
TAE SEOK SEO, Kyung Hee University

Poster presentation-70  
**Solution volume effects on spontaneous chiral symmetry breaking of sodium chlorate crystals**  
Bum Jun Park, Kyung Hee University, et al.

Poster presentation-71  
**InGaN multiple-quantum-well light-emitting diodes grown with an underlying superlattice for light detection**  
Chia-Lung Tsai, Chang Gung University

Poster presentation-72  
**Bi-chalcogenides films grown by physical vapor deposition technique**  
Anita Guarino, CNR-SPIN Salerno

Poster presentation-73

**MoS<sub>2</sub>-gCN/RGO Ternary Composite for Electrochemical Detection of Serotonin**

Wan-Chin Yu, Institute of Organic and Polymeric Materials, National Taipei University of Technology, Taipei 106, Taiwan., et al.

Poster presentation-74

**Crystal growth, optical and scintillation properties of (La,Gd)<sub>2</sub>Si<sub>2</sub>O<sub>7</sub>:Tb crystals**

Oleg Sidletskiy, Institute for scintillation materials NAS of Ukraine

Poster presentation-75

**Enhancement in optical, mechanical, thermal and electrical properties of organic crystals by selective dye doping**

Binay Kumar, University of Delhi | University of Delhi | University of Delhi

16:30 - 18:30	<p>Poster presentation-01  <b>Study of parameters for CVD growth of 2-dimensional MoS<sub>2</sub> by liquid phase molybdenum precursors</b>          Fiorenza Esposito, University of Parma   IMEM-CNR</p>
	<p>Poster presentation-02  <b>Concurrent Magnesium and Hydrogen Intercalation in Epitaxial Graphene</b>          Patrick Rondonanski, Pennsylvania State University</p>
	<p>Poster presentation-03  <b>Growth and Characterization of 2D superconductor NdO<sub>0.5</sub>F<sub>0.5</sub>BiS<sub>2</sub></b>          Changsheng Chen, University of Zurich   Fudan University</p>
	<p>Poster presentation-04  <b>Physical vapour deposition of atomically-thin crystals of the helimagnetic material NiBr<sub>2</sub></b>          Ivona Košić, University of Valencia, The Institute of Molecular Science (ICMol)</p>
	<p>Poster presentation-05  <b>Ambient pressure chemical vapor deposition of Tellurium based 2D layers</b>          Alessio Lamperti, CNR-IMM Unit of Agrate Brianza</p>
	<p>Poster presentation-06  <b>New Al-based microcrystalline Metal-Organic Nanosheets (MONs) as efficient fluorescent sensor for Fe(III) in water</b>          Delia Blasi, University of Milan</p>
	<p>Poster presentation-07  <b>Graphene and 2D transition metal dichalcogenides: synthesis towards applications</b>          Vera Marinova, IOMT-BAS</p>
	<p>Poster presentation-08  <b>In search of new magnetic quasicrystal approximants: flux-grown single crystals of monoclinic C2/m Al-Fe, Al-Fe-Cu, and Al-Fe-Cu-Si phases</b>          Piotr Bardziński, Faculty of Chemistry, University of Wrocław, Wrocław, Poland   Division of Geological and Planetary Sciences, Caltech, Pasadena, USA</p>
	<p>Poster presentation-09  <b>Analytical solutions of the kinetic equation for rounded spirals in effectively isotropic systems</b>          Oksana Podshyvalova, National Aerospace University “Kharkiv Aviation Institute”, Ukraine</p>
	<p>Poster presentation-10  <b>Analysis of Ridges and side facets during Czochralski crystal growth</b>          Simon Brandon, Technion</p>

# THU, 3 AUG – POSTER SESSION 03

Poster presentation-11

**Growth of  $\text{Li}_4\text{Mo}_5\text{O}_{17}$  and  $\text{Na}_6\text{Mo}_{11}\text{O}_{36}$  crystals by the low-thermal-gradient Czochralski technique for neutrinoless double beta-decay search**

Veronika Grigorieva, Nikolaev Institute of Inorganic Chemistry SB RAS

Poster presentation-12

**Design and development of a vacuum crystallization chamber for fluoride materials synthesis and direct solidification using cost-effective RF heaters**

Joseph Daniel Devasirvatham, The Center for high-energy Physics, Kyungpook National University, Daegu 41566, South Korea

Poster presentation-13

**Growth and Transition of Dendrites in Steel Strands under Different Electromagnetic Stirring Methods**

Engang Wang, Key Laboratory of Electromagnetic Processing of Materials (Ministry of Education), Northeastern University, P. R. China | School of Metallurgy, Northeastern University, P. R. China

Poster presentation-14

**Lithium Niobate: From materials preparation to the design of periodic polarization device**

Dongzhou Wang, Jinan Institute of Quantum Technology, Jinan, China, | State Key Laboratory of Crystal Materials, Shandong University, Jinan, China

Poster presentation-15

**Photodegradation of linseed oil by CdZnS Nanocrystal Solid Solutions (NCSSs): effect of structure and composition**

Elena Castagnotto, University of Genoa, Department of Chemistry and Industrial Chemistry (DCCI)

Poster presentation-16

**$\text{Ca}_3(\text{Ta,Ga})_5\text{O}_{12}:\text{Pr}^{3+}$  as potential laser crystal emitting in the blue and red spectral domains**

Cristina Gheorghe, National Institute for Laser, Plasma and Radiation Physics

Poster presentation-17

**Crystal growth and high-efficient laser performances of lighted doped fluorite mid-infrared laser crystals**

Zhonghan Zhang, Shanghai Institute of Ceramics, Chinese Academy of Sciences, CHINA | Center of Materials Science and Optoelectronics Engineering, University of Chinese Academy of Sciences, CHINA | Shandong Provincial Key Laboratory of Optics and Photonic Device, School of Physics and Electronics, Shandong Normal University, CHINA

Poster presentation-18

**Growth and Characterization of High Quality Single Crystals of Nonlinear Optical L-Arginine Sulfate and its Dihydrate**

Ruzan Sukiasyan, Institute of Applied Problems of Physics, NAS of Armenia

# THU, 3 AUG – POSTER SESSION 03

Poster presentation-19

**Building Highly Content Responsive Optical Thermometer attached to the Intervalence Charge Transfer States Bridged Thermal-coupled Levels**

Zhihua Liu, Sun Yat-sen University, et al.

Poster presentation-20

**Advanced Cd<sub>1-x</sub>Mn<sub>x</sub>Te:Fe<sup>2+</sup> semiconductor crystals for IR applications**

Igor Pritula, Institute for Single Crystals of National Academy of Science of Ukraine

Poster presentation-21

**Faceting Diagram for Macrosteps at Equilibrium: Tensor Network Calculations**

Noriko Akutsu, Osaka Electro-Communication University

Poster presentation-22

**Crystal Growth of a Promising Semiconductor:  $\beta$ -Ga<sub>2</sub>O<sub>3</sub>**

Cunxin Huang, Research Institute of Synthetic Crystals

Poster presentation-23

**Direct Spectra Detection of Fast Neutrons by Wide-bandgap Organic Single Crystalline Semiconductors**

Yadong Xu, Northwestern Polytechnical University, China, et al.

Poster presentation-24

**Facet Growth Induced Dislocation Reduction by Pre-Roughening of GaN Surface in the Na-flux Method**

Shogo Washida, Graduate School of Engineering, Osaka University, et al.

Poster presentation-25

**Surface Planarization Effect on {20-21} GaN Crystal Growth Applying Flux-Film-Coated Technique in Na-flux Method**

Haruki Kitano, Osaka University, et al.

Poster presentation-26

**Electrochemically etched and reorganized porous layer stacks for re-usable silicon growth templates**

Stefan Janz, Fraunhofer ISE

Poster presentation-27

**First-principles calculations of band structures of  $\alpha$ -Ga<sub>2</sub>O<sub>3</sub>/Al<sub>2</sub>O<sub>3</sub> superlattices**

Takahiro Kawamura, Graduate School of Engineering, Mie University

Poster presentation-28

**Wavelength matching between growth and computation of a strain compensated 4.8  $\mu$ m InGaAs/InAlAs quantum cascade laser structures**

IL KI HAN, Korea Institute of Science and Technology

Poster presentation-29

**Investigation of ZnSnN<sub>2</sub> deposition by reactive High-Power Impulse Magnetron Sputtering**

Filippo Annoni, RSE - Ricerca sul Sistema Energetico SpA

# THU, 3 AUG – POSTER SESSION 03

Poster presentation-30

**Theoretical exploration of widegap materials with the corundum structure for heteroepitaxy on  $\alpha$ -Ga<sub>2</sub>O<sub>3</sub>**

Shun YAMAKAWA, Kyushu University

Poster presentation-31

**Role of Carbon in n-type Bulk GaN Crystals**

Mikolaj Amilusik, Institute of High Pressure Physics Polish Academy of Sciences

Poster presentation-32

**Numerical modelling of large diameter Cz beta -Ga<sub>2</sub>O<sub>3</sub> crystal growth in reactive atmosphere**

Vladimir Artemyev, STR Belgrade

Poster presentation-33

**Cesium Lead Bromide Crystal Growth: An investigation guided by lessons learned from the family of heavy metal compounds for radiation detection**

Gilad Orr, Ariel University

Poster presentation-34

**Electronic structure analysis of InSb<sub>1-x</sub>N<sub>x</sub> alloys by first-principles calculation**

Sachie Fujikawa, Saitama university

Poster presentation-35

**Fabrication of InSb(N) thin film by DC magnetron sputtering**

Sachie FUJIKAWA, Saitama University

Poster presentation-36

**Low- and High-Density Unknown Waters at Interfaces between Water and Ices Grown/Melted by Pressure**

Hiromasa Niinomi, Institute of Multidisciplinary Research for Advanced Materials (IMRAM), Tohoku University

Poster presentation-37

**Surface assisted cross-coupling of Pd- cyclometallated complexes on Ag(110).**

Letizia Savio, Consiglio Nazionale delle Ricerche

Poster presentation-38

**Dislocation Mediated Corrugation of Ge-Si (001) Interface**

Mark Goorsky, University of California, Los Angeles

Poster presentation-39

**Crystallization of proteins on biocompatible surfaces –bare Ti, and Ti covered by poly-pyrrole**

Daniela Tsekova, Department of Organic Chemistry, University of Chemical Technology and Metallurgy, Blvd “St. Kl. Ohridski” 8, Sofia 1756, Bulgaria |  
1Department of Physical Chemistry, University of Chemical Technology and Metallurgy, Blvd “St. Kl. Ohridski” 8, Sofia 1756, Bulgaria

Poster presentation-40

**The Effect of a Nucleation Layer on Morphology and Grain Size in MOCVD-Grown  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> Thin Films on C-Plane Sapphire**

Edgars Butanovs, Institute of Solid State Physics, University of Latvia



# THU, 3 AUG – POSTER SESSION 03

Poster presentation-41

**Influence of chemical composition of side inlet jet on deposition rate near wafer edge in APCVD process**

Chieh Hu, 1. Department of Mechanical Engineering, National Central University, Taoyuan City, Taiwan 2. Research and Development Division, Global Wafer Co., Ltd, Hsinchu City, Taiwan

Poster presentation-42

**Epitaxial growth and phase stabilization of Pyrochlore Iridate thin films on YSZ (111) oriented substrate**

ARNAB KAR, Indian Institute of Science Bangalore

Poster presentation-43

**High-rate growth of pure  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> thick layers on 2-inch-diameter substrates by hot-wall metalorganic vapor phase epitaxy**

Ken Goto, Tokyo University of Agriculture and Technology

Poster presentation-44

**Numerical and experimental study of the effects of the carrier gas in MOCVD growth**

Javier Yeste, Universitat de Valencia

Poster presentation-45

**X-ray photoelectron spectroscopy of partially oxidized ultrathin films of 4d refractory metals deposited by e-beam physical vapor deposition**

Pia Henning, University of Göttingen/Institute for Materials Physics, et al.

Poster presentation-46

**Multilayer nanometric iron and chromium oxide structures suitable for the energy harvesting**

Tetyana Kryshchak, Instituto Politécnico Nacional

Poster presentation-47

**The influence of doping on crystalline quality and surface morphology at GaSb/GaAs nucleation layers**

Hadar Nahor, SCD – SemiConductor Devices, P.O. Box 2250, Haifa, 3102102, Israel, et al.

Poster presentation-48

**Preparation of Iridium Films by Chemical Vapor Deposition on Metal Substrates**

Hiroki Sato, Tohoku University

Poster presentation-49

**Effect of silicon doping on low temperature magnetic interactions in epitaxial films of Mn<sub>5</sub>(Ge<sub>1-x</sub>Si<sub>x</sub>)<sub>3</sub> : zero-field <sup>55</sup>Mn NMR study**

Ewa Jedryka, Institute of Physics, Polish Academy of Sciences

Poster presentation-50

**Growth of AZO thin films from pressed-sintered powder targets under subatmospheric conditions**

Magdaleno Jr Vasquez, University of the Philippines Diliman

# THU, 3 AUG – POSTER SESSION 03

Poster presentation-51

**Epitaxial hafnia-zirconia films on buffered fluorite substrates**

Gabriele De Luca, Instituto de Ciencia de Materiales de Barcelona (ICMAB-CSIC) | Catalan Institute of Nanoscience and Nanotechnology (ICN2), et al.

Poster presentation-52

**Electrochemical Atomic Layer Deposition of CdS on Au substrates; An X-ray Diffraction and Reflectivity study**

Matthew Snelgrove, Diamond Light Source

Poster presentation-53

**Improvement of planarity of InGaN using face to face annealing with NH<sub>3</sub>**

Narihito Okada Okada, Yamaguchi university

Poster presentation-54

**Hydrogen Recycling in CVD Processes**

Ralf Sorgenfrei, Fraunhofer Institute for Solar Energy Systems

Poster presentation-55

**XRD Measurement and Evaluation of complex e-Mode and d-Mode Heterostructures**

Lars Grieger, MalvernPanalytical B.V.

Poster presentation-56

**Epitaxy of the InAs/Al interface in MBE-grown semiconductor/superconductor heterostructures**

Erik Cheah, ETH Zürich, Solid State Physics Laboratory, 8093 Zürich, Switzerland

Poster presentation-57

**Crystal growth and manipulation of physical properties of Weyl-Kondo semimetal Ce<sub>3</sub>Bi<sub>4</sub>Pd<sub>3</sub> via growth parameters**

Xinlin YAN, Institute of Solid State Physics, Vienna University of Technology

Poster presentation-58

**Topological insulator eutectic heterostructures**

Krzysztof Markus, Ensemble3

Poster presentation-59

**Synthesis and properties of thermoelectric InSe Single-Crystal**

Jacob Svane, Aarhus University

Poster presentation-60

**Li<sub>3</sub>Ba<sub>2</sub>Gd<sub>3-x</sub>(WO<sub>4</sub>)<sub>8</sub>: Eu reddish orange phosphors for potential application in wLED**

zhonghuan zhang, Universitat Rovira i Virgili | University of Monastir

Poster presentation-61

**Correlating structural and electrical properties of Selective Area Grown InAs nanowires**

Gunjan Nagda, University of Copenhagen

# THU, 3 AUG – POSTER SESSION 03

Poster presentation-62

**Crystal growth of new van der Waals materials solid solutions  $(\text{TM}'\text{, TM}'')$ I<sub>2</sub> ( $\text{TM} = \text{Co, Fe, Ni}$ ) with tuned magnetic properties**

Anastasiia Lukovkina, University of Geneva

Poster presentation-63

**Fabrication of short-period twinned structure in lithium tetraborate**

Kensaku Maeda, Institute for Materials Research, Tohoku University

Poster presentation-64

**Vicinal (111) surfaces at Si solid-liquid interface**

Thierry Duffar, Grenoble Institute of Technology | Institute fore Materials Research, Tohoku University

Poster presentation-65

**Low-Dimensional All-Inorganic Cu(I) Halide Single Crystals as Efficient X- and gamma-ray Scintillators**

Yuntao Wu, Shanghai Institute of Ceramics Chinese Academy of Sciences

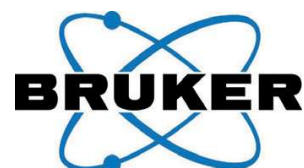
Poster presentation-66

**Eutectic mixtures containing nevirapine: phase diagrams, solid-state characterization, and dissolution essays**

Ana Maria Santo, Universidade Federal de São Paulo

# SPONSORS

---



# SUPPORTERS

