MONDAY

9:00	**OPENING CEREMONY**		
	OPENING REMARKS		
	PLENARY SESSION (CHAIR)		
9:45-10h30	**Prof. Dr. Y. GRIN** **Max Planck Institute for Chemical Physics of Solids, Dresden, Germany** **"Interplay of crystal structure, chemical bonding and thermoelectric behavior"**		
10:30-11:15	**Dr. J-P. FLEURIAL** **Jet Propulsion Laboratory - Thermal Energy Conversion Research & Advancement Group, Pasadena, California, United States of America** **"A 50 Year-Long Breakthrough in the Making: Radioisotope Thermoelectric Generators with New Materials"**		
11:15-12:00	**Prof. Dr. T. MORI** **NIMS, Tsukuba, Japan** **"Utilization of Magnetism and Other Novel Principles for Thermoelectric Enhancement and Recent Activities in Asia"**		
	Track 1 **(Ballroom A)**	**Track 2** **(Ballroom B)**	**Track 3** **(Ballroom C)**
	Zintl Phases **Session Chair:**	**Applications** **Session Chair:**	**Chalcogenides (S, Se, Te) {Modelization}** **Session Chair:**
14:00-14:15	**INVITED** **Crystal Chemistry of New (and some old) Zintl Phases** Svilen Bobev *University of Delaware (US)*	**Modeling and Simulation of a Thermoelectric Generator Using Bismuth Telluride for Waste Heat Recovery in Automotive Diesel Engine** Ali Nour Eddine *École Centrale de Nantes (France)*	**Electronic structure of $Sn_{1-x}In_xTe$ containing defects from KKR-CPA calculations** Janusz Tobola *AGH University of Science and Technology, Faculty of Physics and Applied Computer Science (Poland)*
14:15-14:30		**Wearable Thermoelectric Generators for Powering Health Monitoring Sensors** Daryoosh Vashaee *North Carolina State University (US)*	**Modeling Dopability in Diamond-like Semiconductors Using Machine Learning for High-throughput Predictions** Samuel Miller *Northwestern University (US)*
14:30-14:45	**Zintl ions within framework channels: the complex structure and low-temperature transport properties of Na_4Ge_{13}** Stefan Stefanoski *Benedictine University (US)*	**INVITED** **Development of integrated micro-thermoelectric sensors for IC applications** Guillaume Savelli *Université Grenoble Alpes, CEA-Liten (France)*	**Negative Thermal Expansion of GeTe near the Ferroelectric Phase Transition from First Principles** Djordje Dangic *University College Cork (Ireland)*
14:45-15:00	**Experimental Investigation of Thermoelectric Properties of $KSb_{2-x}Sn_x$** Hyungyu Jin *Pohang University of Science and Technology (POSTECH) (South Korea)*		**Engineering thermal conductivity through microstructural lattice softening** Riley Hanus *Department of Materials Science and Engineering (US)*

15:00-15:15	**The $A_{14}MPn_{11}$: good thermoelectric materials with low valley degeneracy.** Geoffroy Hautier *Institute of Condensed Matter and Nanosciences (IMCN), Université Catholique de Louvain (Belgium)*	**New prototype of a thermoelectric heat pump with heat pipes for the air condition of a Nearly Zero Energy Building** Sergio Diaz De Garayo *CENER (Spain)*	**INVITED** **Acoustically mismatched nano-inclusions** Raphael Hermann *Oak Ridge National Laboratory - MSTD (United States)*
15:15-15:30	**Thermoelectric properties of a new Zintl phase $NaZn_4As_3$ with ultralow thermal conductivity** Aichi Yamashita *University of Tsukuba (Japan), - WPI-MANA, NIMS - AIST (Japan)*	**Small size thermoelectric power supply for battery backup** Hossein Abedi *CNR-Institute of Condensed Matter Chemistry and Technologies for Energy (Italy)*	
15:30-15:45	**INVITED** **Thermoelectric Behavior of Silver-Cluster Phosphides: Origin and Optimization** Juergen Nuss *Max Planck Institute for Solid State Research (Germany)*	**On the progress in some actual trends in application of thermoelectricity in the Institute of Thermoelectricity (Ukraine)** Valentin Lysko *Institute of Thermoelectricity NAS and MES of Ukraine (Ukraine)*	**Phonon dispersion and scattering considerations for thermoelectrics** Yanzhong Pei *School of Materials Science and Engineering, Tongji University (China)*
15:45-16:00		**Measurement and analysis of thermal conductivity, thermal diffusivity and interfacial thermal resistance of thermoelectric thin films** Takahiro Baba *PicoTherm Corporation (Japan)*	**Rattling dynamics under a planar coordination in tetrahedrites** Chul-Ho Lee *National Institute of Advanced Industrial Science and Technology (AIST) (Japan)*
16:00-16:30	**COFFEE BREAK**		
	Modules Development and Technology **Session Chair:**	**Modelling** **Session Chair:**	**Chalcogenides (S, Se, Te)** **Session Chair:**
16 :30-16 :45	**Concept of a Thermoelectric Module and Generator for Automotive Applications Based on an Integrated Functional Design** Lars Heber *Institute of Vehicle Concepts (Germany)*	**INVITED** **On the Search of Novel Compounds Featuring Thermoelectric Properties. Some Suggestions Based on Theoretical Considerations** Jean-Francois Halet *Institut des Sciences Chimiques de Rennes (France)*	**Improved Thermoelectric Performance in Non-stoichiometric $Cu_{2+\gamma}Mn_{1-\gamma}SnSe_4$ Quaternary Diamond-like Compounds** Qingfeng Song *Shanghai Institute of Ceramics, Chinese Academy of Science, University of Chinese Academy of Sciences (China)*
16:45-17h00	**Demonstrated High-Performance, High-Power Skutterudite Thermoelectric Modules for Space and Terrestrial Applications** Terry Hendricks *NASA Jet Propulsion Laboratory (US)*		**Rhombohedral to Cubic Conversion of GeTe via MnTe alloying Leads to Ultralow Thermal Conductivity, Electronic Band Convergence and High Thermoelectric Performance** Zheng Zheng *Wuhan University of Technology (China)*
17h00-17h15	**Development of High Efficiency Segmented Thermoelectric Couples for Space Applications** Fivos Drymiotis *NASA Jet Propulsion Laboratory (US)*	**Minimum thermal conductivity in the context of diffuson-mediated thermal transport** Matthias Agne *Northwestern University (US)*	**Thermoelectric features of the $Cu_7P(Se_{1-x}S_x)_6$ with high copper ionic mobility** Michal Piasecki *Institute of Physics J.Dlugosz University (Poland)*
17h15-17h30	**Silicides thermoelectric modules: performances and challenges** Krunoslav Romanjek *Université de Grenoble-Alpes (France)*	**Effects of Grain Size and Grain Boundary Nanostructures on Lattice Thermal Conductivity of MgO** Susumu Fujii	**Effect of solid solution on the band structure and thermoelectric properties of $Cu_2Sn(S_xSe_{1-x})_3$ ($0 < x < 1.0$)** Muhammad Siyar *Department of Materials Science and Engineering, Seoul*

		Department of Adaptive Machine Systems, Osaka University (Japan)	*National University (South Korea), - Department of Materials Engineering, SCME, NUST, (Pakistan)*
17h30-17h45	**Economic profitability of hybrid photovoltaic-thermoelectric solar harvesters** Dario Narducci *Dept. of Materials Science, University of Milano Bicocca (Italy)*	**Investigation of phonon states in a poor thermal crystalline conductor by means of inelastic scattering spectroscopy** Stéphane Pailhès *Institut Lumière Matière (France)*	**Native Defects in SnSe and their Temperature Dependence** Katerina Sraitrova *University of Pardubice, Faculty of Chemical Technology (Czech Republic)*
17h45-18h00	**Efficiency of an automated dissipation system applied to Bi_2Te_3 and multi-stage modules** Fabio Puglia *ISC - Balistic (Italy)*	**Three dimensional finite element simulation of a flexible µ-TEG based on bismuth telluride** Soufiane Eloualid *Institut Jean Lamour (France)*	**Harnessing thermoelectric effects in vertical phase change memory cells** Jyotsna Bahl *Center for Research in Nano Technology and Sciences (CRNTS), IIT Bombay (India)*

TUESDAY

	Track 1 (Ballroom A)	Track 2 (Ballroom B)	Track 3 (Ballroom C)
	Zintl Phases {Mg_3Sb_2} **Session Chair:**	**Chalcogenides (S, Se, Te)** **Session Chair :**	**Modules Development and Technology** **Session Chair:**
08:30-08:45	**INVITED** **Phase boundary mapping for the discovery and optimization of thermoelectric materials** Jeff Snyder *Northwestern University (US)*	**Donor-type doping in BiCuSeO: from high ZT values in p-type materials towards p-to-n type switching** David Berardan *Univ. Paris-Sud (France)*	**µTEGs for Self-Powered Sensor Nodes: Device Optimization and System Integration** Jane Cornett *Analog Devices (US)*
08:45-09:00		**Thermoelectric properties of oxysulfide $Bi_{1-x}Pb_xCuOS$ compounds** Jean-Baptiste Labégorre *Laboratoire CRISMAT (France)*	**Human body-heat energy harvesters based on transverse thermoelectric effects** Je-Hyeong Bahk *EECS Dept, University of Cincinnati (US)*
09:00-09:15	**Enhancement of average ZT of n-type $Mg_3(Sb,Bi)_2$ by increasing grain size** Hiromasa Tamaki *Panasonic Corporation (Japan)*	**Data-driven Discovery of Cu-S based Thermoelectric Materials** Ruizhi Zhang *School of Engeneering and Material Science, Queen Mary University of London (UK)*	**Characterization of micro thermoelectric coolers with high packing density** Heiko Reith *Leibniz Institute for Solid State and Materials Research - IFW Dresden (Dresden, Germany) (Germany)*
09:15-09:30	**Probing the Thermal Stability Te-doped $Mg_3Sb_{1.5}Bi_{0.5}$ via Combined Total Scattering and Powder Diffraction** Lasse Rabøl Jørgensen *Center for Materials Crystallography, Department of Chemistry, Aarhus University (Denmark)*	**INVITED** **Interplay between the structural and thermoelectric properties in Cu-S based synthetic minerals** Koichiro Suekuni *Department of Applied Science for Electronics and Materials, Interdisciplinary Graduate School of Engineering Sciences, Kyushu University (Japan)*	**Thermoelectric nanogenerator array: a viable source of power for the autonomy of wireless sensors networks?** Dimitri Tainoff *Institut Néel (France)*
09:30-09:45	**Observation of Valence band crossing: The Thermoelectric Properties of the $CaZn_2Sb_2$-$CaMg_2Sb_2$ Solid Solution** Max Wood *Northwestern University (US)*		**A High Efficient Thermoelectric Module with Heat Storage utilizing Sensible Heat for IoT Power Supply** Kanae Nakagawa *FUJITSU LABORATORIES LTD. (Japan)*
09:45-10:00	**A non-traditional route to low lattice thermal conductivity: small atoms in a simple structure** Alexandra Zevalkink *Michigan State University (US)*	**A structural and thermoelectric study of a Cu-rich sulfide family: the germanite $Cu_{26-x}Fe_{4+x}Ge_4S_{32}$** Laura Paradis-Fortin *Laboratoire CRISMAT - Institut des Sciences Chimiques de Rennes (France)*	**Fabrication and characterization of thermoelectric generators based on silicon nanowire forests** Giovanni Pennelli *Dipartimento di Ingegneria dellÕnformazione, University of Pisa (Italy)*
10:00-10:15	**INVITED** **Chemical bonding In layered thermoelectric materials** Bo Iversen *Center for Materials Crystallography, Department of Chemistry, Aarhus University (Denmark)*	**High-performance thermoelectric bulk colusite by process controlled structural disordering** Cédric Bourgès *Department of Applied Physics, Graduate School of Engineering, Tohoku University (Japan)*	**Development of high durability substrate for thermoelectric module** Koya Arai *Central Research institute, Mitsubichi materials corporation (Japan)*
10:15-10:30		**Effect of composition on thermoelectric properties of as-cast materials: the $Cu_{12-x}Co_xSb_4S_{13-y}Se_y$ case** Antonio Pereira Goncalves C²TN (Portugal), Institut für Mineralogie (Germany)	**Experimental evidence for separation of thermally generated bipolar charge carriers within a p-i-n-junction** Franziska Maculewicz *University of Duisburg-Essen, Institute of Technology for Nanostructurs & CENIDE (Germany)*

10:30-11:00	**COFFEE BREAK**		
	Applications **Session Chair :**	**Chalcogenides (S, Se, Te)** **Session Chair:**	**Other materials** **Session Chair :**
11:00-11:15	**Very long lifetime terrestrial RTG with Americium heat power source** Joël Dufourcq *HotBlock OnBoard (France)*	**Pulsed Hybrid Reactive Magnetron Sputtering as a new technique to obtain high quality selenides** Marisol Martin Gonzalez *Instituto Micro y Nanotecnología IMN-CNM-CSIC (Spain)*	**Electron-poor Al-Ge narrow gap semiconductors: comparison with thermoelectric Zn-Sb compounds** Mickael Beaudhuin *Institut Charles Gerhardt Montpellier - Institut de Chimie Moléculaire et des Matériaux de Montpellier (France)*
11:15-11:30	**Benefits of integrating vehicular thermoelectric generators with exhaust heat recovery apparatus** Byung-Wook Kim *Corporate R&D Division for Hyundai Motor Company & Kia Motors Corporation (South Korea)*	**Improved electrical transport properties and optimized thermoelectric figure of merit in lithium-doped copper sulfides** Mengjia Guan *Shanghai Institute of Ceramics, Chinese Academy of Science (China)*	**Structural analysis of beta- and gamma-phases of Zn_4Sb_3 thermoelectrics** Kei Hayashi *Department of Applied Physics, Graduate School of Engineering, Tohoku University (Japan)*
11:30-11:45	**INVITED** **Thermal management in automotive applications** Vladimir Jovojich *Gentherm (US)*	**Suppressing Intervalley scattering for p-type InTe by nanoprecipitates** Xu Lu *Chongqing University (China)*	**Kondo-like phonon scattering in thermoelectric clathrates** Silke Paschen Institute of Solid State Physics, Vienna University of Technology (Austria)
11:45-12:00		**Unconventional Heat Transport Induced by Phase Transition in $Cu_{2-x}Se$** Dimitri Vasilevskiy *Ecole Polytechnique de Montreal - TEMTE Inc (Canada)*	**Looking for stable thermoelectric materials** *Karl Frederik Færch Fischer* *Department of Chemistry, Aarhus University (Denmark)*
12:00-12:15	**RTGs: the enduring and the future** David Woerner *Jet Propulsion Laboratory (United States)*	**INVITED** **Intrinsically low thermal conductivity in metal chalcogenides for high performance thermoelectric energy conversion** Kanishka Biswas *Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), (India)*	**Thermoelectric Properties and Search for condition of insulator transition in Al-Ir based quasicrystalline approximants** Yutaka Iwasaki *Department of Advanced Materials Science,The University of Tokyo (Japan)*
12:15-12:30	**Power Enhancement of Si Membrane-based Thermoelectric Generator by Aluminium Ultrathin Layer Deposition** Ryoto Yanagisawa *IIS, The University of Tokyo (Japan)*		**Suppression of vacancies boosts thermoelectric performance in type-I clathrate** Xinlin Yan *Institute of Solid State Physics, Vienna University of Technology (Austria)*
12:30-14:00	**LUNCH**		
	Other materials {Heusler} **Session Chair:**	**Silicides** **Session Chair:**	**Chalcogenides (S, Se, Te) {Telluride}** **Session Chair:**
14:00-14:15	**INVITED** **Understanding and tuning full-Heusler thermoelectric materials based on Fe_2VAl**	**Rapid oxidation in $Mg_2(Si-Sn)$ alloys; optimization via tin reduction and nanostructuring approach** Christelle Navone	**Thermoelectric Performance of Bi_2Te_3 by Acceptor Type Germanium Doping** Niraj Singh

	Ernst Bauer *Christian Doppler Laboratory for Thermoelectricity, Institute of Solid State Physics, Technische Universitat Wien (Austria)*	*Univ. Grenoble Alpes, CEA-LITEN (France)*	*School of Basic Sciences, Indian Institute of Technology Mandi, (India)*
14:15-14:30		**Exploit Si-kerf from Photovoltaics: A Promising Application on the Thermoelectrics** Theodora Kyratsi *University of Cyprus (Cyprus)*	**Increasing of Z factor for Bi_2Te_3-Sb_2Te_3** Zinovi Dashevsky *SCTB NORD Company (Russia)*
14:30-14:45	**Thermoelectric properties of p- and n-type doped ScNiSb** Donald Morelli *Michigan State University (US)*	**Insight on band structure of p-type $Mg_2Si_{1-x}Sn_x$ with x=0-1 using a single parabolic band** Hasbuna Kamila *German Aerospace Center (DLR) (Germany)*	**INVITED** **Nano-SiC-dispersed Thermoelectric Composites** Jing-Feng Li *State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science and Engineering, Tsinghua University (China)*
14:45-15:00	**Facile Synthesis of FeNbSb based Half-Heusler Thermoelectric Materials** Nader Farahi *German Aerospace Center (DLR) (Germany)*	**Contact development for n and p-type $Mg_2(Si,Sn)$** Johannes De Boor *German Aerospace Center (DLR) (Germany)*	
15:00-15:15	**Phonon scattering by antiphase boundaries in Fe_2VAl** Eric Alleno *Institut de Chimie et des Matériaux Paris Est (France)*	**INVITED** **Recent Progress in Silicide-based Thermoelectric Materials** Yuzuru Miyazaki *Department of Applied Physics, Graduate School of Engineering, Tohoku University (Japan)*	**Two-Dimensional Nanostructuring for Enhanced Thermoelectric Performance of Bismuth Telluride Selenide Alloys** Christoph Bauer *Technische Universitat Dresden, Physical Chemistry (Germany)*
15:15-15:30	**Industrialized Half-Heusler material and thermoelectric modules therefrom** Daniel Zuckermann *Isabellenhütte Heusler GmbH & Co. KGDillenburgGermany*		**Effects of defects induced by pressure and temperature on thermoelectric $CuGaTe_2$ chalcopyrite structure materials** Yosuke Fujii *Osaka Prefecture University (Japan)*
15:30-15:45	**High-Entropy Half-Heusler Thermoelectrics with High ZT~1.5** Peter Franz Rogl *Institute of Materials Chemistry, University of Vienna (Austria)*	**INVITED** **$Mg_2Si_{1-x}Sn_x$ solid solutions: phase formation and challenges in their electrical contacting** Vicente Pacheco *Fraunhofer Institute for Manufacturing Technology and Advanced Materials, IFAM (Germany)*	**Transition metals in ternary rocksalt-type tellurides? doping vs. precipitates** Oliver Oeckler *Leipzig University, Faculty of Chemistry and Mineralogy, IMKM (Germany)*
15:45-16:00	**Half-Heuslers, a compound not as stable as one stipulate.** Robin Lefèvre *Interdisciplinary Nanoscience Center (iNANO) (Denmark)*		**Chalcogenide-based nanocomposites for thermoelectric applications** Valentina Giordano *Institut Lumière Matière (France)*
16:00-16:30	**COFFEE**		
	New materials and New Materials Discovery **Session Chair:**	**Modelling** **Session Chair:**	**Zintl Phases {Other Phases}** **Session Chair:**
16:30-16:45	**INVITED** **Composite Structures in Thermoelectric Materials** **Holger Kleinke** *University of Waterloo (Canada)*	**Molecular dynamics simulations to understand phonon transport in nanoporous materials** Laura De Sousa Oliveira *University of Warwick [Coventry] (United Kingdom)*	**Computational Investigation of n-type Doping of Layered Antimonides: Mg_3Sb_2 and KSnSb** Prashun Gorai *Colorado School of Mines, National Renewable Energy Laboratory (US)*
16:45-17:00		**Thermoelectric properties of TiNiSn and ZrNiSn half-**	**New Insight on Tuning Electrical Transport Properties**

		Heusler alloys through ab-initio calculation and experiments Lorenzo Maschio *Università degli Studi di Torino (Italy)*	**via Chalcogen Doping in n-type Mg_3Sb_2-Based Thermoelectric Materials** Jiawei Zhang *Center for Materials Crystallography, Department of Chemistry, Aarhus University (Denmark)*
17:00-17:15	**High ZT in MnTe via spin physics** Joseph Heremans *The Ohio State University (United States)*	**INVITED** **Defects and their influence on the thermoelectric properties of materials: an ab initio study** Philippe Jund *Institut Charles Gerhardt - Université de Montpellier (France)*	**Effect of Ag-doping on the thermoelectric properties of $BaCu_2Te_2$** Chunhui Yang *School of Materials Science and Engineering, Shanghai University, China*
17:15-17:30	**Dopant Induced Impurity Bands and Carrier Concentration Control for Thermoelectric Enhancement in p-Type $Cr_2Ge_2Te_6$** Guoyu Wang *College of Physics, Chongqing University (China)*		**HRPD and HREM study of p- and n-type semiconductor $Y_xAl_yB_{14}$** Tsuyoshi Kajitani *Institute of Multidisciplinary Research for Advanced Materials (IMRAM) Tohoku University (Japan)*
17:30-17:45	**Large Nernst power factor in polycrystalline topological semimetal NbP** Chenguang Fu *Max Planck Institute for Chemical Physics of Solids (Germany)*	**Quantum transport simulations of thermoelectric power factor in materials with hierarchical nanostructuring** Vassilios Vargiamidis *School of Engineering, University of Warwick (UK)*	**First principles study on the thermoelectric properties of 122 Zintl phase compounds** Hidetomo Usui *Department of Physics, Osaka University (Japan)*
17:45-18:00	**Development of high-performance thermoelectric materials guided by large-scale experimental data** Takushi Kodani *National Institute for Materials Science - The University of Tokyo (Japan)*	**Defect-induced simultaneous increase of the conductivity and Seebeck coefficient in p-doped polycrystalline materials and enhanced thermoelectric power factor** Xanthippi Zianni *Dept. of Aircraft Technology, Technological Educational Institution of Sterea Ellada (Greece)*	**Band engineering of the Mg_3Sb_2-Mg_3Bi_2 alloy composition investigated with transport analysis** Kazuki Imasato *Northwestern University (US)*
18:00-18:15	**Experimental force multipliers for accelerating thermoelectric material discovery** Eric Toberer *Colorado School of Mines (US)*	Metamaterials for Harnessing Thermoelectric Flow Lilia Woods *University of South Florida (US)*	**High thermoelectric properties of As-based 122-Zintl coupounds $Ba_{1-x}K_xCd_2As_2$** Haruno Kunioka *National Institute of Advanced Industrial Science and Technology (AIST) - Tokyo University of Science (Japan)*
18:15-18:30	**A Valence Balanced Rule for Discovery of new Dimensions of defective half-Heuslers** Anand Shashwat Northwestern University (US)	**Detailed Transient Multiphysics Model for Fast and Accurate Design, Simulation and Optimization of a Thermoelectric Generator (TEG) or Thermal Energy Harvesting Device** Alfred Piggott *Applied Thermoelectric Solutions LLC (US)*	

WEDNESDAY

	Track 1 (Ballroom A) Chalcogenides (S, Se, Te) Session Chair :	Track 2 (Ballroom B) New Materials and New Materials Discovery Session Chair:	Track 3 (Ballroom C) Modelling Session Chair:
08:30-08:45	**Mechanochemistry for Thermoelectrics: Nanobulk Mawsonite $Cu_6Fe_2SnS_8$ Synthesized in an Industrial Mill** Peter Balaz *Institute of Geotechnics (Slovakia)*	**INVITED** **Structure and bonding, and their role in thermal transport of materials for thermoelectrics applications: It's not just about skutterudites and clathrates anymore!** Georges Nolas *University of South Florida (US)*	**Beyond ZT. Is there a limit of thermoelectric figure of merit?** Yuriy Lobunets *Solid Cell Inc. (US)*
08:45-09:00	**Copper rich complex Sulfides for Thermoelectric applications** Pavan Kumar Ventrapati *Laboratoire CRISMAT (France)*		**Direct Current Polarity-Reversal Technique to Measure the Thomson Coefficient to Determine the Absolute Seebeck Coefficient** Yasutaka Amagai *National institute of advanced industrial Technology (Japan)*
09:00-09:15	**Low-temperature structure of tetrahedrite** Paz Vaqueiro *University of Reading (UK)*	**Shock-compression as a novel method of preparation of nanostructured $CoSb_3$ skutterudite** Krzysztof Wojciechowski *AGH University of Science and Technology (Poland)*	**INVITED** **The Effective Mass: Our Stranger Friend** Marco Fornari *Central Michigan University (US)*
09:15-09:30	**Large-scale Colloidal Synthesis and Twin Engineering in Nonstoichiometric Cu_5FeS_4 Nanoparticles for Enhanced Thermoelectric Performance** Xiaoyuan Zhou *College of Physics, Chongqing University (China)*	**High-pressure synthesis of tetragonal iron aluminide $FeAl_2$** Kazuki Tobita *The University of Tokyo (Japan)*	
09:30-09:45	**INVITED** **Mineral-Related Sulphides and Selenides for Thermoelectric Energy Harvesting** Anthony V. Powell *University of Reading (UK)*	**Optimization of Thermoelectric Transport Properties on Weak Topological Insulator $Bi_{14}Rh_3I_9$** Ping Wei *State Key Laboratory of Advanced Technology for Materials Synthesis and Processing, Wuhan University of Technology (China)*	**A Study on the Reliability of Thermoelectric Couple Networks** Christopher Matthes *NASA Jet Propulsion Laboratory, California Institute of Technology (US)*
09:45-10:00		**Semimetals as potential thermoelectric materials** Mona Zebarjadi, University of Virginia (US)	**Phonon transport across a Si/Ge interface: the role of inelastic scattering** Jesse Maassen, Dalhousie University (Canada)
10:00-10:15	**Thermoelectric Performance of Tetrahedrite Synthesized by a Solution-Phase Method** Daniel Weller *Michigan State University (US)*	**Metal Phosphides as Overlooked Thermoelectric Materials** Umut Aydemir *Department of Chemistry, Koc University (Turkey)*	**The importance of considering parasitic heat losses in modelling TEG performance for high temperature application** Schwurack Roy *Technische Universität Dresden (Germany)*
10:15-10:30	**Structural phase transitions at high temperature of thermoelectric copper-based sulfides studied by in situ techniques** Pierric Lemoine *Institut des Sciences Chimiques de Rennes (France)*	**A web application "Starrydata" for collecting and sharing plot data on published papers** Masaya Kumagai *SAKURA Internet Inc. (Japan)*	**Theoretical study on thermoelectric properties of metal/semiconductor multilayer with weak electron-phonon coupling** Shin Yabuuchi *Hitachi, Ltd. (Japan)*

10:30-11:00	**COFFEE BREAK**		
	Chalcogenides (S, Se, Te) **Session Chair:**	**Modules Development and Technology** **Session Chair :**	**Oxides** **Session Chair :**
11:00-11:15	**Improving the thermoelectric efficiency of $La_{3-x}Te_4$ via f-orbital chemistry** Sabah Bux *Jet Propulsion Laboratory (US)*	**Reliability Evaluation System for the Thermoelectric Power Generation Module Simulating Thermal Cycle** Joon Heo *BlueSys Co., Ltd. (South Korea)*	**INVITED** **Exploiting Interfaces to Enhance the Performance of Oxide Thermoelectrics** Robert Freer *University of Manchester (UK)*
11:15-11:30	**Phase boundary mapping and phase discovery in a quaternary system: carrier density control in $Cu_2HgGeTe_4$** Brenden Ortiz *Colorado School of Mines (US)*	**A New Model for Characterising Thermoelectric Modules by Impedance Spectroscopy and its Application in Qualification and Assessing In-service Degradation** Hugo Williams *University of Leicester (UK)*	
11:30-11 :45	**INVITED** **Considerations for enhancement of the thermoelectric potential of semiconductors** Yaniv Gelbstein *Ben Gurion University (Israel)*	**Design of Thermal Contacts for High Performances Heusler-Based Thermoelectric Modules** Geoffrey Roy *Université catholique de Louvain, Institute of Mechanics, Materials and Civil Engineering, Materials and process Engineering, IMAP (Belgium)*	**Redox-promoted enhancement of thermoelectric performance in strontium titanate-based materials** Andrei Kovalevsky *CICECO, Aveiro Institute of Materials, Department of Materials and Ceramic Engineering, University of Aveiro (Portugal)*
11:45-12:00		**Effect of electrical contact resistance on the performance of cascade thermoelectric coolers** Volodymyr Semeniuk *Thermion Company (Ukraine)*	**Challenges to enhance the thermoelectric properties of ZnO-based ceramics** Slavko Bernik *Jozef Stefan Institute (Slovenia)*
12:00-12:15	**Promising thermoelectric performance in both rhombohedral and cubic GeTe** Juan Li *Interdisciplinary Materials Research Center School of Materials Science and Engineering, Tongji University (China)*	**Non-linear impedance spectroscopy: beyond the ZT estimation** Etienne Thiebault *Centre de Nanosciences et de Nanotechnologies (France)*	**Synthesis, sintering and thermoelectric properties of $Sr_{1-x}La_xCoO_3$ cubic perovskite ceramics** Fabian Delorme *Université de Tours (France)*
12:15-12:30	Anomalous transport phenomena and thermoelectric performance enhancement in the Cu-overstuffed ferromagnetic spinel $Cu_{1+x}Cu_2Te_4$ Jean-Baptiste Vaney *NIMS Tsukuba (Japan)*	**Detachable Contacts for Simultaneous Thermoelectric Characterization** Antoine Micallef *German Aerospace Center (DLR) (Germany)*	**Defect and Schottky Barrier Engineering in Thermoelectric $SrTiO_{3-\delta}$ Ceramics** Soonil Lee *School of Materials Science and Engineering (South Korea)*
12:30-14:00	**LUNCH**		
	Silicides **Session Chair:**	**Other Materials {Skutterudites}** **Session Chair:**	**Process** **Session Chair:**
14:00-14:15	**INVITED** **Silicon and metal silicides nanocomposites as high-performance thermoelectric materials** Ken Kurosaki	**Thermoelectric characterization of n-type and p-type skutterudites fabricated in a up-scalable way** Olga Caballero-Calero *Instituto de Micro y Nanotecnologìa (Spain)*	**Porous thermoelectric materials and their applications** Teruyuki Ikeda *Ibaraki University (Japan)*

14:15-14:30	*Graduate School of Engineering, Osaka University (Japan)*	**Experimental and Computational Phase Boundary Mapping of Co-Sn-Te Phase Space for Skutterudites** Caitlin Crawford *Colorado School of Mines (US)*	**Fabrication Of Filled Skutterudites With High Thermoelectric Performance Using Scanning Laser Melting Method** Shengqiang Bai *Shanghai Institute of Ceramics, Chinese Academy of Sciences (China)*
14:30-14:45	**Thermoelectric and galvanomagnetic properties of topologically non-trivial (Co-M)Si "new fermion" semimetals (M=Fe, Ni)** Alexander Burkov *Ioffe Institute (Russia)*	**Analysis and Risk Mitigation of Raw Materials Sourcing and the Implications for eMMRTG Skutterudite Couple Performance** Tim Holgate *Teledyne Energy Systems, Inc. (US)*	**Contact layer development on bismuth Telluride thermoelectric materials using novel light sintering technique** Giri Joshi *Nanohmics, Inc. (US)*
14:45:15:00	**Screening silicide thermoelectric materials using ab initio transport calculations** Martin Lovvik *SINTEF (Norway)*	**Synergistically enhancement of thermoelectric properties in partially filled $CoSb_3$ skutterudites through simultaneous doping and nanostructuring** Manjusha Battabyal *International Advanced Research Centre for Powder Metallurgy and New Materials (India)*	**Near-net-shape fabrication of thermoelectric element by flash sintering** Masashi Mikami *National Institute of Advanced Industrial Science and Technology (Japan)*
15:00-15:15	**Demonstration of thermoelectric generation in the metallurgic industry** Marteen Den Heijer, *RGS Development B.V. (Netherlands)*	**Magnesioreduction : a low temperature synthesis route towards $CoSb_3$-based skutterudites with improved thermoelectric properties** Sylvain Le Tonquesse *Institut des Sciences Chimiques de Rennes (France)*	**Laser sintering of thermoelectric compounds** Yoshiaki Kinemuchi *National Institute of Advanced Industrial Science and Technology (Japan)*
15:15-15:30	**A thermal-shock resistant, high performance, SiGe thermoelectric generator for industrial waste heat applications** Axel Schoenecker *RGS Development B.V. (Netherlands)*	**Optimisation Strategies for Double filled $In_xLa_{0.25}Co_4Sb_{12}$ ($0 \leq x \leq 0.5$) skutterudite material** Mohd Faizul Mohd Sabri *University of Malaya (Malaysia)*	**Enhancing transport properties of $Bi_2Te_{3-x}Se_x$ alloys via doping for thermoelectric power generation applications** Omer Meroz *Ben-Gurion University of the Negev (Israel)*
15:30-15:45	**Thermoelectric performance in nanocomposite bulk consisting of $MnSi_{1.7}$ and SiGe** Yosuke Kurosaki *Hitachi, Ltd. (Japan)*	**Enhanced thermoelectric properties of $In_{0.25}Co_4Sb_{12}$ with InSb nanoinclusions** Ramesh Chandra Mallik *Indian Institute of Science (India)*	**Advanced Protective Layers for Improved Chemical Stability in $CoSb_3$, Mg_2Si and Cu_2X Based Thermoelectric Materials** Andrzej Kolezynski *AGH - University of Science and Technology, Faculty of Materials Science & Ceramics (Poland)*
15:45-16:00	**Effect of element substitution on the phase stability of complex $MnSi_x$** Swapnil Ghodke *Toyota Technological Institute (Japan)*	**A new and fast SPD-method to produce high ZT (>1.3) skutterudites** Gerda Rogl *Christian Doppler Laboratory for Thermoelectricity, University of Vienna (Austria)*	**Laser Additive Manufacturing with Bismuth Telluride and Magnesium Silicide** Saniya Leblanc *The George Washington University (US)*
16:00-16:15	**High temperature oxidation of higher manganese silicides and alloys** Antoine De Padoue Shyikira *University of Agder (Norway)*	**Realization of high figure of merit in Ni compensated double filled p-type skutterudites** Tulashi Dahal *Matrix Industries (US)*	**Additive Printing and Photonic Sintering of High-Performance and Flexible Thermoelectric Materials and Devices Using Colloidal Nanocrystals** Yanliang Zhang *University of Notre Dame (US)*
16:15-16:30	**Mechanical Properties and Failure Analysis of Higher Manganese Silicide** Yu-Chih Tseng *Canmet Materials (Canada)*	**Filling Fraction Fluctuation in $CoSb_3$-based Skutterudites Synthesized by High Pressure** Federico Serrano-Sanchez *Instituto de Cienca de Materiales de Madrid (Spain)*	**On the Study of Electrospinning for Thermoelectric Devices** Ben-Je Lwo *National Defense University (Taiwan)*

THURSDAY

	Track 1 (Ballroom A) Chalcogenides (S, Se, Te) {SnSe} Session Chair :	Track 2 (Ballroom B) Other Materials {Nanowires, Thin Films} Session Chair:	Track 3 (Ballroom C) Oxides Session Chair :
08:30-08:45	**Thermoelectric performance of spark plasma-textured n-type polycrystalline SnSe** Penpeng Shang *State Key Laboratory of New Ceramics and Fine Processing, School of Materials Science and Engineering, Tsinghua University (China)*	**Low-pressure chemical vapour deposition synthesis of metal-chalcogenide materials for thermoelectric micro-generator applications** Stephen Richards *School of Chemistry (UK)*	**Thermoelectric Properties of $(Sr_{1-x-y}Ca_xNd_y)TiO_3$ Perovskites** Bogdan Dabrowski *Northern Illinois University (US)*
08:45-09:00	**Electro-acoustic Decoupling to Enhanced Thermoelectric Performance of SnTe by High Efficient Cation and Anion Co-doping** Junyou Yang *Huazhong University of Science and Technology (China)*	**Development of a ZT-Measurement system for thin films plus additional Hall constant determination in a temperature range from LN_2 up to 300 °C** Hans-W. Marx, *Linseis Messgeräte GmbH (Germany)*	**Oxide-based Transverse Multilayer Thermoelectric Generators** Jörg Töpfer *Ernst-Abbe-Hochschule Jena (Germany)*
09:00-09:15	**Ultra-high average figure of merit in synergistic band engineered $Sn_{1-x}Na_xSe_{0.9}S_{0.1}$ single crystals** Kunling Peng *Chongqing University (China)*	**Transport measurements of bismuth nanowire embedded in quartz template by nano-fabrication** Yasuhiro Hasegawa *Saitama University (Japan)*	**Transferable nanoporous $Ca_3Co_4O_9$ thin films for flexible thermoelectric applications** Biplab Paul *Thin Film Physics Division, Department of Physics, Chemistry, and Biology (IFM), Linköping University (Sweden)*
09:15-09:30	**Modification of bulk heterojunction and Cl doping for high thermoelectric performance $SnSe_2$/SnSe nano-composites** Yuejiao Shu *Wuhan University of Technology (China)*	**Scalable, large-area and adaptable thermoelectric nanomaterials with high energy conversion efficiencies** Merce Pacios *Catalonia Institute for Energy Research (IREC) (Spain)*	**Reaction-sintering and sinter additives: two approaches towards cost-effective fabrication of thermoelectric oxides** Sophie Bresch *Bundesanstalt für Materialforschung und -prüfung (BAM) (Germany)*
09:30-09:45	**Structure and transport properties of nanostructured alloys of the novel thermoelectric material SnSe** Norbert Nemes *Department of Materials Physics, Universidad Complutense de Madrid (Spain)*	**High-Performance Thermoelectric Properties of Multiwall Carbon Nanotubes Through Chemical Treatments** André Pereira *Departamento de Fisica e Astronomia da Faculdade de Ciências da Universidade do Porto* (Portugal)	**Self-assembled oxide 2D nanocomposite with enhanced thermoelectric power factor and reduced thermal conductivity** Armin Feldhoff *Leibniz University Hannover (Germany)*
09:45-10:00	**Electrodeposition and thermoelectric characterizations of SnSe films** Nicolas Stein *Institut Jean Lamour (France)*	**Integrated Silicon/Silicon Germanium Nanowires Thermo-Electric Generators** Alex Morata *Catalonia Institute for Energy Research (IREC) (Spain)*	**Self-Nanostructuring in $SrTiO_3$: A novel Strategy for Enhancement of Thermoelectric Response in Oxides** Feridoon Azough *University of Manchester (UK)*
10:00-10:15	**Reassessment of thermoelectric potential of SnS** Jiri Hejtmanek *Institute of Physics of the Czech Academy of Sciences (Czech Republic)*	**Simulation, fabrication and measurements of thermoelectric transport properties of crystalline sub-micron silicon beams** Andrej Stranz *IMB-CNM (CSIC) (Spain)*	**Extended Solubility Limit of ZnO on Binary Doping Leading to Anomalously Low Thermal Conductivity** Michitaka Ohtaki *Research and Education Center for Advanced Energy Materials, Devices, and Systems, Kyushu University (Japan)*
10:15-10:30	**Effect of resonant dopant In on the thermoelectric properties**	**Thin film Tin Selenide (SnSe) Thermoelectric**	**The Seebeck coefficient in some Ru oxides**

	of $Sn_{1.03}Te$ Shantanu Misra *Institut Jean Lamour (France)*	**Generators Exhibiting Ultra-Low Thermal Conductivity** Matthew Burton *University of Swansea (UK)*	Florent Pawula *Laboratoire CRISMAT (France)*
10:30-11:00	**COFFEE BREAK**		
	Other Materials **Session Chair**	**Modelling** **Session Chair :**	**Applications** **Session Chair :**
11:00-11:15	**Enhancement of Thermoelectric Performances in Topological Crystal Insulator $Pb_{0.7}Sn_{0.3}Se$ via Weak Perturbation of the Topological State and Chemical Potential Tuning by Chlorine Doping** Rhyee Jong-Soo *Kyung Hee University (South Korea)*	**INVITED** **Thermopower of thermoelectric materials with resonant levels - beyond the constant scattering time approximation** Bartlomiej Wiendlocha *Faculty of Physics and Applied Computer Science, AGH University of Science and Technology (Poland)*	**Key Issues in Developing Viable PV/TE Hybrid Systems** Gao Min *Cardiff University (UK)*
11:15-11:30	**Chemical manipulation of phase stability and electronic behavior in $Cu_{4-x}Ag_xSe_2$** Ferdinand Poudeu *University of Michigan (US)*		**Harvesting Waste Heat from Cement Kiln by Thermoelectric System** Alireza Rezaniakolaei *Department of Energy Technology, Aalborg University (Denmark)*
11:30-11:45	**INVITED** **Quantum materials for thermoelectricity** Kornelius Nielsch *Leibniz Institute for Solid State and Materials Research - IFW Dresden (Dresden, Germany) (Germany)*	**Anharmonic and highly anisotropic low energy vibrational guest modes in the type IX chiral cubic barium-silicon clathrate** Romain Viennois *Institut Charles Gerhardt Montpellier (France)*	**Zonal thermoelectric passenger cooling: Simulation and Experiment** Guido Francesconi *European Thermodynamics Ltd. (UK)*
11:45-12:00		**Experimental validation of a 3D transient model of a Thermoelectric Generator** Daniel Champier *Laboratoire des Sciences de l'Ingénieur Appliquées à la Mécanique et au Génie Electrique (France)*	**Do high efficiency kW pulsed thermoelectric generators exist?** John Stockholm *Marvel Thermoelectrics (France)*
12:00-12:15	**Telluride based Thermoelectrics: from Glasses to Polycrystalline Materials** Bhuvanesh Srinivasan *Institut des Sciences Chimiques de Rennes (France)*	**Angular Anisotropy of Thermoelectric Properties of a Periodic Composite Medium in the Presence of a Magnetic Field** Yakov Strelniker *Department of Physics, Bar-Ilan University (Israel)*	**Heat pipes thermal performance for a reversible thermoelectric cooler-heat pump system** Patricia Aranguren *Smart Cities Institute (Spain)*
12:15-12:30	**Effect of microstructure on the thermoelectric properties of bulk $Ag_{16.7}Sb_{30}Te_{53.3}$ mosaic crystals.** Lamya Abdellaoui *Max-Planck-Institut für Eisenforschung GmbH*	**The law of soil heat transfer in the temperature difference power generation system of forest soil** Chen Chen *Beijing Forestry University (China)*	**Prototypical thermoelectric generator TEG for waste heat conversion from biogas-fired burner** Rafal Zybala *ITME Institute of Electronic Materials Technology (Poland)*
12:30-14:00	**LUNCH**		
	Other Materials **Session Chair:**	**Applications** **Session Chair:**	**Organic and Hybrid Materials {Hybrids}** **Session Chair**

14:00-14:15	**A Critical Assessment of the Impact of Excess Ni on the Thermoelectric Properties of ZrNiSn** Popuri Srinivasarao *University of Glasgow (UK)*	**A versatile system for Hall effect measurements at high temperature** Murat Gunes *Univ Paris Sud, Univ Paris Saclay (France)*	**Enhanced Thermoelectric Properties of PEDOT/Te Quantum Dot Composite Films** Qin Yao *Shanghai Institute of Ceramics, Chinese Academy of Sciences (China)*
14:15-14:30	**Half-Heusler Thermoelectrics: Stable or Unstable?** Wenjie Xie, *Institute for Material Science, University Stuttgart (Germany)*	**Complete characterization of bulk thermoelectric elements up to 250 °C by means of impedance spectroscopy** Jorge García-Cañadas *Universitat Jaume I (Spain)*	**A Muon study on microscopic conduction of electrons in thermoelectric hybrid silicon nanostructures** Yimin Chao *University of East Anglia (UK)*
14:30-14:45	**Efficient waste heat recovery in metal-rich $TiNiCu_ySn$ half-Heusler alloys** Jan-Willem Bos *Heriot-Watt University (UK)*	**A Study on Forest Soil Thermoelectric Energy Harvesting Method** Ga Latai *School of Technology (China)*	**Energy filtering effect of PEDOT:PSS/Bi_2Te_3 nanowire composites** Wan Sik Kim *GIST (Gwangju Institute of Science and Technology) (South Korea)*
14:45:15:00	**Low Temperature Magnetotransport Anomalies in Fe-Doped (Ti, Hf, Zr)NiSn Alloys** Trevor Bailey *University of Michigan, Department of Physics (US)*	**Maximum Power Point Tracking on a TEG operated under constant heat conditions** Marcos Compadre *School of Engineering, University of Glasgow (UK)*	**Module Design for Organic Thermoelectric Materials** Masakazu Mukaida *Nanomaterial Research Institute, National Institute of Advanced Industrial Science and Technology (AIST) (Japan)*
15:00-15:15	**The decreases of the lattice thermal conductivity of the $FeV_{0.955-x}Hf_{0.045}Ti_xSb$ half-Heusler phases** Kevin Delime-Codrin *Toyota Technological Institute (Japan)*	**A new thermoelectric generator concept for maximizing waste heat recovery under highly variable thermal load** Francisco Brito *Universidade do Minho, Mech. Eng. Dept. (Portugal)*	**Towards the Fabrication of Flexible and Efficient Organic Thermoelectric Generators by Inkjet Printing Technique** Marco Cassinelli *Italian Institute of Technology (Italy)*
15:15-15:30	**Unique role of refractory Ta alloying in enhancing the figure of merit of NbFeSb thermoelectric materials** Junjie Yu *Zhejiang University (China)*	**Preview Certified Reference Material Data, Measurement Protocols, and Uncertainty Analysis for p-Type Polycrystalline Silicon Germanium at High Temperature** Joshua Martin *National Institute of Standards and Technology (US)*	**Films of carbonaceous nanofillers and polymers as stable n-type materials for thermoelectric devices** Clara M. Gómez *Institute of Material Science (Spain)*
15:30-15:45	**Ultra-fast fabrication of bulk ZrNiSn thermoelectric material through self-propagating high-temperature synthesis combined with in-situ quick pressing** Tiezheng Hu *Wuhan University of Technology (China)*	**Wearable Electrocardiography System Powered by a Flexible Thermoelectric Power Generation Module** Choong Sun Kim *Korea Advanced Institute of Science and Technology (South Korea)*	**Interfacial thermal resistance between Bismuth Telluride and PEDOT: PSS** Koji Miyazaki *Kyushu Institute of Technology (Japan)*
15:45-16:15	**COFFEE BREAK**		
	PLENARY SESSION and CLOSING CEREMONY		
16:15-16:55	**Young Investigator Award lecture**		
16:55-17:35	**Outstanding Achievement Award lecture**		
17:35	**CLOSING REMARKS**		