ECT' NANCY 25

# 21ST EUROPEAN CONFERENCE ON THERMOELECTRICS

FROM MONDAY 8TH TO FRIDAY 12TH SEPTEMBER 2025.

# SCIENTIFIC PROGRAM

# OVERVIEW

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# MONDAY, SEPTEMBER 8

**17:00 - 19:00**
Registration at City Hall (Place Stanislas)

**19:00 - 22:00**
Welcome party at City Hall
Light show at Place Stanislas at 22:00

# TUESDAY, SEPTEMBER 9

| Tuesday, 9 September \| 9:00-10:15<br>Auditorium 300 | | |
|---|---|---|
| 9:00 | Plenary | **Lone pairs as a design strategy for thermoelectric materials**<br>Paz Vaqueiro<br>*University of Reading, United Kingdom* |
| 9:45 | Invited talk | **Emerging thermoelectric properties from semimetal to semiconductor**<br>Susan Kauzlarich<br>*UC Davis, USA* |
| *10:15-10:45* | | *Coffee break* |

| Tuesday, 9 September \| 10:45-12:00<br>Auditorium 300 | | |
|---|---|---|
| 10:45 | Regular Talk | **Exploring High-Temperature Thermoelectric Properties of $(Ca,Sr)_{14}(Al,Ga,In)(Sb,Bi)_{11}$ Zintl Phases**<br>Umut Aydemir<br>*Koç University Boron and Advanced Materials Application and Research Center (KUBAM) & Department of Chemistry, Koç University, Istanbul, Türkiye* |
| 11:00 | Regular Talk | **Grain Boundary Electrical Resistance in the High Temperature Thermoelectrics Yb14MgSb11 and La3Te4**<br>Duncan Zavanelli<br>*Northwestern University, Evanston, USA* |
| 11:15 | Regular Talk | **Cation Mg-dominated Coherent Phonon Transport Leads to Anomalous Thermal Conductivity in $Mg_3Bi_2$**<br>Minhui Yuan<br>*School of Materials, Sun Yat-sen University, Shenzhen, China* |
| 11:30 | Regular Talk | **A computational study on type-I Sn clathrates with inorganic and organic guests**<br>Kelaidis Nikolaos<br>*Institute of Theoretical and Physical Chemistry, National Hellenic Research Foundation, Athens, Greece* |
| 11:45 | Regular Talk | **Improved thermoelectric performance in very finely grained $Co_{0.91}Ni_{0.09}Sb_3$ skutterudites**<br>Johari Kishor Kumar<br>*Univ Paris Est Creteil, CNRS, ICMPE, UMR 7182, Thiais, France* |

| Tuesday, 9 September \| 10:45-12:00<br>Room 201 | | |
|---|---|---|
| 10:45 | Regular Talk | **Oxide Thermoelectric Materials – Challenges and Opportunities**<br>Kriti Tyagi<br>*CSIR-National Physical Laboratory, Dr. K.S. Krishnan Marg, New Delhi, India*<br>*Academy of Scientific & Innovative Research (AcSIR), Ghaziabad, Uttar Pradesh, India* |
| 11:00 | Regular Talk | **Breaking the thermoelectric trade-off in Ru doped BiCuSeO via Resonant level formation in band structure**<br>Ram Amuthan<br>*Center of Excellence in Materials for Advanced Technologies (CeMAT), Faculty of Engineering and Technology*<br>*Department of Physics and Nanotechnology*<br>*SRM Institute of Science and Technology, Kattankulathur, India* |
| 11:15 | Regular Talk | **Decoupling the Electrical Conductivity and Thermopower by Chemically Manipulating Ni2+/Ni0 and Ti4+/Ti3+ Redox Pairs in Ni-doped Sr(Ti,Nb)O3**<br>Michitaka Ohtaki<br>*Interdisciplinary Graduate School of Engineering Sciences*<br>*Education Center for Green Technologies*<br>*Kyushu University, Kasuga, Fukuoka, Japan* |
| 11:30 | Regular Talk | **Electrochemical and thermoelectric properties of multicomponent oxides**<br>Tadeusz Miruszewski<br>*Gdańsk University of Technology, Institute of Nanotechnology and Materials Engineering, Advanced Materials Centre, Gdańsk, Poland* |
| 11:45 | Regular Talk | **Cost-Effective Performance Enhancement: How High-Entropy Engineering Optimizes $In_2O_3$-Based Thermoelectric Oxides**<br>Jia Chuang<br>*ICMMO (UMR CNRS 8182), University Paris-Saclay, Gif sur Yvette* |

| Tuesday, 9 September \| 10:45-12:00<br>Room 101 | | |
|---|---|---|
| 10:45 | Regular Talk | **Theoretical study of electronic structure and transport properties of halfmetallic ferromagnetic $Cu_2FeSnS_xSe_{4-x}$ with strong electron correlations**<br>Dariusz Wieczorek<br>*Faculty of Physics and Applied Computer Science, AGH University of Krakow, Krakow, Poland* |
| 11:00 | Regular Talk | **A high-throughput framework for ab initio deformation potential extraction for thermoelectric materials**<br>Zhao Yao<br>*School of Engineering, University of Warwick, Coventry, UK* |
| 11:15 | Regular Talk | **Electronic properties of thermoelectric pseudo-hollandite and hollandite-like phases**<br>Bruno Fontaine<br>*ISC Rennes – UMR 6226, University of Rennes, CNRS, ENSCR, Rennes, France*<br>*Saint-Cyr Coëtquidan Military Academy, CReC, Guer, France* |
| 11:30 | Regular Talk | **When are elongated bands most effective for the power-factor?**<br>Bhawna Sahni<br>*School of Engineering, University of Warwick, UK* |
| 11:45 | Regular Talk | **The use of descriptors within featurization for improved machine learning prediction of half-Heusler thermoelectric materials**<br>Nirmal Kumar<br>*School of Engineering, University of Warwick, Coventry, UK* |
| *12:00-13:30* | | *Lunch* |

| Tuesday, 9 September \| 13:30-15:00<br>Auditorium 300 | | |
|---|---|---|
| 13:30 | Invited Talk | **Recent developments in n-type XNiSn half-Heusler thermoelectrics using Cu dopants**<br>Jan-Willem G. Bos<br>*University of St Andrews, Scottland* |
| 14:00 | Regular Talk | **Thermoelectric properties of single-crystalline TiCoSb-based half-Heuslers**<br>Jun Mao<br>*School of Materials Science and Engineering, and Institute of Materials Genome & Big Data, Harbin Institute of Technology (Shenzhen), Shenzhen, P.R. China* |
| 14:15 | Regular Talk | **Improved Thermal Stability of NbCoSn Half-Heusler compounds via Sb Doping-induced Complementary Point Defect Evolution**<br>Kyuseon Jang<br>*Max Planck Institute for Sustainable Materials, Germany* |
| 14:30 | Regular Talk | **Half-Heusler thermoelectric compounds with intrinsically low thermal conductivity**<br>Chenguang Fu<br>*Zhejiang University* |
| 14:45 | Regular Talk | **Heavier element substitution in *p*-type $Fe_2VAl$ Heusler alloy**<br>Moorthy Manojkumar<br>*Univ. Paris Est. Creteil, CNRS, ICMPE, UMR 7182, THIAIS, France* |

| Tuesday, 9 September \| 13:30-15:00<br>Room 201 | | |
|---|---|---|
| 13:30 | Regular Talk | **Half-Heusler thermoelectrics based on $TiFe_{0.5}Ni_{0.5}Sb$ and (Nb,Ta,Ti)FeSb compounds synthesized via mechanical alloying**<br>Savvas Hadjipanteli<br>*Department of Mechanical and Manufacturing Engineering, University of Cyprus, Nicosia, Cyprus* |
| 13:45 | Regular Talk | **Thermoelectric performances of conducting polymer aerogels: the role of porosity and doping**<br>Essadiki Souhail<br>*Université de Strasbourg, CNRS, Institut Charles Sadron UPR22, Strasbourg, France* |
| 14:00 | Invited Talk | **From macromolecular engineering and doping efficiency to structural control and device engineering, the latest advances in polymer thermoelectrics**<br>Laure Biniek<br>*Institut Charles Sadron (ICS), Strasbourg, France* |
| 14:30 | Regular Talk | **Graphene-based Organic semiconductor composites for low-temperaturegrade energy harvesting: from cell to module**<br>Muhammad Sajid<br>*Department of Electronic Engineering, CHOSE—Centre for Hybrid and Organic Solar Energy, University of Rome Tor Vergata, Rome, Italy* |
| 14:45 | Regular Talk | **Optimization of Copper Iodide nanoparticle based composite thermoelectric material**<br>Bitmets Oskars<br>*Institute of Solid State Physics, University of Latvia* |

| Tuesday, 9 September \| 13:30-15:00<br>Room 101 | | |
|---|---|---|
| 13:30 | Regular Talk | **Coupling of a Genetic Algorithm and a Thermoelectric Network Model for Radioisotope Thermoelectric Generator (RTG) Optimisation**<br>Kyrimis Stylianos<br>*Institute of Materials Research, German Aerospace Centre (DLR)* |
| 13:45 | Regular Talk | **Thermoelectric Metamaterials for Enhanced Power Generation Modules**<br>Zianni Xanthippi<br>*Department of Aerospace Science and Technology, School of Science, National and Kapodistrian University of Athens, Greece* |
| 14:00 | Regular Talk | **Multifactor optimization of permeable thermoelectric structures**<br>Radion Cherkez<br>*Chernivtsi National University, Chernivtsi, Ukraine*<br>*Institute of Thermoelectricity, Nayki str.,1* |
| 14:15 | Regular Talk | **Planar Silicon-Based µTEG Test Platform for Evaluating Thermoelectric Materials and Optimizing Thermal Management**<br>Rodriguez-Iglesias Alex<br>*Institute of Microelectronics of Barcelona (IMB-CNM-CSIC), Bellaterra, Spain* |
| 14:30 | Invited Talk | **Thermoelectricity as an energy source for the powering of industrial IoT sensors: use cases and perspectives**<br>Dimitri Taïnoff<br>*Institut Néel – Start-up Moïz, Grenoble, France* |
| *15:00-15:30* | | *Coffee break* |

| Tuesday, 9 September \| 15:30-16:30<br>Auditorium 300 | | |
|---|---|---|
| 15:30 | Regular Talk | **Cation-deficient Half-Heusler Thermoelectric Materials**<br>Tiejun Zhu<br>*State Key Laboratory of Silicon and Advanced Semiconductor Materials, School of Materials Science and Engineering, Zhejiang University, Hangzhou, P.R. China* |
| 15:45 | Regular Talk | **New efficient thermoelectric half-Heusler compositions from Machine Learning**<br>Philippe Jund<br>*ICGM, Univ. Montpellier, CNRS, ENSCM, Montpellier France* |
| 16:00 | Regular Talk | **p-type Dopability in Half-Heusler Thermoelectric Semiconductors**<br>Hu Lirong<br>*State Key Laboratory of Silicon and Advanced Semiconductor Materials, School of Materials Science and Engineering, Zhejiang University, Hangzhou, China* |
| 16:15 | Regular Talk | **Dominance of Coulombic scattering in the power factor of half Heuslers**<br>Dutt Rajeev<br>*School of Engineering, University of Warwick, Coventry, UK* |

| Tuesday, 9 September \| 15:30-16:30<br>Room 201 | | |
|---|---|---|
| 15:30 | Regular Talk | **Direct electron cooling at millikelvin temperatures with quantum-well heat pump**<br>Grayson Matthew<br>*Electrical & Computer Engineering, Program in Applied Physics Northwestern University, USA* |
| 15:45 | Regular Talk | **Transverse thermoelectric effect in WSi2 with/without magnetic field**<br>Ohsumi Shoya<br>*Fac. of Science and Technology, Tokyo Univ. of Sci.* |
| 16:00 | Regular Talk | **Thermoelectric properties of kagome metals $Ni_3Sn$ and $Ni_{3-x}Co_xSn$**<br>Yoshida Shogo<br>*Department of Physics and Astronomy, Tokyo University of Science* |
| 16:15 | Regular Talk | **Frustrated vacancy order in diamagnetic metal Kutinaite $Ag_6Cu_{14.4}As_7$**<br>Ventrapati Pavan Kumar<br>*Department of Chemistry, SRM University Amravati-AP, Mangalagiri, AndhraPradesh, India*<br>*Center for Integrated Materials Research, Department of Chemistry and iNANO, Aarhus University, Aarhus, Denmark* |

| Tuesday, 9 September \| 15:30-16:30<br>Room 101 | | |
|---|---|---|
| 15:30 | Regular Talk | **Fabrication of Thermoelectric Devices Based on Colusites**<br>Suekuni Koichiro<br>*Interdisciplinary Graduate School of Engineering Sciences, Kyushu University, Kasuga, Fukuoka, Japan* |
| 15:45 | Regular Talk | **Investigation of Titanium as a Potential Diffusion Barrier in Bismuth Telluride Thermoelectric Generators**<br>Terzi Ilayda<br>*Université de Lorraine, CNRS, Institut Jean Lamour, Nancy, France* |
| 16:00 | Regular Talk | **Ultra-low Power Thermoelectric Sensor for Sweat Rate Monitoring**<br>Ping Sun<br>*School of Materials Science and Engineering, Harbin Institute of Technology, Shenzhen, Guangdong, China* |
| 16:15 | Regular Talk | **Design of Oxide Thermoelectric Uni-leg Modules**<br>Shimizu Yoshimi<br>*Department of Applied Physics, Graduate School of Engineering, Tohoku University* |
| *16:30-18:30* | | *Poster session 1*<br>*Cheese & Wine party* |

# WEDNESDAY, SEPTEMBER 10

| Wednesday, 10 September \| 9:00-10:15<br>Auditorium 300 | | |
|---|---|---|
| 9:00 | Plenary | **Computational strategies for modeling transport: electron, phonon, and machine learning**<br>Atsushi Togo<br>*National Institute for Materials Science (NIMS), Tsukuba, Japan* |
| 9:45 | Invited talk | **Combining the Power of High-Throughput Ab Initio Calculations and Machine Learning towards Materials Informatics**<br>Gian-Marco Rignanese<br>*Université Catholique de Louvain, Belgique* |
| *10:15-10:45* | | *Coffee break* |

| Wednesday, 10 September \| 10:45-12:00<br>Auditorium 300 | | |
|---|---|---|
| 10:45 | Regular Talk | **The devil is in the detail(s): How to get the synthesis of high performance MgAgSb right?**<br>De Boor Johannes<br>*German Aerospace Center (DLR), Institute of Materials Research, Cologne, Germany*<br>*University of Duisburg-Essen, Faculty of Engineering, Institute of Technology for Nanostructures (NST) and CENIDE, Duisburg, Germany* |
| 11:00 | Regular Talk | **Crystal structure and thermoelectric properties of $Cu_{30}Ti_6Sb_2S_{32}$ and $Cu_7VSnS_8$: New phases discovered with the pseudo-binary approach**<br>Lemoine Pierric<br>*Université de Lorraine, CNRS, IJL, Nancy, France* |
| 11:15 | Regular Talk | **Defect controlled thermal and electric properties of single crystalline $Bi_2O_2Se$**<br>Hejtmanek Jiri<br>*Institute of Physics of the Czech Academy of Sciences, Cukrovarnická 10/112, Prague, Czech Republic* |
| 11:30 | Regular Talk | **High thermoelectric performance in novel Cu-based chalcogenide with $Cr_3Si$-type structure**<br>Cherniushok Oleksandr<br>*Thermoelectric Research Laboratory, Department of Inorganic Chemistry, Faculty of Materials Science and Ceramics, AGH University of Krakow, Krakow, Poland* |
| 11:45 | Regular Talk | **Crystal structure and transport properties of $Cu_{2-x}Ag_xSn_{1-y}Ga_ySe_3$**<br>Wieder Arthur<br>*Université de Lorraine, CNRS, Institut Jean Lamour, Nancy, France* |

| Wednesday, 10 September \| 10:45-12:00<br>Room 201 | | |
|---|---|---|
| 10:45 | Regular Talk | **Thin Film Nanodecoration and Nanostructuring Techniques to Enhance Thermoelectric Efficiency in Silicon Micro-Thermoelectric Generators**<br>Abad Munoz Libertad<br>*Institute of Microelectronics of Barcelona (IMB-CNM-CSIC), Bellaterra, Spain* |
| 11:00 | Regular Talk | **Heavily Doped p-type Silicon Nanopillars Obtained by Metal-Assisted Chemical Etching for Thermoelectric Applications**<br>Giulio Federico<br>*Department of Materials Science, University of Milano-Bicocca, Milano, Italy* |
| 11:15 | Regular Talk | **Design and optimization of flexible free-standing PEDOT:PSS-based thermoelectric composites**<br>Lis Adrianna<br>*Thermoelectric Research Laboratory, Department of Inorganic Chemistry, Faculty of Materials Science and Ceramics, AGH University of Krakow, Krakow, Poland* |
| 11:30 | Regular Talk | **Energy Filtering in Heavily Boron-Doped SiGe Thin Films**<br>Mazzacua Antonio<br>*University of Milano Bicocca, Department of Materials Science, Milan, Italy* |
| 11:45 | Regular Talk | **Thermoelectric properties of Nb doped ScN multilayer structures**<br>More-Chevalier Joris<br>*Institute of Physics of the Czech Academy of Sciences, Praha, Czechia* |

| Wednesday, 10 September \| 10:45-12:00<br>Room 101 | | |
|---|---|---|
| 10:45 | Regular Talk | **Driving thermoelectric innovation through research-industry collaboration**<br>Neves Filipe<br>*National Laboratory for Energy and Geology (LNEG), Materials for Energy Unit, Lisbon, Portugal* |
| 11:00 | Regular Talk | **Needs and Challenges in Re-shaping TEG Supply-Chain in EU**<br>Yin Hao<br>*TEGnology ApS, Maskinvej 5, Søborg, Denmark* |
| 11:15 | Regular Talk | **Thermoelectric Modules and Applications: An Industrial Perspective**<br>Ray Aniruddha<br>*RGS Development B.V. ., , 1721 PW Broek op Langedijk, Netherlands* |
| 11:30 | Regular Talk | **How to Transfer Thermoelectric Technology from Academia to Industry? The Case of Thermo Power Systems**<br>Lani Frederic<br>*Thermo Power SRL, Belgium* |
| 11:45 | Regular Talk | **Durable and sustainable thermoelectric devices made from zinc and magnetsium-antimony alloys**<br>Nielsch Kornelius<br>*Institute of Materials Research, Technical University of Dresden* |
| *12:00-13:30* | | *Lunch* |

| Wednesday, 10 September \| 13:30-15:00<br>Auditorium 300 | | |
|---|---|---|
| 13:30 | Invited Talk | **Resonant Levels in Thermoelectrics: What They Are and How They Work in Metals and Semiconductors**<br>Bartlomiej Wiendlocha<br>*AGH University of Krakow, Pologne* |
| 14:00 | Regular Talk | **Enhanced Thermoelectric Performance of PbSnTeSe High-Entropy Alloys via Magnetic Doping and Strain Engineering**<br>Boulet Pascal<br>*Aix-Marseille University, Faculty of Sciences, 52 av. Escadrille Normandie-Niemen, Marseille, France* |
| 14:15 | Regular Talk | **Scattering exponent approximation for complex electronic structure thermoelectric materials from ab initio calculations**<br>Go Yuji<br>*School of Engineering, University of Warwick, Coventry, UK* |
| 14:30 | Regular Talk | **Quantifying the impact of band change upon alloying on the power factor**<br>Ankit Kumar<br>*University of Warwick, UK* |
| 14:45 | Regular Talk | **A novel method for evaluating dimensionless thermoelectric properties of fine-grained *n*-type $Bi_2Te_3$ by scattering parameter $\gamma$, materials parameter $\beta$, and reduced Fermi energy $\eta$ at room temperature**<br>Ijitsu Ayumu<br>*Department of Mechanical Science, Division of Science and Technology, Graduate School of Sciences and Technology for Innovation, Tokushima University, Tokushima, Japan* |

| Wednesday, 10 September \| 13:30-15:00<br>Room 201 | | |
|---|---|---|
| 13:30 | Regular Talk | **Mechanochemical Synthesis and Low-Energy Phonon Scattering in Mixed-Anion Chalcohalides $Bi_{13}S_{18}X_2$ (X = I, Br, Cl)**<br>Tiadi Minati<br>*Laboratoire CRISMAT, UMR 6508, CNRS, ENSICAEN, Caen, France* |
| 13:45 | Regular Talk | **Exploring Defect-Driven Phonon Dynamics in GeTe: Raman and Thermal Perspectives**<br>Kamble Vinayak<br>*School of Physics, Indian Institute of Science Education and Research Thiruvananthapuram, India* |
| 14:00 | Invited Talk | **Inelastic Neutron Scattering, an Experimental Tool for Understanding Phonons and Diffusion Processes in Thermoelectric Materials**<br>Michael Marek Koza<br>*Institut Laue Langevin (ILL), Grenoble, France* |
| 14:30 | Regular Talk | **Unraveling the Lattice Dynamics of Silicides: Strategies for Improved Thermoelectric Efficiency**<br>Beaudhuin Mickael<br>*ICGM, Univ Montpellier, CNRS, ENSCM, Montpellier, France* |
| 14:45 | Regular Talk | **s-d Coupling Induced Dynamic Off-centering of Cu Drives High Thermoelectric Performance in TlCuS**<br>Animesh Bhui Animesh<br>*New Chemistry Unit, International Centre for Materials Science and School of Advanced Materials, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Jakkur P.O., Bangalore, India* |

| Wednesday, 10 September \| 13:30-15:00<br>Room 101 | | |
|---|---|---|
| 13:30 | Regular Talk | **Tuning ionic thermoelectric behaviour of Lignin derived hydrogels**<br>Mario Culebras Rubio<br>*Institute of Materials Science (ICMUV), Universitat de València, Paterna, Spain* |
| 13:45 | Regular Talk | **Role of Polymer Electrodes for Liquid and Gelified Thermoelectrochemical Redox Systems for waste-heat recovery applications**<br>Momna Haq<br>*Department of Electronic Engineering, CHOSE—Centre for Hybrid and Organic Solar Energy, University of Rome Tor Vergata, Rome, Italy* |
| 14:00 | Regular Talk | **Effect of gamma radiation on Mg-based thermoelectric materials**<br>Pereira Goncalves Antonio<br>*Centro de Ciências e Tecnologias Nucleares (C2 TN), Departamento de Engenharia e Ciências Nucleares (DECN), Instituto Superior Técnico, Universidade de Lisboa, Campus Tecnológico e Nuclear, Bobadela, Portugal* |
| 14:15 | Regular Talk | **Optimal performance of thermoelectric devices with small external irreversibility**<br>Rajeshree Chakraborty Rajeshree<br>*Indian Institute of Science Education and Research Mohali, Sector 81, S.A.S. Naga, Punjab, India* |
| 14:30 | Invited Talk | **Perspective on thermoelectric applications of heat pump, cooling and geothermal energy**<br>David Astrain<br>*University of Navarre, Spain* |
| *15:00-17:00* | | *Poster session 2*<br>*Beers and Bretzels* |

# THURSDAY, SEPTEMBER 11

| Thursday, 11 September \| 9:00-10:15<br>Auditorium 300 | | |
|---|---|---|
| 9:00 | Plenary | **Driving Innovation and Empowering Wearables: Advances in Thermoelectric Generators for Automotive and Body Heat Harvesting**<br>Olga Caballero<br>*Instituto de Micro y Nanotecnología (IMN-CNM) of the Spanish Research Council (CSIC), Madrid, Spain* |
| 9:45 | Invited talk | **Advancing Thermoelectrics to Market: An Industrial Perspective**<br>Richard Tuley<br>*European Thermodynamics, United Kingdom* |
| *10:15-10:45* | | *Coffee break* |

| Thursday, 11 September \| 10:45-12:00<br>Auditorium 300 | | |
|---|---|---|
| 10:45 | Regular Talk | **Defect Engineering in Cu-Based Diamond-Like Chalcogenides for Enhanced Energy Conversion**<br>Parashchuk Taras<br>*AGH University of Krakow, Faculty of Materials Science and Ceramics, Department of Inorganic Chemistry, Thermoelectric Research Laboratory, Krakow, Poland* |
| 11:00 | Regular Talk | **Mixed main group and alkaline-earth metal containing tellurides with extremely low thermal conductivity values**<br>Prakash Jai<br>*Department of Chemistry, Indian Institute of Technology Hyderabad, Kandi, Telangana, India* |
| 11:15 | Regular Talk | **Process-controlled defect engegnering and intrinsic low thermal conductivity in layered $Cu_2ZrS_3$**<br>Prestipino Carmelo<br>*Laboratoire CRISMAT, UMR 6508, Caen, France* |
| 11:30 | Regular Talk | **Improved thermoelectric efficiency of Sb2Si2Te6 through yttrium-induced nanocompositing**<br>Saglik Kivanc<br>*School of Materials Science and Engineering, Nanyang Technological University, Singapore*<br>*Institute of Materials Research and Engineering (IMRE), Agency for Science, Technology and Research (A*STAR), Singapore* |
| 11:45 | Regular Talk | **Thermoelectric Potential of Te-Free Diamond-Like $Cu_{2-x}Ag_xIn_2Se_4$ Chalcopyrites: Low Thermal Conductivity and High Carrier Mobility**<br>Serrano-Sanchez Federico<br>*Instituto de Ciencia de Materiales de Madrid, CSIC, Cantoblanco, Madrid, Spain* |

| Thursday, 11 September \| 10:45-12:00<br>Room 201 | | |
|---|---|---|
| 10:45 | Regular Talk | **Semiconducting-to-metallic transition leading to large n-type Seebeck coefficient in a copper thiolate-based coordination polymer**<br>Andrade Chloe<br>*Univ Lyon 1, CNRS, ILM, UMR5306, Villeurbanne, France*<br>*Univ Lyon 1, CNRS, IRCELYON, UMR 5256, Villeurbanne, France* |
| 11:00 | Regular Talk | **Seebeck coefficient measurement in bidimensional thickness dependant topologically insulated WSe2**<br>Aubergier Nathan<br>*Université Grenoble Alpes, CNRS, Institut Néel, Grenoble, France* |
| 11:15 | Regular Talk | **Towards a better understanding of the complex defect diffusivity in $Mg_2Si$/metal contact interfaces using Kelvin Probe Force Microscopy**<br>Beck Sarah Emily<br>*University of Duisburg-Essen, Faculty of Engineering, Institute of Electronic Materials and Nanostructures (WET) and CENIDE, Duisburg, Germany* |
| 11:30 | Regular Talk | **Thermal conduction in free-standing monolayer $MoS_2$ and its nanoscroll**<br>Liu Huili<br>*School of Physical Science and Technology, ShanghaiTech University, Shanghai, China* |
| 11:45 | Regular Talk | **Influence of electron-phonon coupling and phonon-drag effect at interfaces on the electronic and thermoelectric transport properties of thin films**<br>Marrot Max<br>*Institute Light and Matter, CNRS and University Lyon 1, Lyon, France* |

| Thursday, 11 September \| 10:45-12:00<br>Room 101 | | |
|---|---|---|
| 10:45 | Regular Talk | **Towards industrial production of high-temperature thermoelectric modules**<br>Pacheco Vicente<br>*Fraunhofer Institute for Manufacturing Technology and Advanced Materials, Dresden Branch. Dresden, Germany* |
| 11:00 | Regular Talk | **Bridging Nanoscale Thermoelectrics: From Lab-Scale Innovations to Prototypes**<br>Marisol Martín-Gonzalez<br>*Instituto de Micro y Nanotecnologñua, IMN-CSIC c/ Isaac Newton 8 Tres Cantos (Madrid) Spain* |
| 11:15 | Regular Talk | **Personalized Thermal Management through Thermoelectric Technology and Textile-based Heat Exchange Systems**<br>Latronico Giovanna<br>*CNR – ICMATE, Lecco, Italy* |
| 11:30 | Regular Talk | **Concept of Solar Tri-generation Using Cold-Side Time-Modulated Heat Withdrawal**<br>Narducci Dario<br>*University of Milano Bicocca, Department of Materials Science, Milan, Italy* |
| 11:45 | Regular Talk | **The Impact of Electrical Connections on Maximum Power Point Tracking within Hybrid Photovoltaic-Thermoelectric Devices**<br>Huq Mashiul<br>*Institut Jean Lamour, Campus Artem, Nancy, France* |
| *12:00-13:30* | *Lunch* | |

| Thursday, 11 September \| 13:30-15:15<br>Auditorium 300 | | |
|---|---|---|
| 13:30 | Invited Talk | **Leveraging Additive Manufacturing to Re-envision Thermoelectric Systems**<br>Saniya LeBlanc<br>*George Washington University, USA* |
| 14:00 | Regular Talk | **Laser Sintering of Thermoelectric Chalcogenides Nanopowders**<br>Fanciulli Carlo<br>*CNR-ICMATE, Lecco, Italy* |
| 14:15 | Regular Talk | **Silicon Germanium alloys developed by additive manufacturing: influence of thermal treatments**<br>Savelli Guillaume<br>*Univ. Grenoble Alpes, CEA, Liten, Grenoble, France* |
| 14:30 | Regular Talk | **Additive screen-printed 3D thermoelectric generators for energy harvesting**<br>Mallick Mofasser<br>*Light Technology Institute, Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany* |
| 14:45 | Regular Talk | **Tailoring the microstructure and thermoelectric properties of CuNi and NiCr by laser powder bed fusion**<br>Karolin Amstein<br>*Leibniz Institute for Solid State and Materials Research (IFW) Dresden, Dresden, Germany* |
| 15:00 | Regular Talk | **Printable and Flexible Thermoelectric Generators from Organic/Inorganic Hybrid Materials**<br>Pakdel Amir<br>*School of Engineering, Trinity College Dublin, The University of Dublin, Dublin, Ireland* |

| Thursday, 11 September \| 13:30-15:15<br>Room 201 | | |
|---|---|---|
| 13:30 | Regular Talk | **Scalable Solution Chemical Synthesis of Nanostructured Thermoelectric Materials**<br>Hamawandi Bejan<br>*Institute of Solid State Physics, University of Latvia, Riga, Latvia.*<br>*Department of Applied Physics, KTH Royal Institute of Technology, Stockholm, Sweden* |
| 13:45 | Regular Talk | **Solution-based synthesis of inorganic metal chalcogenide particles: Methods and thermoelectric properties analysis**<br>Siddiqui Mohammad Waquar Uddin<br>*Institut CARMeN (Ex-LCMT), ENSICAEN, Univeristy of Caen Normandy, France* |
| 14:00 | Invited Talk | **Optimizing Thermoelectric Materials: Balancing Performance, Cost, and Sustainability**<br>Maria Ibañez<br>*Institute of Science and Technology Austria, Klosterneuburg, Austria* |
| 14:30 | Regular Talk | **Seeking for high-performance Ag2Se using a sustainable solution synthesis**<br>Milillo Francesco<br>*Institute of Science and Technology Austria (ISTA)* |
| 14:45 | Regular Talk | **Enhancement of Thermoelectric and Flexibility Performance of Bi-Sb-Te Thin Films *via* $MAPbI_3$ Composite Strategy**<br>Yang Dong<br>*Univ Rennes, CNRS, ISCR (Institute des Sciences Chimiques de Rennes) UMR 6226, Rennes, France*<br>*Shenzhen Key Laboratory of Advanced Thin Films and Applications, Key Laboratory of Optoelectronic Devices and Systems of Ministry of Education and Guangdong Province, State Key Laboratory of Radio Frequency Heterogeneous Integration, College of Physics and Optoelectronic Engineering, Shenzhen University, Shenzhen, Guangdong, China* |
| 15:00 | Regular Talk | **Induction melting synthesis of Mg-based thermoelectric materials**<br>Santos Beatriz<br>*$C^2$ TN, DECN, Instituto Superior Técnico, Universidade de Lisboa, Campus Tecnológico e Nuclear, Bobadela LRS, Portugal* |

| Thursday, 11 September \| 13:30-15:15<br>Room 101 | | |
|---|---|---|
| 13:30 | Regular Talk | **Development of Reliable Interfacial Barrier for Low-Cost Argyrodite Thermoelectric Module**<br>Bohra Anilkumar<br>*Thermoelectric Research Laboratory, Department of Inorganic Chemistry, Faculty of Materials Science and Ceramics, AGH University of Krakow, Krakow, Poland* |
| 13:45 | Regular Talk | **Life Cycle Assessment (LCA) as a Design Tool for Sustainable Thermoelectric Materials, Modules and Systems**<br>Roy Geoffrey<br>*Thermo Power SRL, Belgium*<br>*Institute of Mechanics, Materials, and Civil Engineering, UCLouvain, Belgium* |
| 14:00 | Regular Talk | **Oxidation of skutterudites and their protective coatings: a comparative study**<br>Hodroj Arige<br>*Univ Rennes, CNRS, ISCR– UMR 6226, Rennes, France* |
| 14:15 | Regular Talk | **Environmentally benign low-cost metal chalcogenides for thermoelectric power generation**<br>Farheen Anjum Farheen<br>*Plasmonics and Pervoskite Lab, IIT Kanpur, India* |
| 14:30 | Invited Talk | **Thermoelectric Measurement Methods: From Transport Properties to Generator Characterization**<br>Pawel Ziolkowski<br>*Deutsches Zentrum für Luft- und Raumfahrt (DLR, German Aerospace Center, Cologne, Germany* |
| 15:00 | Regular Talk | **Oxidation Behavior and Integration into High Power Density Thermoelectric Generators of Commercial Half-Heusler Alloys**<br>Soufiane El Oualid<br>*Institut Jean Lamour, UMR 7198 CNRS – Université de Lorraine, Campus ARTEM, Nancy, France* |
| *15:15-15:30* | *Coffee break* | |

| Thursday, 11 September \| 15:45-17:00<br>Auditorium 300 | | |
|---|---|---|
| 15:45 | Regular Talk | **Glass Like Thermal Conductivity in n-type Pb-Sb-Sn-based Sulfide Mineral: Interstitial Rattling and Soft Phonon Modes**<br>Maji Krishnendu<br>*Institute of Science and Technology Austria (ISTA), Am Campus 1 3400 Klosterneuburg Austria* |
| 16:00 | Regular Talk | **Lone Pair Induced 1D Character and Weak Cation-anion Interactions: Two Ingredients for Low Thermal Conductivity in Mixed-anion Metal Chalcohalides**<br>Shen Xingchen<br>*MOE Key Laboratory of Materials Physics and Chemistry under Extraordinary Conditions, School of Physical Science and Technology, Northwestern Polytechnical University, Xi'an, China*<br>*CRISMAT, CNRS, Normandie Univ, ENSICAEN, UNICAEN, Caen, France* |
| 16:15 | Regular Talk | **Phonon Transport in K3SbS4 Solid-State Battery Incorporating an Ion Diffusion Mechanism Using Machine Learning**<br>You Hao-Jen<br>*Institute of Physics, Academia Sinica, Taipei, Taiwan* |
| 16:30 | Regular Talk | **Decoupling Thermoelectric Parameters in $CuCrO_2$: Role of Interlamellar Porosity via $Zn^{2+}$, $Mg^{2+}$, and $Ni^{2+}$ Multi cation-Doping**<br>Sanam P.k Jamshina<br>*Department of Physics, University of Calicut, Malappuram, Kerala* |
| 16:45 | Regular Talk | **Electron-phonon interaction-driven phonon transport attenuation above ambient temperature**<br>Li Wentian<br>*State Key Laboratory of Silicon and Advanced Semiconductor Materials, School of Materials Science and Engineering, Zhejiang University, Hangzhou, China* |

| Thursday, 11 September \| 15:45-17:00<br>Room 201 | | |
|---|---|---|
| 15:45 | Regular Talk | **Thermoelectric Properties of (MoO3)x-doped C60 films**<br>Nakaya Masato<br>*Department of Energy Science and Engineering, Nagoya University* |
| 16:00 | Regular Talk | **Tailoring Defects in ScN Thin Films via Ion Implantation**<br>Poterie Charlotte<br>*PPRIME Institute, CNRS, Université de Poitiers–ENSMA, UPR 3346, SP2MI, TSA 41123, Poitiers, France* |
| 16:15 | Regular Talk | **Electrical transport and Seebeck measurements in highly disordered channels buried in diamond**<br>Salami Sana<br>*Institute of Light and Matter (ILM), CNRS, University Lyon 1, Lyon, France* |
| 16:30 | Regular Talk | **Non-Contact Electrical and Thermal Characterizations of Electrodeposited SnSe Films**<br>Tahir Axel<br>*Université de Lorraine, CNRS, IJL, Metz, France* |
| 16:45 | Regular Talk | **Enhancing Thermoelectric Efficiency in $CrSi_2$ Films through Al Ion Implantation-Induced Energy Filtering**<br>Erwan Oliviero<br>*ICGM, CNRS, Univ. Montpellier, Montpellier, France* |

| Thursday, 11 September \| 15:45-17:00<br>Room 101 | | |
|---|---|---|
| 15:45 | Regular Talk | **Amorphous-like thermal conductivity and high thermoelectric figure of merit in "π" SnS and SnSe**<br>Zhang Min<br>*Department of Chemistry, University of Manchester* |
| 16:00 | Regular Talk | **Thermoelectric properties of pure and Nb doped ScN from first-principles**<br>Legut Dominik<br>*IT4Innovations, VSB - Technical University of Ostrava, Ostrava, Czech Republic* |
| 16:15 | Regular Talk | **Structural and stacking fault modelling of low-density $Cu_{2+y}Zn^{1}_{-y}SnS_{4-x}Se_x$ systems for thermoelectric applications**<br>Malagutti Marcelo<br>*University of Trento - DICAM, via Mesiano 77 – 38123 – Trento-Italy* |
| 16:30 | Regular Talk | **Tuning of electronic structure and thermoelectric properties via defects engineering in $Cu_{8-x}Si(S_3Se_3)_{1-y}I_y$ argyrodites**<br>Tobola Janusz<br>*Faculty of Physics and Applied Computer Science, AGH University, Krakow, Poland* |
| 16:45 | Regular Talk | **Enhancing thermoelectric properties of n-type (Pb-Sn)Te via resonant doping**<br>Pryga Kacper<br>*AGH University of Krakow, Faculty of Physics and Applied Computer Science, Krakow, Poland* |
| *18:00* | | *Departure to the Gala Dinner at the Abbaye* |

# FRIDAY, SEPTEMBER 12

| Friday, 12 September \| 9:00-11:00<br>Auditorium 300 | | |
|---|---|---|
| 9:00 | Plenary | **Radioisotope Thermoelectric Generators for US Space Missions: Past, Present, and Future**<br>Thierry Caillat<br>*Jet Propulsion Laboratory (JPL), NASA, Pasadena, USA* |
| 9:45 | Regular Talk | **Multinary sulpides for thermoelectrics : Mechanochemical synthesis via industrial milling**<br>Balaz Peter<br>*Institute of Geotechnics, Slovak Academy of Sciences, Košice, Slovakia* |
| 10:00 | Regular Talk | **Improving Thermoelectric Efficiency of Hybrid Lignin-Copper Iulfide Materials**<br>Gomez Clara Maria<br>*Institute of Materials Science (ICMUV), Universitat de València, c/ Catedràtic José Beltrán 2, 46980 Paterna, Spain* |
| 10:15 | Regular Talk | **Magneto-thermoelectric properties of selected sulfides**<br>Hebert Sylvie<br>*Laboratoire de Cristallographie et Sciences des Matériaux CRISMAT, Normandie Université, CNRS, ENSICAEN, UNICAEN, Caen, France* |
| 10:30 | Regular Talk | **Solid solution alloying strategy to enhance thermoelectric efficiency of layered metal chalcogenides; $(Bi,Sb)_2Te_3$, $Bi_2(Se,Te)_3$ and beyond**<br>Kim Sang-Il<br>*Department of Materials Science, University of Seoul, South Korea* |
| 10:45 | Regular Talk | **Thermal conductivity imaging to advance microstructure engineering in thermoelectrics**<br>Isotta Eleonora<br>*Nanoanalytics and Interfaces, Max-Planck-Institute for Sustainable Materials, Düsseldorf, Germany* |

| Friday, 11 September \| 9:45-11:00<br>Room 201 | | |
|---|---|---|
| 9:45 | Regular Talk | **A Support to Deep Space Exploration: Transuranium Thermoelectrics Properties Studies**<br>Griveau Jean-Christophe<br>*European Commission, Joint Research Centre (JRC), Karlsruhe, Germany* |
| 10:00 | Regular Talk | **Thermal Wave Dynamics and Thermoelectric Transport in InGaAs/GaAs Superlattices**<br>Ankur Chatterjee<br>*Institute of Physics, Faculty of Physics, Astronomy and Informatics, Nicolaus Copernicus University in Toruń, Torun, Poland*<br>*Chair of Applied Solid-State Physics, Experimental Physics VI, Ruhr-University Bochum, Bochum, Germany* |
| 10:15 | Regular Talk | **Efficient and stable MgAgSb-based thermoelectric devices**<br>Zuo Wusheng<br>*State Key Laboratory of Advanced Fiber Materials, College of Materials Science and Engineering, Donghua University, Shanghai, , China* |
| 10:30 | Regular Talk | **Primary and Secondary Properties of Amorphous TiNiSn for Flexible Thermoelectric Devices**<br>Khayyamifar Sana<br>*Department of Materials Science and Applied Mathematics, Malmö University, Malmö, Sweden*<br>*Biofilms Research Center for Biointerfaces, Malmö University, Malmö, Sweden* |
| 10:45 | Regular Talk | **Relative Leg-Height Optimized Micro-Thermoelectric Devices**<br>Pulumati Nithin Bharadwaj<br>*Institute for Metallic Materials, Leibniz Institute of Solid State and Materials Research, Dresden, Germany*<br>*TU Dresden, Faculty of Mechanical Engineering, Dresden, Germany* |

| Thursday, 11 September \| 9:45-11:00<br>Room 101 | | |
|---|---|---|
| 9:45 | Regular Talk | **Halide perovskites as thermoelectric materials**<br>Fenwick Oliver<br>*School of Engineering and Materials Science, Queen Mary University of London, UK* |
| 10:00 | Regular Talk | **The Potential of High-Entropy Oxides: Insights from Perovskite Structures**<br>Moll Adrien<br>*ICMMO, University Paris-Saclay, UMR CNRS 8182, Orsay, France* |
| 10:15 | Regular Talk | **Grain Boundary Engineering to Enhance $Mg_2(Si,Sn)$ Stability**<br>Duparchy Amandine<br>*German Aerospace Center, Institute of Materials Research, Cologne, Germany* |
| 10:30 | Regular Talk | **Silicide thermoelectric modules based on high purity Si and recycled Si-kerf**<br>S. Ioannou Panagiotis<br>*Department of Mechanical and Manufacturing Engineering, University of Cyprus, Nicosia, Cyprus* |
| 10:45 | Regular Talk | **A simple formula for calculating the carrier relaxation time**<br>Mili Ilyas<br>*Department of Physics, Faculty of Science, University of M'sila, M'sila, Algeria*<br>*Laboratory of Physics and Chemistry of Materials, University of M'sila, Algeria* |
| *11:00-11:30* | | *Coffee break* |
| *11:30-12:00* | | *Aryan Sankhlar (ETS thesis award)*<br>*Poster awards*<br>*Announcement ECT2026* |
| *12:00-13:30* | | *Lunch* |