

## Conference Program

### Sunday, June 28

16:00	Registration	
18:00	Welcome Reception	

### Monday, June 29

Subsection 1 - Opening & Plenary	<i>Chair: H. Böttner</i>	
Hall 2+3		

08:00 – 08:20	E.-M. Stange, Saxon State Minister for Higher Education, Science and the Arts <i>Welcome address</i>
08:20 – 08:30	Yu. Grin, Conference Chair <i>Welcome address</i>
<b>1K.1</b> 08:30 – 09:15	D. Morelli, President of the International Thermoelectric Society Keynote <i>The future of thermoelectricity: What are the next big ideas?</i>
<b>1K.2</b> 09:15 – 10:00	A. Maignan, President of the European Thermoelectric Society Keynote <i>European thermoelectricity: Recent advances and perspectives</i>

10:00 – 10:30	Coffee	Large Hall
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Subsection 2A - Cu <sub>2</sub> X-based materials	Chair: O. Oeckler
Hall 1	

<b>2A.1</b> 10:30 – 11:00	<u>Xun Shi</u> , Lidong Chen Invited <i>Thermoelectric properties of Cu<sub>2-δ</sub>X-based (X=S, Se, and Te) materials</i>
<b>2A.2</b> 11:00 – 11:15	<u>A. Pereira Gonçalves</u> , E.B. Lopes, J.B. Vaney, A.Piarristeguy, A. Pradel, A. Dauscher, B. Lenoir, C. Candolfi, G. Delaizir, E. Alleno, J. Monnier, C. Godar Oral <i>Tetrahedrite synthesis by glass crystallization</i>
<b>2A.3</b> 11:15 – 11:30	<u>Y. Bouyrie</u> , C. Candolfi, B. Malaman, P. Villeger, A. Dauscher, B. Lenoir Oral <i>Exsolution process in synthetic tetrahedrites</i>
<b>2A.4</b> 11:30 – 11:45	<u>Hongyao Xie</u> , Xianli Su, Yonggao Yan, Xinfeng Tang Oral <i>Enhanced thermoelectric properties of chalcopyrite Cu<sub>1-x</sub>Zn<sub>x</sub>FeS<sub>2</sub> with in-situ nanoprecipitates</i>
<b>2A.5</b> 11:45 – 12:00	<u>D. Berardan</u> , J. Li, J. Sui, W. Cai, N. Drago Oral <i>BaCu<sub>2</sub>Se<sub>2</sub> with ZT=1 as new promising thermoelectric copper chalcogenide</i>
<b>2A.6</b> 12:00 – 12:15	P. Jafarzadeh, M. Oudah, <u>H. Kleinke</u> Oral <i>Thermoelectric properties of new barium copper chalcogenides</i>
<b>2A.7</b> 12:15 – 12:30	<u>Y. He</u> , X. Shi, L. D. Chen Oral <i>Thermoelectric performance in cuprous chalcogenides</i>

12:30 – 13:30	Lunch	Large Hall
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Subsection 2B – Measurement techniques I	Chair: K. Tarantik
Hall 2	

<b>2B.1</b> 10.30 – 11:00	<u>J. D. König</u> , K. R. Tarantik, H.-F. Pernau, U. Nussel, A. Jacquot, J. Heuer, K. Bartholomé Invited <i>Standardization of thermoelectric metrology</i>
<b>2B.2</b> 11:00 – 11:15	<u>J. Martin</u> , W. Wong-Ng, M. L. Green Oral <i>Metrology of thermoelectric materials: What are we really measuring?</i>
<b>2B.3</b> 11:15 – 11:30	<u>E. Selezneva</u> , P. Díaz-Chao, A. Muniz-Piniella, A. Cuenat Oral <i>An apparatus for accurate measurements of thermal conductivity from 300K to 1000K</i>
<b>2B.4</b> 11:30 – 11:45	<u>F. Gibelli</u> , J. Rodière, C. Goupil, L. Lombez, J.-F. Guillemoles Oral <i>Optical contactless measurement of thermopower: theory and experiment</i>
<b>2B.5</b> 11:45 – 12:00	<u>D. Vasilevskiy</u> , J.-M. Simard, T. Caillat, R.A. Masut, S. Turenne Oral <i>Consistency of ZT-scanner for thermoelectric measurements from 300K to 700K: A comparative analysis using <math>Si_{80}Ge_{20}</math> polycrystalline alloys</i>
<b>2B.6</b> 12:00 – 12:15	<u>M. Lubieniecki</u> , J. Roemer, A. Martowicz, K. T. Wojciechowski, T.Uhl Oral <i>A multi-point measurement method for thermal characterization of foil bearings using customized thermocouples</i>
<b>2B.7</b> 12:15 – 12:30	Rüdiger Mitdank, Danny Kojda, Zhi Wang, Michael Kröner, Peter Woias, <u>Saskia F. Fischer</u> Oral <i>Thermoelectric properties and Lorenz number of individual single crystalline Ag nanowires</i>

12:30 – 13:30	Lunch	Large Hall
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Subsection 2C – Space applications	Chair: A. Amaldi
Hall 3	

<b>2C.1</b> 10:30 – 11:00	<u>T. Caillat</u> , I. Chi, S. Firdosy, C. –K. Huang, K. Smith, J. Paik, J.- P. Fleurial, R. Bennett, S. Keyser Invited <i>Skutterudite-based advanced thermoelectric technology maturation for potential integration into an enhanced MMRTG</i>
<b>2C.2</b> 11:00 – 11:15	<u>A. Rezaniakolaei</u> , Waruna Wijesekara, Lasse Rosendahl, Ngo Van Nong, Rasmus Bjørk, Nils Katenbrink Oral <i>Modelling of thermoelectric generators for satellite application</i>
<b>2C.3</b> 11:15 – 11:30	<u>A. Usenko</u> , D. Moskovskikh, M. Gorshenkov, A. Korotitskiy, V. Khovaylo Oral <i>Enhanced thermoelectric properties of n-type <math>Si_{0.8}Ge_{0.2}</math> alloys with the addition of <math>\beta</math>-<math>FeSi_2</math></i>
<b>2C.4</b> 11:30 – 11:45	D. Woerner Oral <i>A progress report on the eMMRTG</i>
<b>2C.5</b> 11:45 – 12:00	<u>M. von Lukowicz</u> , E. Abbe, T. Schmiel, M. Tajmar Oral <i>Independent systems on satellites powered by thermoelectric generators</i>
<b>2C.6</b> 12:00 – 12:30	<u>J.-P. Fleurial</u> Invited <i>A technology roadmap for thermoelectric-based next generation space power systems</i>

12:30 – 13:30	Lunch	Large Hall
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Subsection 3A – Skutterudites I	Chair: B. Iversen
Hall 1	

<b>3A.1</b> 13:30 – 14:00	<u>P. Rogl</u> , G. Rogl, A. Grytsiv, E. Bauer, F. Spenger Invited <i>High-ZT thermoelectric skutterudites for energy conversion</i>
<b>3A.2</b> 14:00 – 14:15	Yanyun Hu, James R. Salvador, Ning Chen, Xiaoya Shi, Qiang Li, <u>Young-June Kim</u> Oral <i>Local structure investigation of charge-compensated compound defects in double-filled skutterudites</i>
<b>3A.3</b> 14:15 – 14:30	<u>Liangwei Fu</u> , Junyou Yang Oral <i>Enhancement of thermoelectric properties of Yb-filled skutterudites by metallic nanoparticles induced “core-shell” structure</i>
<b>3A.4</b> 14:30 – 14:45	<u>T.A. Korolkov</u> , A.I. Voronin, V.V. Khovaylo Oral <i>Thermoelectric properties of <math>In_xCo_4Sb_{12}</math> prepared by a combination of conventional induction melting and mechanical alloying</i>
<b>3A.5</b> 14:45 – 15:00	<u>J. Prado-Gonjal</u> , P. Vaquero, C. Nuttall, R. Potter, A.V. Powell Oral <i>Enhancing thermoelectric properties of skutterudites by mechanical alloying synthesis</i>
<b>3A.6</b> 15:00 – 15:15	<u>M. Benyahia</u> , J.B. Vaney, O. Rouleau, E. Leroy, A. Dauscher, E. Alleno Oral <i>Thermoelectric properties of p-type <math>Ce_xIn_yFe_{1.5}Co_{2.5}Sb_{12}</math></i>
<b>3A.7</b> 15:15 – 15:30	<u>Wenyu Zhao</u> , Ping Wei, Qingjie Zhang, Hua Peng, Wanting Zhu, Dingguo Tang, Jian Yu, Hongyu Zhou, Zhiyuan Liu, Xin Mu, Danqi He, Jichao Li, Chunlei Wang, Xinfeng Tang, Jihui Yang Oral <i>Multi-localization transport behaviour of In-filled skutterudite thermoelectric materials</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 3B – Measurement techniques II	Chair: J. König
Hall 2	

<b>3B.1</b> 13:30 – 14:00	<u>E. Müller</u> , Johannes de Boor, Hendrik Kolb, Titas Dasgupta, Knud Zabrocki Invited <i>Simultaneous thermoelectric measurements</i>
<b>3B.2</b> 14:00 – 14:15	<u>Hyun-Sik Kim</u> , Zachary M. Gibbs, Yinglu Tang, Heng Wang, G. Jeffrey Snyder Oral <i>Characterization of Lorenz number with Seebeck coefficient measurement</i>
<b>3B.3</b> 14:15 – 14:30	<u>D. Flahaut</u> , J. Allouche, A. Sotelo, Sh. Rasekh, M. A. Torres, M. A. Madre, J. C. Diez Oral <i>Contribution of XPS and AES for the investigation of textured thermoelectric ceramic</i>
<b>3B.4</b> 14:30 – 14:45	<u>P. Vaqueiro</u> , G. Guélou, A. Kaltzoglou, J. Prado-Gonjal, A. V. Powell Oral <i>Probing structure-property relationships in thermoelectric materials by neutron diffraction</i>
<b>3B.5</b> 14:45 – 15:00	<u>K. Touati</u> , M. Depriester, M. Kuriakose, A. Hadj Saharaoui Oral <i>Thermal characterization of thermoelectric liquids using the photo-thermally generated Seebeck voltage</i>
<b>3B.6</b> 15:00 – 15:15	L. Anatyshuk, <u>V. Lysko</u> Oral <i>Ways to improve the quality of measurements of thermoelectric properties of materials with the help of the absolute method</i>
<b>3B.7</b> 15:15 – 15:30	H. Renner Oral <i>Measurement of physical properties on thin film thermoelectric materials</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 3C – German National Projects in TE	Chair: K. Nielsch
Hall 3	

<b>3C.1</b> 13:30 – 14:00	R. Hermann Invited <i>Nanostructured thermoelectrics: insights from phonon spectroscopy</i>
<b>3C.2</b> 14:00 – 14:15	<u>M. Cassinelli</u> , S. Müller, K.-O.Voss, F. Völklein, C. Trautmann, M.E. Toimil-Molares Oral <i>Seebeck and resistance measurements of thermoelectric <math>Bi_{1-x}Sb_x</math> nanowire array</i>
<b>3C.3</b> 14:15 – 14:30	<u>K. Fritsch</u> , A. Ghafari, T. Hofmann, K. Meier-Kirchner, B. Willenberg, K. Habicht Oral 215 <i>Thermoelectrics research in the department Methods for Characterization of Transport Phenomena in Energy Materials at Helmholtz Zentrum Berlin (HZB)</i>
<b>3C.4</b> 14:30 – 14:45	<u>X. Yan</u> , A. Zolriasatein, G. Lientschnig, A. Prokofiev, M. Ikeda, L. Prochaska, M. Waas, R. Svagera, E. Bauer, P. Rogl, S. Schwarz, J. Gruber, T. Schachinger, S. Paschen Oral <i>Nanostructured type-I clathrates</i>
<b>3C.5</b> 14:45 – 15:00	<u>Nicki F. Hinsche</u> , Florian Rittweger, Tomáš Rauch, and Ingrid Mertig Oral <i>Topological surface states in thin film chalcogenides</i>
<b>3C.6</b> 15:00 – 15:30	G. Schierning Invited <i>Scalable gas phase synthesis for a "nanoparticle in alloy" approach based on nanocrystalline silicon</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 4A – Silicides I	Chair: M. Fabrizio
Hall 1	

<b>4A.1</b> 16:00 – 16:30	A.T. Burkov, M.I. Fedorov Invited <i>Recent progress in research on silicide thermoelectrics</i>
<b>4A.2</b> 16:30 – 16:45	Qiang Zhang, Long Cheng, Wei Liu, Yun Zheng, Xianli Su, Hang Chi, Huijun Liu, Yonggao Yan, Xinfeng Tang, Ctirad Uher Oral <i>Low effective mass and carrier concentration optimization for high performance p-type <math>Mg_{2(1-x)}Li_{2x}Si_{0.3}Sn_{0.7}</math> solid solutions</i>
<b>4A.3</b> 16:45 – 17:00	P. Boulet, H. Balout, M.-C. Record Oral <i>Thermoelectric properties of Sn-containing <math>Mg_2Si</math> nanostructures</i>
<b>4A.4</b> 17:00 – 17:15	Xiaohua Liu, Guangyu Jiang, Lili Xi, Wujie Qiu, Jing Xu, Wenqing Zhang, Tiejun Zhu, Xinbing Zhao Oral <i>Point defect chemistry approach to improve thermoelectric properties of <math>Mg_2Si</math> based material</i>
<b>4A.5</b> 17:15 – 17:30	Vicente Pacheco, Georg Pöhle, Victor Cagnoni-Jakitsch, Carmen Recknagel, Thomas Weißgärber, Bernd Kieback Oral <i>Mg- and Mn-Silicides for industrial applications</i>
<b>4A.6</b> 17:30 – 18:00	Y. Miyazaki, Y. Kikuchi, H. Hamada, S. Naito, K. Hayashi, K. Yubuta Invited <i>Enhanced thermoelectric performance of higher manganese silicides through the control of valence electron counts</i>



Subsection 4B – Basic Physics I	Chair: S. Bühler-Paschen
Hall 2	

<b>4B.1</b> 16:00 – 16:30	J. P. Heremans Invited <i>Adding the spin degree of freedom to thermoelectrics</i>
<b>4B.2</b> 16:30 – 16:45	<u>M.H. Aguirre</u> , A. Anadón, R. Ramos, I. Lucas, T. Kikkawa, H. Adachi, K. Uchida, P.A. Algarabel, L. Morellón, S. Maekawa, E. Saitoh, M.R. Ibarra Oral <i>Spin Seebeck effect generation in Fe<sub>3</sub>O<sub>4</sub>/Pt thin film heterostructures</i>
<b>4B.3</b> 16:45 – 17:00	A. Kommini, <u>Z. Aksamija</u> Oral <i>Low-temperature enhancement of the thermoelectric Seebeck coefficient in semiconductor nanoribbons</i>
<b>4B.4</b> 17:00 – 17:15	<u>Jing Xu</u> , Chenguang Fu, Xiaohua Liu, Xianqiang Yue, Xinbing Zhao, Tiejun Zhu Oral <i>Large decrease of the lattice thermal conductivity in Si-based thermoelectric materials</i>
<b>4B.5</b> 17:15 – 17:30	<u>M. J. Adams</u> , H. Jin, J. P. Heremans Oral <i>Overcoming the effective medium limitations on thermoelectric composites</i>
<b>4B.6</b> 17:30 – 18:00	<u>B. L. Zink</u> , D. Wesenberg, S. Mason, A. D. Avery Invited <i>Measuring Seebeck and Peltier effects and Wiedemann-Franz violations in nanoscale thin films using micromachined thermal isolation platforms</i>

Subsection 4C – Modules and thermoelectric generators I	Chair: K. Wojciechowski
Hall 3	

<b>4C.1</b> 16:00 – 16:30	<u>R. Funahashi</u> , Y. Matsumura, T. Barbier, E. Combe, S. Iwaoka, S. Katsuyama , R. O. Suzuki, A. Kosuga Invited <i>Development and application of oxide and silicide thermoelectric modules</i>
<b>4C.2</b> 16:30 – 16:45	<u>R. S. Tuley</u> , R. Danza, B. Stirrup, K. Yu, R. Dixon, K. Simpson Oral <i>Alternative thermoelectric device architecture for energy harvesting application</i>
<b>4C.3</b> 16:45 – 17:00	<u>Y. Kogo</u> , T. Nakamura, S. Hirata, T. Kameyama, T. Iida Oral <i>Enhancement of strength and toughness of TE materials for realizing reliable TE module</i>
<b>4C.4</b> 17:00 – 17:15	<u>S. Teichert</u> , A. Bochmann, T. Reimann, T. Schulz, C. Dreßler, J. Töpfer Oral <i>A monolithic oxide-based transversal thermoelectric energy harvester</i>
<b>4C.5</b> 17:15 – 17:30	<u>G. Gromov</u> , S. Glyazer, Y. Zakhartsev Oral <i>Thermoelectric Heat Flux Sensors</i>
<b>4C.6</b> 17:30 – 17:45	<u>Malika Bella</u> , Sylvain Blayac, Christian Rivero, Valérie Serradeil, Pascal Boulet Oral <i>Multiscale modeling of novel materials based flexible thermoelectric devices</i>
<b>4C.7</b> 17:45 – 18:00	<u>M. Compadre</u> , A. Montecucco, J. Siviter, P. Mullen, A. Ashraf, A. Strain, A. Knox Oral <i>Maximum power generation in a system using two TEGs in a cascade configuration</i>

Subsection 5A – Silicides II	Chair: V. Pacheco
Hall 1	

<b>5A.1</b> 18:00 – 18:30	S. Battiston, S. Boldrini, <u>M. Fabrizio</u> , A. Famengo, A. Ferrario, S. Fiameni, A. Miozzo Invited <i>Engineering of silicides and tetrahedrites for medium-high temperature applications</i>
<b>5A.2</b> 18:30 – 18:45	<u>H. Sugawara</u> , S. Nakamura, S. Nakamura, Y. Mori, K. Takarabe Oral <i>Cross-sectional TEM characterization of the intermediate layers in Ni-Mg<sub>2</sub>Si thermoelectric device prepared by SPS method</i>
<b>5A.3</b> 18:45 – 19:00	<u>M. Kubouchi</u> , Y. Ogawa, K. Hayashi, T. Takamatsu, Y. Miyazaki Oral <i>Effect of interstitial Mg in Mg<sub>2+x</sub>Si on electrical conductivity and Seebeck coefficient</i>

19:00 – 21:00	Poster Session	Large Hall
Chairs: H. Kleinke, K. Koumoto, B. Lenoir, G. Nolas, X. Tang, <u>H. Wang</u>		

Subsection 5B – Strongly correlated systems	Chair: G. Nolas
Hall 2	

<b>5B.1</b> 18:00 – 18:30	Antoine Georges Invited <i>Seebeck coefficient materials with strong electronic correlations and its relation to entropy</i>
<b>5B.2</b> 18:30 – 18:45	R. Gumeniuk, W. Schnelle, K. Kvashnina, A. Leithe-Jasper, Yu. Grin Oral <i>Thermoelectricity in CePd<sub>3</sub>Be<sub>x</sub></i>
<b>5B.3</b> 18:45 – 19:00	A. Castellero, B. Alinejad, M. Baricco Oral <i>Synthesis of bulk Yb<sub>0.19</sub>Co<sub>4</sub>Sb<sub>12</sub> thermoelectric alloy through a single batch process</i>

19:00 – 21:00	Poster Session	Large Hall
Chairs: H. Kleinke, K. Koumoto, B. Lenoir, G. Nolas, X. Tang, H. Wang		

Subsection 5C – Modules and thermoelectric generators II	Chair: <i>T. Caillat</i>
Hall 3	

<b>5C.1</b> 18:00 – 18:30	<u>K. R. Tarantik</u> , K. Bartholomé, J. Heuer, J. Horzella, M. Vergez, A. Mahlke, J. König Invited <i>Survey of thermoelectric modules for waste heat recovery and opportunities due to thermoelectric downsizing</i>
<b>5C.2</b> 18:30 – 18:45	<u>Clinton Ballinger</u> , Bed Poudel Oral <i>Direct pressing of TE elements to make robust, cost-effective modules</i>
<b>5C.3</b> 18:45 – 19:00	<u>A. Schönecker</u> , B. Kraaijveld, M. den Heijer, J. de Boor, E. Müller, T. Englezos, M. Huijben, P. van Beurden, H. van der Weijde Oral <i>Silicide based, cost efficient thermoelectric generators for high temperature waste heat recovery</i>

19:00 – 21:00	Poster Session	Large Hall
Chairs: <i>H. Kleinke, K. Koumoto, B. Lenoir, G. Nolas, X. Tang, H. Wang</i>		

Tuesday, June 30

Subsection 6A – Skutterudites II	Chair: G. Rogl
Hall 1	

<b>6A.1</b> 08:00 – 08:15	<u>W. Paschinger</u> , G. Rogl, A. Grytsiv, P.F. Rogl, E. Bauer, H. Michor, P.R. Heinrich, B. Klobes, R. P. Hermann Oral <i>Unusual thermoelectric behaviour in Ba filled Ni-Sn-Sb based Skutterudites</i>
<b>6A.2</b> 08:15 – 08:30	<u>A.I. Voronin</u> , T.A. Korolov, M.V. Gorshenkov, D.O. Moskovskikh, A.A. Stepashkin, D.G. Zhukov, V.V. Khovaylo Oral <i>Rapid preparation of Indium-filled n-type skutterudite thermoelectric materials</i>
<b>6A.3</b> 08:30 – 08:45	A. Sesselmann, <u>G. Skomedal</u> , H. Middleton, E. Müller Oral <i>The influence of synthesis procedure on the microstructure and thermoelectric properties of p-type Skutterudite <math>Ce_{0.6}Fe_2Co_2Sb_{12}</math></i>
<b>6A.4</b> 08:45 – 09:00	<u>Reinhard Sottong</u> , Andreas Schmitz, Christian Stiewe, Johannes de Boor, Eckhard Müller Oral <i>Effects of ceramic additives on structural, mechanical and thermoelectric properties of Skutterudites</i>
<b>6A.5</b> 09:00 – 09:15	E. Alleno, D. Bérardan, C. Byl, C. Candolfi, R. Daou, R. Decourt, E. Guilmeau, S. Hébert, J. Hejtmanek, B. Lenoir, P. Masschelein, V. Ohorodnichuk, M. Pollet, S. Populoh, D. Ravot, O. Rouleau, M. Soulier Oral <i>A round robin test of the uncertainty on the measurement of ZT in <math>Co_{0.97}Ni_{0.03}Sb_3</math></i>
<b>6A.6</b> 09:15 – 09:30	Eun-Ji Meang, <u>Soonil Lee</u> , Won-Seon Seo, Young Soo Lim, Il-Ho Kim, and Hae Jin Hwang Oral <i>Decoupling effect of Ce on thermoelectric properties in <math>In_{0.2}Ce_xCo_4Sb_{12}</math> Skutterudites</i>
<b>6A.7</b> 09:30 – 10:00	Xiaoya Shi, Jiong Yang, Lijun Wu, James R. Salvador, William L. Villaire, Daad Haddad, Jihui Yang, Yimei Zhu, <u>Qiang Li</u> Invited <i>Atomic displacement and electronic structure in the charge-compensated filled skutterudites</i>

10:00 – 10:30	Coffee	Large Hall
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Subsection 6B – Materials development strategies I	Chair: T. Takabatake
Hall 2	

<b>6B.1</b> 08:00 – 08:30	<u>Kunihito Koumoto</u> , Chunlei Wan Invited <i>Inorganic/Organic hybridization – new strategy for next-generation thermoelectrics</i>
<b>6B.2</b> 08:30 – 08:45	<u>M. Khalil</u> , M. Beaudhuin, R. Viennois, P. Hermet, B. Villeroy, E. Alleno, D. Ravot Oral <i>CrSi<sub>2</sub> alloys as potential thermoelectric materials</i>
<b>6B.3</b> 08:45 – 09:00	R. Al Rahal Al Orabi, S. Lassoued, D. Wee, M. Fornari, B. Fontaine, R. Gautier, <u>J.-F. Halet</u> Oral <i>Electronic structure and physical properties of some boron-rich ternary compounds of formula REMB<sub>4</sub></i>
<b>6B.4</b> 09:00 – 09:15	<u>H. Nakasawa</u> , T. Takamatsu, Y. Iijima, K. Hayashi, Y. Miyazaki Oral <i>Synthesis of Mo-substituted CrSi<sub>2</sub> by the soft-chemical technique</i>
<b>6B.5</b> 09:15 – 09:30	<u>T. Yamada</u> , H. Nagai, H. Yamane Oral <i>Crystal structure and thermoelectric properties of a sodium gallium tin compound</i>
<b>6B.6</b> 09:30 – 10:00	L. M. Woods Invited <i>Thermoelectric materials composed of mineral and abundant constituents</i>

10:00 – 10:30	Coffee	Large Hall
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Subsection 6C – Applications	Chair: L. Aixala
Hall 3	

<b>6C.1</b> 08.00 – 08:30	Matthew L. Scullin Invited <i>Large-Scale Thermoelectric Generators: Field Testing and Commercial Considerations</i>
<b>6C.2</b> 08:30 – 08:45	<u>F.P. Brito</u> , A. Alves, J.M. Pires, L.B. Martins, J. Martins, L. M. Goncalves Oral <i>Analysis of a temperature controlled exhaust thermoelectric generator during a driving cycle</i>
<b>6C.3</b> 08:45 – 09:00	L. Anatyckuk, <u>R. Kuz</u> Oral <i>Energy balance in a vehicle with a thermoelectric generator and its effect</i>
<b>6C.4</b> 09:00 – 09:15	Y. D. Deng, <u>S. J. Zheng</u> , C. Q. Su, X. H. Yuan, C. G. Yu, C. Liu Oral <i>Effect of topological connection of modules on automotive exhaust-based thermoelectric generator</i>
<b>6C.5</b> 09:15 – 09:30	<u>Mark Robbins</u> , States Chiwanga, Richard Tuley Oral <i>Failure mode prediction, verification testing and diagnosis of thermoelectric generator modules used in automotive applications</i>
<b>6C.6</b> 09:30 – 10:00	<u>Henry Bosch</u> Invited <i>From modules to a generator: An integrated heat exchanger concept for car applications of a thermoelectric generator</i>

10:00 – 10:30	Coffee	Large Hall
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Subsection 7A - Clathrates	Chair: P. Rogl
Hall 1	

<b>7A.1</b> 10.30 – 11:00	<u>Matt Beekman</u> , Yongkwan Dong, Ping Chai, Xiaoyu Zeng, Terry M. Tritt, George S. Nolas Invited <i>Novel approaches for the synthesis of intermetallic clathrates</i>
<b>7A.2</b> 11:00 – 11:15	K. Kovnir Oral <i>Crystal chemistry and thermoelectric properties of Ba-M-P (M= Ni, Cu, Au) clathrates: Phase transformations Induced by electron doping</i>
<b>7A.3</b> 11:15 – 11:30	<u>K. Kishimoto</u> , Y. Tsuchiya, T. Koyanagi, K. Nagase, H. Takazawa, Y. Ishikawa, K. Akai, H. Asada, A. Yamamoto Oral <i>Segmented thermoelectric modules using type-VIII Ba-Ga-Sn and type-I Ba-Ga-Ge clathrate compounds</i>
<b>7A.4</b> 11:30 – 11:45	<u>A. Kolezynski</u> Oral <i>First principle studies of electronic structure and bonding properties of <math>X_8C_{46}</math> and <math>X_8B_6C_{40}</math> (X: Li, Na, Mg, Ca) carbon clathrates</i>
<b>7A.5</b> 11:45 – 12:00	D. Aristizabal, C. R. Miranda, <u>M. A. Avila</u> Oral <i>Group IV thermoelectric clathrates hosting noble gases as fillers: a first principles study</i>
<b>7A.6</b> 12:00 – 12:15	<u>Jiefei Fu</u> , Xianli Su, Yonggao Yan, Xinfeng Tang Oral <i>Thermoelectric properties of Ga/Ag codoped type-III <math>Ba_{24}Ge_{100}</math> clathrate with in-situ nanostructure</i>
<b>7A.7</b> 12:15 – 12:30	<u>R. Viennois</u> , P. Hermet, M. M. Koza, C. Ritter, R. Lortz, C. Meingast, P. Toulemonde Oral <i>Low-lying optical modes and Grüneisen parameters in silicon clathrates, skutterudites and zinc antimonides</i>

12:30 – 13:30	Lunch	Large Hall
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Subsection 7B – Materials development strategies II	Chair: D. Morelli
Hall 2	

<b>7B.1</b> 10:30 – 11:00	<u>G. Jeffrey Snyder</u> Invited <i>Complex electronic structure in high performance thermoelectric materials</i>
<b>7B.2</b> 11:00 – 11:15	Priyanka Jood, <u>Michihiro Ohta</u> , Oleg I. Lebedev, Hirotaka Nishiate, Atsushi Yamamoto, David Berthebaud Oral <i>Hierarchical structuring of misfit layered sulfides (LaS)<sub>1+m</sub>(TS<sub>2</sub>) (T=Nb, Cr) to enhance thermoelectric properties</i>
<b>7B.3</b> 11:15 – 11:30	<u>S. Waldrop</u> , D. Morelli Oral <i>The reduction of thermal conductivity in PtSb<sub>2</sub> by palladium substitution for cryogenic thermoelectric use</i>
<b>7B.4</b> 11:30 – 11:45	<u>K.Januszko</u> , A.Stabrawa, K.T.Wojciechowski, Y. Ogata, T. Mashimo Oral <i>Influence of sedimentation in strong gravitational field on microstructural and thermoelectric properties of Bi-Sb alloys</i>
<b>7B.5</b> 11:45 – 12:00	<u>Eric S. Toberer</u> , Vladan Stevanovic, Prashun Gorai, Jun Yan, Brenden R. Ortiz, Haowei Peng, Scott Barnett, Sam Miller, Thomas Mason, Philip Parilla, Stephan Lany Oral <i>Materials descriptors for the high throughput prediction of thermoelectric performance</i>
<b>7B.6</b> 12:00 – 12:30	<u>Tsunehiro Takeuchi</u> , Akio Yamamoto, Naoya Hiroishi, Swapnil Ghodke, Hiroshi Ikuta Invited 235 <i>Development of thermoelectric materials using information about the electronic structure near the chemical potential</i>

12:30 – 13:30	Lunch	Large Hall
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Subsection 7C – European CMAK	Chair: Yu. Grin
Hall 3	

<b>7C.1</b> 10:30 – 11:00	<u>M. de Boissieu</u> , P.-F. Lory, S. Pailhès, V. Giordano, H. Euchner, M. Baitinger, D. Nguyen, C. Allio, M. R. Johnson, S. Paschen, Petr Tomes, Marek Mihalkovič, Y. Grin, H. Schober, Y. Sidis Invited <i>Lattice dynamics and thermal conductivity of the <math>Ba_8Ge_{40.6}Au_{5.25}</math> clathrate</i>
<b>7C.2</b> 11:00 – 11:15	<u>P. Tomeš</u> , M. Ikeda, M. Baitinger, D. Nguyen, P.- F. Lory, M. de Boissieu, P. Popčević, A. Smontara, C. Krellner, Y. Grin, S. Paschen Oral <i>Thermoelectric properties of single-crystalline <math>Ba_8Au_{5.25}Ge_{40.3}\square_{0.45}</math> type-I clathrate</i>
<b>7C.3</b> 11:15 – 11:30	Duong Nguyen, Wilder Carrillo-Cabrera, Bodo Böhme, <u>Michael Baitinger</u> , Yuri Grin Oral <i>Clathrate formation in the ternary system Ba/Au/Ge</i>
<b>7C.4</b> 11:30 – 11:45	<u>M. Ikeda</u> , X. Yan, A. Prokofiev, L. Prochaska, G. Lientschnig, R. Svagera, S. Paschen Oral <i>Universal scaling of the phonon thermal conductivity of type-I clathrates at elevated temperatures</i>
<b>7C.5</b> 11:45 – 12:00	H. Euchner Oral <i>Modeling the lattice dynamics of thermoelectric clathrates</i>
<b>7C.6</b> 12:00 – 12:30	S. Paschen Invited <i>Phonon and electron engineering of thermoelectric clathrates</i>

12:30 – 13:30	Lunch	Large Hall
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Subsection 8A – Bismuth telluride and related materials I	Chair: K. Kovnir
Hall 1	

<b>8A.1</b> 13:30 – 14:00	<u>L. P. Bulat</u> , V. B. Osvenskii, Yu. N. Parkhomenko, D. A. Pshenay-Severin Invited <i>On improvement of thermoelectric properties of bulk Bi-Sb-Te nanostructures</i>
<b>8A.2</b> 14:00 – 14:15	<u>Dongmei Liu</u> , Julia Stötzel, Xinzhong Li, Roland Schmechel, Markus Rettenmayr Oral <i>Bi<sub>2</sub>Te<sub>3</sub>-In<sub>2</sub>Te<sub>3</sub> composite with n-type thermoelectric properties generated by zone melting with seeding and solid state phase transformation</i>
<b>8A.3</b> 14:15 – 14:30	<u>Li Han</u> , Ngo Van Nong, Le Thanh Hung, Hoang Ngan Pham, Steeven Hegelund Spangsdorf, Aljoscha Roch, Lukas Stepien, Nini Pryds Oral <i>Optimization of spark plasma sintering conditions for antimony-doped bismuth telluride</i>
<b>8A.4</b> 14:30 – 14:45	<u>Z.J. Xu</u> , L.P. Hu, X.H. Liu, H.H. Xie, X.B. Zhao, T.J. Zhu Oral <i>High performance of zone melted p-type (Bi,Sb)<sub>2</sub>Te<sub>3</sub> thermoelectric materials for low-temperature power generation by In-alloying and hot deformation</i>
<b>8A.5</b> 14:45 – 15:00	<u>Xianli Su</u> , Yun Zheng, Xinfeng Tang, Ctirad Uher Oral <i>Mechanical robust BiSbTe alloys with superior thermoelectric performance: A case study of stable hierarchical nanostructured thermoelectric materials</i>
<b>8A.6</b> 15:00 – 15:15	<u>O. Oeckler</u> , S. Schwarzmüller, G. J. Snyder, G. Wagner, F. Fahnbauer Oral <i>The interplay of doping and heterostructures in thermoelectric materials based on Ge/Sb/Te compounds</i>
<b>8A.7</b> 15:15 – 15:30	<u>Jared B. Williams</u> , Spencer Mather, Donald T. Morelli Oral <i>The Effects of Sn substitution on the thermoelectric and phase transition properties of Ge<sub>4</sub>SbTe<sub>5</sub></i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 8B – Nano materials I	Chair: X. Tang
Hall 2	

<b>8B.1</b> 13:30 – 14:00	Wooyoung Lee Invited <i>Allotrope-like bismuth nanowires at ambient condition</i>
<b>8B.2</b> 14:00 – 14:15	M. Ito, N. Okamoto, T. Hashizume, R. Abe, H. Kojima, R. Matsubara, I. Yamashita, <u>M. Nakamura</u> Oral <i>Biomolecular junctions in carbon nanotube composites as an ideal phonon-blocking and electron-transporting structure</i>
<b>8B.3</b> 14:15 – 14:30	<u>M. Wagner</u> , F. Völklein, M.E. Toimil-Molares, C. Trautmann Oral <i>Development of nanowire based array structures of bismuth and antimony for thermoelectric applications</i>
<b>8B.4</b> 14:30 – 14:45	<u>D. Dávila</u> , F. Eiholzer, P. Micalizzi, C. Hierold Oral <i>Integration and bonding of vertical arrays of silicon nanowires in 3D microstructures for thermoelectric generators</i>
<b>8B.5</b> 14:45 – 15:00	<u>Tsuyoshi Kawai</u> , Yoshiyuki Nonoguchi Oral <i>N-type flexible thermoelectric materials based on carbon-nanotubes</i>
<b>8B.6</b> 15:00 – 15:30	<u>S. Karg</u> , P. Mensch, V. Schmidt, B. Gotsmann, H. Schmid, M. Borg, H. Riel Invited <i>Thermoelectric properties of InAs nanowires</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 8C – Modules and thermoelectric generators III	Chair: C. Ballinger
Hall 3	

<b>8C.1</b> 13:30 – 14:00	<u>T. Kanno</u> , A. Sakai, K. Takahashi, H. Tamaki, H. Kusada, Y. Yamada Invited <i>Tubular thermoelectric modules and their applications</i>
<b>8C.2</b> 14:00 – 14:15	<u>A. Sarhadi</u> , R. Bjørk, K. K. Nielsen and N. Pryds Oral <i>Hybrid TEG-heat exchanger module for electrical power production</i>
<b>8C.3</b> 14:15 – 14:30	<u>U. Pelz</u> , R. Rosteck, J. Jaklin, M. Kröner, P. Woias Oral <i>Novel fabrication process for micro-thermoelectric generators (<math>\mu</math>TEGs)</i>
<b>8C.4</b> 14:30 – 14:45	<u>M. Bittner</u> , K. Wiik, G. Geppert, A. Feldhoff Oral <i>Oxide based thermoelectric generator for high-temperature application using p-type <math>Ca_3Co_4O_9</math> and n-type <math>In_{2-x}Sn_xO_3</math> legs</i>
<b>8C.5</b> 14:45 – 15:00	<u>B. Geppert</u> , D. Groeneveld, A. Feldhoff Oral <i>Finite-element simulations of a thermoelectric generator and their experimental validation</i>
<b>8C.6</b> 15:00 – 15:15	<u>Xiangning Meng</u> , Ryosuke O. Suzuki Oral <i>Merit of helical configuration for thermoelectric generation</i>
<b>8C.7</b> 15:15 – 15:30	V. Balema Oral <i>Thermoelectrics and materials for energy applications at Sigma - Aldrich: R&amp;D and manufacturing</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 9A – Bismuth telluride and related materials II	Chair: <i>L. Bulat</i>
Hall 1	

<b>9A.1</b> 16:00 – 16:15	K.Yamada, S.Hama, T.Yabuki, L. Tranchant, <u>K. Miyazaki</u> Oral <i>The Influence of substrate temperature on thermoelectric properties of bismuth telluride thin films</i>
<b>9A.2</b> 16:15 – 16:30	Guiwen Wang, Chuandeng Hu, Xiaoyuan Zhou, Danmei Yu, Jiyan Dai, <u>Guoyu Wang</u> Oral <i>Optimization of thermoelectric transport properties for CuInTe<sub>2</sub> via copper vacancies and silver solid solution</i>
<b>9A.3</b> 16:30 – 16:45	<u>Pengfei Qiu</u> , Tiansong Zhang, Yuting Qiu, Xun Shi, Lidong Chen Oral <i>Sulfide bornite thermoelectric material: natural mineral with ultralow thermal conductivity</i>
<b>9A.4</b> 16:45 – 17:00	Y. Xiao Oral <i>The synergistic effects of carrier engineering and phonon scattering on Bi<sub>0.5</sub>Sb<sub>1.5</sub>Te<sub>3</sub> by the additional β-Zn<sub>4</sub>Sb<sub>3</sub></i>

17:00 – 19:00	Poster Session	Large Hall
Chairs: <i>H. Kleinke, K. Koumoto, B. Lenoir, G. Nolas, X. Tang, <u>H. Wang</u></i>		

20:00 – 21:30	Concert at Frauenkirche
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Subsection 9B – Theory I	Chair: G. Chen
Hall 2	

<b>9B.1</b> 16:00 – 16:30	<u>J. Tobola</u> , S. Kaprzyk, K. Kutorasinski, B. Wiendlocha, P. Zwolenski Invited <i>Electron transport and thermoelectric conversion calculation in disordered materials</i>
<b>9B.2</b> 16:30 – 16:45	<u>L. Feng</u> , T. Shiga, J. Shiomi Oral <i>Phonon transport in perovskite SrTiO<sub>3</sub> from first-principles</i>
<b>9B.3</b> 16:45 – 17:00	<u>J. Hejtmánek</u> , Z. Jirák, J. Šebek, K. Knížek Oral <i>Spin entropy of charge carries in layered cobaltites</i>

17:00 – 19:00	Poster Session	Large Hall
Chairs: H. Kleinke, K. Koumoto, B. Lenoir, G. Nolas, X. Tang, H. Wang		

20:00 – 21:30	Concert at Frauenkirche
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Subsection 9C – Modules and thermoelectric generators IV	Chair: <i>M. Scullin</i>
Hall 3	

<b>9C.1</b> 16.00 – 16:30	<u>Al Thompson</u> , Jeff Sharp, James R Salvador, Hsin Wang Invited <i>Development of cost-competitive thermoelectric generators using skutterudites</i>
<b>9C.2</b> 16:30 – 16:45	L. Stepien, A. Roch, S. Schlaier, M. Abt, C. Hoch, I. Dani, N. V. Ngo, M. V. Lukowicz, <u>C. Leyens</u> Oral <i>Dispenser printed thermoelectric generators</i>
<b>9C.3</b> 16:45 – 17:00	<u>F. Suarez</u> , V.P. Ramesh, D. Vashae, M.C. Öztürk Oral <i>Flexible thermoelectric device using bulk materials</i>

17:00 – 19:00	Poster Session	Large Hall
Chairs: <i>H. Kleinke, K. Koumoto, B. Lenoir, G. Nolas, X. Tang, H. Wang</i>		

20:00 – 21:30	Concert at Frauenkirche
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Wednesday, July 1

Subsection 10A - Oxides	Chair: S. Kauzlarich
Hall 1	

<b>10A.1</b> 08:00 – 08:30	<u>Anke Weidenkaff</u> , Wenjie Xie Invited <i>Heusler- and perovskite-based thermoelectrics for high temperature converters</i>
<b>10A.2</b> 08:30 – 08:45	<u>M. Ohtaki</u> , T. Kuragaki Oral <i>Microstructure and thermoelectric properties of Ga/Cu-doped ZnO</i>
<b>10A.3</b> 08:45 – 09:00	<u>B. Paul</u> , J. L. Schroeder, S. Kerdsonpanya, N. V. Nong, N. Schell, D. Ostach, J. Lu, J. Birch, P. Eklund Oral <i>Mechanism of formation of thermoelectric layered cobaltates by annealing CaO-CoO thin films grown by reactive sputtering</i>
<b>10A.4</b> 09:00 – 09:15	<u>F. Azough</u> , R. Freer, E. Guilmeau, D. Kepaptsoglou, Q. M. Ramasse, J. D. Baran, M. Molinari, S. C. Parker Oral <i>Crystal structure and high temperature thermoelectric properties of tungsten bronze <math>Ba_{6-3x}Nd_{8+2x}Ti_{18}O_{54}</math> (<math>0 \leq x \leq 0.85</math>)</i>
<b>10A.5</b> 09:15 – 09:30	A. Graff, <u>Y. Amouyal</u> Oral <i>Effects of lattice defects and niobium-doping on thermoelectric properties of calcium-manganate compounds for energy harvesting applications</i>
<b>10A.6</b> 09:30 – 09:45	<u>I. Terasaki</u> , A. Horikawa, R. Okazaki, H. Ohta Oral <i>Photo-transport and photo-thermoelectrics in ZnO</i>
<b>10A.7</b> 09:45 – 10:00	<u>M. Yoshiya</u> , S. Fujii, A. Yumura, M. Tada, T. Nagira, H. Yasuda Oral <i>Mechanisms of thermal conduction and stability of layered thermoelectric oxides by atomistic/electronic simulations</i>

10:00 – 10:30	Coffee	Large Hall
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Subsection 10B – Lattice dynamics	Chair: J. Snyder
Hall 2	

<b>10B.1</b> 08:00 – 08:30	<u>Michael Marek Koza</u> , Andreas Leithe-Jasper Invited <i>Microscopic dynamics of thermoelectric materials studied by neutron spectroscopy</i>
<b>10B.2</b> 08:30 – 08:45	<u>T. Takabatake</u> , K. Suekuni, T. I. Tanaka, K. Umeo, F. S. Kim Oral <i>Phonon-glass behavior in thermoelectric tetrahedrite</i>
<b>10B.3</b> 08:45 – 09:00	<u>J. García-Cañadas</u> , G. Min Oral <i>Insights into the dynamics of thermoelectric phenomena from frequency resolved methods</i>
<b>10B.4</b> 09:00 – 09:15	A. Feldhoff Oral <i>Dynamics of entropy, charge, and energy in thermoelectric devices</i>
<b>10B.5</b> 09:15 – 09:30	<u>Tao Ouyang</u> , Ming Hu Oral <i>Engineering Thermal Conductivity of Thermoelectric Materials with Pressure: A first-principles study</i>
<b>10B.6</b> 09:30 – 10:00	<u>S. A. Danilkin</u> , G.J. Kearley, G. Deng, M. Avdeev, D. Yu, H. Liu, X. Shi, L. D. Chen, E. Pomjakushina, T. Sakuma Invited <i>Temperature effects in lattice dynamics of SnSe and Cu<sub>2-x</sub>Se compounds. Neutron scattering study</i>

10:00 – 10:30	Coffee	Large Hall
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Subsection 10C – Chinese National Projects in TE	Chair: J.-T. Zhao
Hall 3	

<b>10C.1</b> 08:00 – 08:30	<u>Y. D. Deng</u> , P. C. Zhai, C. Q. Su, Y. P. Wang Invited <i>Development and Investigation of Thermoelectric Generators for Automotive Waste Heat Recovery Systems</i>
<b>10C.2</b> 08:30 – 09:00	<u>Tiejun Zhu</u> , Xinbing Zhao Invited <i>Towards high figure of merit <math>zT &gt; 1</math> for p-type FeNbSb half-Heusler thermoelectric materials</i>
<b>10C.3</b> 09:00 – 09:15	<u>Shengqiang Bai</u> , Yunshan Tang, Ting Wu, Jincheng Liao, Lidong Chen Oral <i>Fabrication and performance of CoSb<sub>3</sub>-based thermoelectric devices</i>
<b>10C.4</b> 09:15 – 9:30	<u>Yu Pan</u> , Jing-Feng Li Oral <i>Enhancing thermoelectric properties of textured n-type Bi<sub>2</sub>(TeSe)<sub>3</sub> alloys by optimizing processing temperature</i>
<b>10C.5</b> 09:30 – 10:00	<u>Lidong Chen</u> , Qingjie Zhang Invited <i>The development of thermoelectric materials and device technology in China - recent progress and current status</i>

10:00 – 10:30	Coffee	Large Hall
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Subsection 11A – Tellurides and related materials	Chair: C. Uher
Hall 1	

<b>11A.1</b> 10.30 – 11:00	X.-K. Wang, K. Guo, I. Veremchuk, U. Burkhardt, Y. Prots, <u>J.-T. Zhao</u> Invited <i>Preparation and bulk thermoelectric properties of PbTe-based multinary systems</i>
<b>11A.2</b> 11:00 – 11:15	<u>Yatir Sadia</u> , Tsion Ohaion-Raz, Ohad Ben-Yehuda, Meidad Korngold, Yaniv Gelbstein Oral <i>Thermoelectric degradation mechanisms in PbTe and GeTe alloys</i>
<b>11A.3</b> 11:15 – 11:30	<u>Oliver Falkenbach</u> , Andreas Schmitz, Torben Dankwort, Guenter Koch, Lorenz Kienle, Eckhard Mueller, Sabine Schlecht Oral <i>Tin telluride-based nanocomposites of the type <math>AgSn_mBiTe_{2+m}</math> as effective lead-free thermoelectric materials</i>
<b>11A.4</b> 11:30 – 11:45	<u>A. Jafari</u> , B. Klobes, R. E. Simon, I. Sergueev, R. P. Hermann Oral <i>Lattice dynamics in <math>AgPb_mSbTe_{2+m}</math> (LAST) alloys</i>
<b>11A.5</b> 11:45 – 12:00	<u>Sima Aminorroaya Yamini</u> , David R.G Mitchell, Zachary M Gibbs, Rafael Santos, Vaughan Patterson, Sean Li, G Jeffrey Snyder Oral <i>Inhomogenous distribution of Na for high thermoelectric performance of multiphase system of <math>(PbTe)_{0.65}(PbS)_{0.25}(PbSe)_{0.1}</math></i>
<b>11A.6</b> 12:00 – 12:30	<u>Franck Gascoin</u> Invited <i>Exploratory research and transport properties of some transition metal chalcogenides</i>

12:30 – 13:30	Lunch	Large Hall
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12:45 – 13:30	Lukyan Anatychuk Movie: <i>On life and scientific activity of Jean-Charles Peltier</i>	Great Hall
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Subsection 11B – Optimizing the figure of merit I	Chair: R. Funahashi
Hall 2	

<b>11B.1</b> 10.30 – 11:00	<u>Hsin Wang</u> , Shengqiang Bai, Lidong Chen, Alexander Cuenat, Giri Joshi, Holger Kleinke, Jan König, Hee Woong Lee, Joshua Martin, Min-Wook Oh, Wallace D. Porter, Zhifeng Ren, James Salvador, Jeff Sharp, Patrick Taylor, Alan J. Thompson, Yu-Chih Tseng Invited <i>Measurement reliability of the figure of merit, ZT, for thermoelectric power generation materials</i>
<b>11B.2</b> 11:00 – 11:15	<u>A. Yusufu</u> , K. Kurosaki, Y. Ohishi, H. Muta, and S. Yamanaka Oral <i>Effects of nanoscale precipitates and point defect phonon scattering on thermoelectric properties of heavily p-doped nanostructured Si-Ge alloys</i>
<b>11B.3</b> 11:15 – 11:30	<u>T. Hofmann</u> , R. Toft-Petersen, K. Habicht Oral <i>Mesoporous silicon as thermoelectric material: heat transport and phonons</i>
<b>11B.4</b> 11:30 – 11:45	<u>Pingjun Ying</u> , Xiaohua Liu, Chenguang Fu, Xianqiang Yue, Hanhui Xie, Xinbing Zhao, Wenqing Zhang, Tiejun Zhu Oral <i>High performance <math>\alpha</math>-MgAgSb thermoelectric materials for low temperature power generation</i>
<b>11B.5</b> 11:45 – 12:00	<u>Yinglu Tang</u> , Riley Hanus, Sinn-wen Chen, <u>G. Jeffrey Snyder</u> Oral <i>Solubility design leading to high zT in earth abundant and low-cost Ce-CoSb<sub>3</sub> skutterudites</i>
<b>11B.6</b> 12:00 – 12:30	<u>Su-Dong Park</u> , Jae Ki Lee, Byungki Ryu, Ji Eun Lee, Min-Wook Oh, Sung-Jae Joo, Bong-Seo Kim, Bok-Ki Min, Heewoong Lee Invited <i>The effect of meta-states control on thermoelectric properties in telluride compounds</i>

12:30 – 13:30	Lunch	Large Hall
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12:45 – 13:30	Lukyan Anatychuk Movie: On life and scientific activity of Jean-Charles Peltier	Great Hall
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Subsection 11C – General applications	Chair: J.-P. Fleurial
Hall 3	

<b>11C.1</b> 10:30 – 11:00	<u>K. T. Wojciechowski</u> Invited <i>Study of possibilities of application of thermoelectric technologies in power plants</i>
<b>11C.2</b> 11:00 – 11:15	<u>J. Horzella</u> , K. R. Tarantik, J. König, K. Bartholomé, J. Heuer Oral <i>Waste heat recovery in stationary systems: cogeneration power plant</i>
<b>11C.3</b> 11:15 – 11:30	<u>M. J. Oh</u> , J. W. Park, J. W. Kim, K. H. Lee, S. H. Park, S. Y. Kim Oral <i>Development of a high performance cup cooler using thermoelectric element for the automobile</i>
<b>11C.4</b> 11:30 – 11:45	<u>D. G. Ebling</u> , A. Krumm, B. Pfeiffelmann, J. Gottschald, J. Bruchmann, M. Adam, A. Benim Oral <i>Development of a system for thermoelectric heat recovery from stationary industrial processes</i>
<b>11C.5</b> 11:45 – 12:00	<u>A. Montecucco</u> , J. Siviter, P. Mullen, A. Ashraf, A. Knox Oral <i>A combined heat and power system for solid-fuel stoves using thermoelectric generators</i>
<b>11C.6</b> 12:00 – 12:15	J. P. Reifenberg, <u>L. M. Miller</u> , B. Carreon, G. Williams, D. T. Crane, M. Scullin Oral <i>Scaled materials synthesis and characterization of tetrahedrite and magnesium silicide</i>
<b>11C.7</b> 12:15 – 12:30	<u>Jing-Feng Li</u> , Qing Tan Oral <i>SnS: a promising thermoelectric with earth-abundant elements</i>

12:30 – 13:30	Lunch	Large Hall
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12:45 – 13:30	Lukyan Anatychuk Movie: <i>On life and scientific activity of Jean-Charles Peltier</i>	Great Hall
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Subsection 12A – Heusler phases I	Chair: C. Felser
Hall 1	

<b>12A.1</b> 13:30 – 14:00	<u>C. Uher</u> Invited <i>Recent progress in the development of half-Heusler thermoelectric materials</i>
<b>12A.2</b> 14:00 – 14:15	<u>C. Echevarria-Bonet</u> , R. Tofan, M. Schrade, A. E. Gunnæs, C. Persson, M.H. Sørby, B.C. Hauback Oral <i>Enhancement of the thermoelectric properties in nanostructured half-Heusler alloys</i>
<b>12A.3</b> 14:15 – 14:30	I. Knapp, R. Kamelreiter, K. Bulgakova, F. Mußnig, V. Kunnummel, P. Rogl <sup>2,4</sup> , P. Prenninger, <u>E. Bauer</u> Oral <i>Improving the thermoelectric performance in Fe<sub>2</sub>VAl-type Heusler compounds</i>
<b>12A.4</b> 14:30 – 14:45	G. Fiedler, <u>P. Kratzer</u> Oral <i>Theoretical prediction of the thermoelectric performance of half-Heusler heterostructures</i>
<b>12A.5</b> 14:45 – 15:00	<u>A. Visconti</u> , G. Bernard-Granger, J. Leforestier, C. Navone Oral <i>Microstructure investigations and thermoelectrical properties of new half-Heusler materials</i>
<b>12A.6</b> 15:00 – 15:15	<u>M. Mikami</u> , M. Inukai, H. Miyazaki, Y. Nishino Oral <i>Thermoelectric properties of Heusler Fe<sub>2</sub>V<sub>1-x</sub>Al<sub>1+x</sub> sintered alloys with off-stoichiometric composition</i>
<b>12A.7</b> 15:15 – 15:30	R.A. Downie, R.I. Smith, D.A. MacLaren, <u>J.W.G. Bos</u> Oral <i>Metal distributions and thermoelectric properties of TiNiM<sub>y</sub>Sn half-Heusler nanocomposites</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 12B – Theory II	Chair: J. Tobola
Hall 2	

<b>12B.1</b> 13:30 – 14:00	<u>Gang Chen</u> , Bolin Liao, Jiawei Zhou, Bo Qiu Invited <i>Simulation of all thermoelectric properties of single crystal materials from first-principles</i>
<b>12B.2</b> 14:00 – 14:15	<u>M. Thesberg</u> , M. Pourfath, N. Neophytou, H. Kosina Oral <i>Optimization of energy filtering for power factor improvements through fully quantum mechanical transport simulations</i>
<b>12B.3</b> 14:15 – 14:30	<u>X. Zianni</u> Oral <i>Monte Carlo simulations on the thermoelectric transport properties of width-modulated nanostructures</i>
<b>12B.4</b> 14:30 – 14:45	P. Torres, A. Shakouri, C. de Tomas, X. Cartoixa, A. F. Lopeandia, A. Mohammed, <u>F.X. Alvarez</u> Oral <i>Thermal transport in the kinetic collective model</i>
<b>12B.5</b> 14:45 – 15:00	<u>Natalia Bedoya</u> , Adham Hashibonand, Christian Elsässer Oral <i>Influence of point defects on the phonon thermal conductivity and phonon density of states of Bi<sub>2</sub>Te<sub>3</sub></i>
<b>12B.6</b> 15:00 – 15:15	<u>Daniel I. Bilc</u> , Geoffroy Hautier, David Waroquiers, Gian-Marco Rignanese, Philippe Ghosez Oral <i>Low-dimensional transport and large thermoelectric power factors in bulk semiconductors by band engineering of highly-directional electronic states</i>
<b>12B.7</b> 15:15 – 15:30	<u>Bartłomiej Wiendlocha</u> Oral <i>Resonant levels in thermoelectric materials: extensive theoretical studies</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 12C – Modules and thermoelectric generators V	Chair: A. Weidenkaff
Hall 3	

<b>12C.1</b> 13:30 – 14:00	<u>Alexander Michaelis</u> , <u>H. P. Martin</u> Invited <i>Ceramic materials and technologies for energy systems and TEG</i>
<b>12C.2</b> 14:00 – 14:15	<u>Hans-Peter Martin</u> , <u>Andreas Pönicke</u> , <u>Marcel Dannowski</u> , <u>Martin Kluge</u> , <u>Ina Sichert</u> , <u>Axel Rost</u> , <u>Susan Conze</u> , <u>Katja Wätzig</u> , <u>Wieland Beckert</u> , <u>Jochen Schilm</u> , <u>Alexander Michaelis</u> Oral <i>TiO<sub>x</sub> based thermoelectric modules – manufacturing, properties and operational behavior</i>
<b>12C.3</b> 14:15 – 14:30	<u>T. Kuroki</u> , <u>R. Murai</u> , <u>T. Kajihara</u> , <u>K. Makino</u> , <u>H. Hachiuma</u> , <u>I. Sumi</u> Oral <i>Influence of heat collection plate structure on thermoelectric generation unit for radiant waste heat recovery</i>
<b>12C.4</b> 14:30 – 14:45	<u>H. Lee</u> , <u>B. Ohara</u> Oral <i>Exergetic optimization of solar thermoelectric generators for combined power and heat</i>
<b>12C.5</b> 14:45 – 15:00	<u>B. Lorenzi</u> , <u>M. Acciarri</u> , <u>D. Narducci</u> Oral <i>Towards optimal hybridization for thermoelectric heat recovery in single junction solar cells</i>
<b>12C.6</b> 15:00 – 15:15	<u>P. Aranguren</u> , <u>A. Roch</u> , <u>L. Stepien</u> , <u>I. Dani</u> , <u>D. Astrain</u> , <u>A. Martínez</u> Oral <i>Optimized design for flexible polymer thermoelectric generators</i>
<b>12C.7</b> 15:15 – 15:30	<u>K. Kato</u> , <u>T. Muto</u> , <u>T. Kondo</u> , <u>K. Miyazaki</u> Oral <i>Printable thermoelectric materials for high performance thermoelectric sheets</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 14A – Heusler phases II	Chair: F. Gascoin
Hall 1	

<b>14A.1</b> 16:00 – 16:30	<u>Benjamin Balke</u> Invited <i>Design of thermoelectric highly efficient Heusler compounds using phase separation and nano-composites</i>
<b>14A.2</b> 16:30 – 16:45	<u>T. Gruhn</u> , J. Miranda Mena, H.G. Schoberth, H. Emmerich, E. Lkhagvasuren, S. Ouardi, G.H. Fecher, C. Felser Oral <i>Miscibility gap in the phase diagrams of thermoelectric half-Heusler materials CoYT<sub>2</sub>Sb (Y = Sc, V, Cr, Fe, Cu)</i>
<b>14A.3</b> 16:45 – 17:00	<u>G. Rogl</u> , A. Grytsiv, M. Gürth, E. Bauer, P. Rogl Oral <i>Novel high ZT n-type skutterudites versus half-Heusler alloys</i>
<b>14A.4</b> 17:00 – 17:15	<u>Alexander Page</u> , Anton Van der Ven, Pierre F. P. Poudeu, Ctirad Uher Oral <i>Phase stability of nano-structured half-Heusler alloys</i>
<b>14A.5</b> 17:15 – 17:30	<u>Pierre F. P. Poudeu</u> , Yuanfeng Liu, Pranati Sahoo, Alex Page, Hang Chi, Ctirad Uher Oral <i>Nanostructuring and electronic transports in half-Heusler alloys</i>
<b>14A.6</b> 17:30 – 17:45	<u>Yintu Liu</u> , Hanhui Xie, Chenguang Fu, G. Jeffrey Snyder, Xinbing Zhao, Tiejun Zhu Oral <i>Alloying induced thermoelectric performance enhancement <math>zT &gt; 1.0</math> in (Hf,Zr)NiSn solid solution</i>
<b>14A.7</b> 17:45 – 18:00	<u>P. Hołuj</u> , C. Euler, B. Balke, U. Kolb, G. Fiedler, P. Kratzer, G. Jakob Oral <i>Half-Heusler TiNiSn/HfNiSn superlattices for thermoelectric application</i>

18:00 – 19:00	Alphabet Energy panel discussion	Hall 1
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18:00 – 19:00	Linseis workshop on Characterization of Nanoscaled Thermoelectrics	Seminar room 3
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20:00 – 23:00	Award Ceremony & Conference Dinner	Westin Bellevue Hotel
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Subsection 14B – Nano materials II	Chair: W. Lee
Hall 2	

<b>14B.1</b> 16:00 – 16:30	<u>Marisol Martín-González</u> Invited <i>Nanoengineering thermoelectrics: Different approaches</i>
<b>14B.2</b> 16:30 – 16:45	<u>S. Ortega</u> , D. Cadavid, Y. Liu, M. Ibáñez, A. Cabot Oral <i>Solution-processed enhanced thermoelectric nanocomposites – From materials to devices</i>
<b>14B.3</b> 16:45 – 17:00	Qiufan Chen, Aijuan Zhang, Dingfeng Yang, Kunling Peng, <u>Guoyu Wang</u> , <u>Xiaoyuan Zhou</u> Oral <i>Colloidal synthesis of <math>Cu_{2-x}Ag_xCdSnSe_4</math> nanocrystals and their application in thermoelectrics</i>
<b>14B.4</b> 17:00 – 17:15	F. R. Sie, <u>C. H. Kuo</u> , C. S. Hwang, T. K. Huang, Y. W. Chou, Chien-Hsuan Yeh, and J. Y. Huang Oral <i>Thermoelectric performance of n-type <math>Bi_2Te_3/Cu</math> composites fabricated by nanoparticle decoration and hot pressing</i>
<b>14B.5</b> 17:15 – 17:30	<u>Tianhua Zou</u> , Wenjie Xie, Jian Feng, Xiaoying Qin, Anke Weidenkaff Oral <i>Enhanced thermoelectric performance via carrier energy filtering effect in <math>\beta</math>-<math>Zn_4Sb_3</math> based nanocomposites</i>
<b>14B.6</b> 17:30 – 17:45	<u>Dario Narducci</u> , Bruno Lorenzi, Marc Dunham, Rita Tonini, Stefano Frabboni, Gian Carlo Gazzadi, Riccardo Dettori, Claudio Melis, Luciano Colombo, Giampiero Ottaviani, Kenneth Goodson Oral <i>Phonon filtering by nanovoids in silicon: A computational and experimental analysis</i>
<b>14B.7</b> 17:45 – 18:00	<u>Y. Nakamura</u> , T. Ueda, M. Isogawa, S. Yamasaka, S. Takeuchi, and A. Sakai Oral <i>Thermal conductivity reduction and carrier doping in the Si nanoarchitecture including epitaxial nanodots</i>

18:00 – 19:00	Alphabet Energy panel discussion	Hall 1
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18:00 – 19:00	Linseis workshop on Characterization of Nanoscaled Thermoelectrics	Seminar room 3
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20:00 – 23:00	Award Ceremony & Conference Dinner	Westin Bellevue Hotel
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Subsection 14C – Modules and thermoelectric generators VI	Chair: A. Burkov
Hall 3	

<b>14C.1</b> 16:00 – 16:30	<u>Thomas Weißgärber</u> , Vicente Pacheco, Carmen Recknagel, Andre Schlott, Georg Pöhle, Jens Meinert, Bernd Kieback Invited <i>Development of silicide-based modules – from material development to module assembling and characterization</i>
<b>14C.2</b> 16:30 – 16:45	<u>Yiping Wang</u> , Shuai Li, Yadong Deng, Chuqi Su, Xue Yang Oral <i>Numerical and experimental investigation for heat transfer enhancement by dimpled surface heat exchanger in thermoelectric generator</i>
<b>14C.3</b> 16:45 – 17:00	<u>L.M. Shen</u> , H.X. Chen, X.Y. Zhang, C. Hu, Y. Yao Oral <i>The thermal model and optimization design of thermoelectric radiant panel for thermoelectric radiant air-conditioning system</i>
<b>14C.4</b> 17:00 – 17:15	<u>Gia-Yeh Huang</u> , Cheng-Ting Hsu, Da-Jeng Yao Oral <i>A simple thermal resistance model of a thermoelectric generator module by considering heat loss and thermal contact resistance</i>
<b>14C.5</b> 17:15 – 17:30	<u>W. Fang</u> , X.F. Tang, C.J. Xie, S.H. Quan, L. Huang Oral <i>Maximum power point tracking with dichotomy and gradient method for automobile exhaust thermoelectric generators</i>
<b>14C.6</b> 17:30 – 17:45	<u>D. Astrain</u> , P. Aranguren, I. Gamboa, A. Martínez, A. Rodríguez, G. Pérez Oral <i>Possibility of increasing the efficiency of a thermoelectric refrigerator by the optimization of the heat exchangers</i>
<b>14C.7</b> 17:45 – 18:00	<u>U. Ghoshal</u> Oral <i>Fault-tolerance techniques for high temperature thermoelectric generators</i>

18:00 – 19:00	Alphabet Energy panel discussion	Hall 1
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18:00 – 19:00	Linseis workshop on Characterization of Nanoscaled Thermoelectrics	Seminar room 3
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20:00 – 23:00	Award Ceremony & Conference Dinner	Westin Bellevue Hotel
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Thursday, July 2

Subsection 15A – Zintl phases		Chair: H. Kleinke
Hall 1		
<b>15A.1</b> 08:00 – 08:30	<u>Susan M. Kauzlarich</u> Invited <i>Structure and thermoelectric properties of substituted Yb<sub>14</sub>MnSb<sub>11</sub> Zintl phases</i>	
<b>15A.2</b> 08:30 – 08:45	<u>Saneyuki Ohno</u> , Umut Aydemir, Sevan Chanakian, Sabah K. Bux, G. Jeffrey Snyder Oral <i>Thermoelectric properties of cheap, non-toxic Zintl phase: Ca<sub>9</sub>Zn<sub>4+x</sub>Sb<sub>9</sub></i>	
<b>15A.3</b> 08:45 – 09:00	<u>Svilen Bobev</u> Oral <i>Synthesis, crystal growth, and structural characterization of novel Zintl phases of As, Sb and Bi</i>	
<b>15A.4</b> 09:00 – 09:15	<u>T.Kajitani</u> , K.Takahashi, M.Saito, H.Suzuki, S.Kikuchi, M.Kubouchi, K.Hayashi Oral <i>Thermoelectric hexagonal A-Mg-Si with A = Sr and Ba Zintl phases</i>	
<b>15A.5</b> 09:15 – 09:30	<u>Ribeiro, Raquel</u> ; Magnavita, E.T.; Rettori, C.; Osorio-Guillén, J.M.; Ferreira, F.F.; Mendonça-Ferreira, L.; Avila, M.A. <i>Electronic and thermodynamic characterization of Yb<sub>11</sub>AlSb<sub>9</sub></i>	
<b>15.A.6</b> 09:30 – 10:00	<u>S. Bux</u> , Winner of the ITS Young Investigator Award 2015 A. Zevalkink, D. Uhl, U. Aydemir, Y. Hu, T. Vo, P. Von Allmen, J. Snyder, S. Kauzlarich, J.-P. Fleurial Invited <i>Structure-thermoelectric properties relationships in Yb-Mn-Sb Zintl phases</i>	
10:00 – 10:30	Coffee	Large Hall

Subsection 15B – Optimizing the figure of merit II	Chair: G. Min
Hall 2	

<b>15B.1</b> 08:00 – 08:30	<u>Zhifeng Ren</u> Invited <i>New understanding of thermoelectric figure-of-merit, conversion efficiency, and output power</i>
<b>15B.2</b> 08:30 – 08:45	<u>M. Wagner-Reetz</u> , R. Cardoso-Gil, Yu. Grin Oral <i>Chemical aspects of electron and phonon engineering in RuIn<sub>3</sub>-based thermoelectric materials</i>
<b>15B.3</b> 08:45 – 09:00	<u>Yanzhong Pei</u> Oral <i>Optimum carrier concentration in thermoelectrics</i>
<b>15B.4</b> 09:00 – 09:15	<u>N.Narendra</u> , D.Vashae, K.W.Kim Oral <i>Interface engineering of bismuth telluride/antimony telluride for optimizing the thermoelectric power factor</i>
<b>15B.5</b> 09:15 – 09:30	<u>James M. Ma</u> , Paul von Allmen, Sergey Prikhodko, Trinh Vo, Richard B. Kaner, Sabah K. Bux, Jean-Pierre Fleurial Oral <i>Percolation effects in thermoelectric-metal composites as a method to enhance ZT</i>
<b>15B.6</b> 09:30 – 10:00	<u>Yukari Katsura</u> Invited <i>Material dependence of maximum possible ZT and minimum thermal conductivity</i>

10:00 – 10:30	Coffee	Large Hall
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Subsection 15C – Modules and thermoelectric generators VII	Chair: D. Ebling
Hall 3	

<b>15C.1</b> 08:00 – 08:15	<u>R. Bjørk</u> Oral <i>The universal influence of contact resistance on TEG efficiency</i>
<b>15C.2</b> 08:15 – 08:30	<u>A. Muniz-Piniella</u> , P. Díaz-Chao, E. Selezneva, A. Cuenat Oral <i>Pressure and thermal contact effects in thermoelectric generator systems</i>
<b>15C.3</b> 08:30 – 08:45	<u>M. D. Phillips</u> , G. Min Oral <i>Investigating high temperature bonding of the thermoelectric-electrode interface using a micro-resolved positional voltage profiling technique</i>
<b>15C.4</b> 08:45 – 09:00	<u>T. Sakamoto</u> , Y. Taguchi, T. Kutsuwa, K. Ichimi, S. Kasatani, M. Inada Oral <i>Research of barrier layer materials for Mg<sub>2</sub>Si / Ni interface</i>
<b>15C.5</b> 09:00 – 09:15	<u>N. V. Nong</u> , L.T. Hung, L. Han, P.H. Ngan, N. Pryds Oral <i>Characterization of the contact between Bi<sub>2</sub>Te<sub>3</sub>-based materials and lead-free solder alloy under thermal cycling</i>
<b>15C.6</b> 09:15 – 09:30	<u>Edith Laux</u> , Stefanie Uhl, Julien Brossard, Tony Journot, Laure Jeandupeux, Herbert Keppner Oral <i>Aspects of protonic ionic liquid as electrolyte in thermoelectric generators</i>
<b>15C.7</b> 09:30 – 09:45	<u>T.J. Salez</u> , B.T. Huang, M. Bonetti, M. Roger, C. Guibert, J. Fresnais, V. Peyre, C. Filomeno, E. Dubois, R. Perzynski, S. Nakamae Oral <i>Investigation of thermoelectric coefficient in ferrofluids – possible application in thermocells</i>
<b>15C.8</b> 09:45 – 10:00	<u>Bed Poudel</u> , Adam Peng, Susanthri Perera, Al Waring, Luke Nally, Ashwin Rao, Binay Joshi, Gregg Bosak, Clint Ballinger Oral <i>Progress on skutterudite materials and modules for power generation application</i>

10:00 – 10:30	Coffee	Large Hall
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Subsection 16A – Bismuth-based materials	Chair: M. Beekman
Hall 1	

<b>16A.1</b> 10:30 – 11:00	Lihua Wu, Jiong Yang, Miaofang Chi, Shanyu Wang, Ping Wei, <u>Jihui Yang</u> , Wenqing Zhang, Lidong Chen Invited <i>On defect compensation and electron scattering of BiTeI</i>
<b>16A.2</b> 11:00 – 11:15	<u>M. Frey</u> , D. Brodt, B. Hoffmann, H. Hillebrecht Oral <i>Direct synthesis of BiCuSeO using spark plasma sintering</i>
<b>16A.3</b> 11:15 – 11:30	<u>Guangkun Ren</u> , Jinle Lan, Sajid Butt, Yuanhua Lin, Cewen Nan Oral <i>Self-propagating high-temperature synthesis and thermoelectric properties of BiCuSeO oxyselenides</i>
<b>16A.4</b> 11:30 – 11:45	<u>A. Novitskii</u> , A. Voronin, A. Usenko, V. Khovaylo, L. Shvanskaya, A. Vasiliev Oral <i>Thermoelectric properties of BiCu<sub>0.9</sub>Co<sub>0.1Se</sub>O</i>
<b>16A.5</b> 11:45 – 12:00	<u>K. Wei</u> , A. R. Khabibullin, L. M. Woods, G. S. Nolas Oral <i>Synthesis and physical properties of bulk and nanostructured quaternary chalcogenides</i>
<b>16A.6</b> 12:00 – 12:15	<u>M. Matthiesen</u> , H. Reith, L. Akinsinde, L. Han, N. Pryds, K. Nielsch Oral <i>Synthesis &amp; characterization of ternary bulk Bi<sub>2</sub>Se<sub>1</sub>S<sub>2</sub> for thermoelectric waste heat recovery</i>
<b>16A.7</b> 12:15 – 12:30	<u>Lewis Olaniyi Akinsinde</u> , Maik Matthiessen, Heiko Reith, Sebastian Zastrow, Kornelius Nielsch Oral <i>The Influence of excess sulphur on the metallic microstructure in bulk bismuth-sulfide (Bi<sub>2</sub>S<sub>3</sub>)</i>

12:30 – 13:30	Lunch	Large Hall
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Subsection 16B – Nano materials III	Chair: P. Sun
Hall 2	

<b>16B.1</b> 10.30 – 11:00	<u>Johannes Gooth</u> Invited <i>Influence of the topological surface states in Bi-Sb-Te-Se compound nanowires and thin films</i>
<b>16B.2</b> 11:00 – 11:15	Na-Ri Heo, Yeongsup Song, Jiwon Kim, Kyu-Hwan Lee, Dong Chan Lim, Kwang-Ho Kim, Nosang V. Myung, <u>Jae-Hong Lim</u> Oral <i>Improvement of thermoelectric properties by nanoinclusion in electrodeposits</i>
<b>16B.3</b> 11:15 – 11:30	<u>D. Kojda</u> , R. Mitdank, A. Mogilatenko, W. Töllner, Z. Wang, M. Kröner, P. Woias, K. Nielsch, S. F. Fischer Oral <i>Reduced thermal conductivity in bismuth telluride nanowires with a strong diameter variation</i>
<b>16B.4</b> 11:30 – 11:45	Ying Li, Wen-Yu Zhao, Xin Mu, Xing Liu, <u>Dan-Qi He</u> , Wan-Ting Zhu, Qing-Jie Zhang Oral <i>Synthesis and characterization of high-purity Te/Bi<sub>2</sub>Te<sub>3</sub> nanowires</i>
<b>16B.5</b> 11:45 – 12:00	C. Boulanger, T. Chang, <u>A. Danine</u> , S. Cho, J. Kim, J. Schoenleber, C. Frantz, N. Stein, W. Lee Oral <i>Individual thermoelectric properties of electrodeposited bismuth telluride nanowires in polycarbonate membranes</i>
<b>16B.6</b> 12:00 – 12:15	<u>F. Maculewicz</u> , J. Schaumann, M. Loor, S. Heimann, G. Schierning, S. Schulz, R. Schmechel Oral <i>High performance Sb<sub>2</sub>Te<sub>3</sub> nanoparticles using ionic liquids as reaction medium</i>
<b>16B.7</b> 12:15 – 12:30	<u>Miguel Muñoz Rojo</u> , Yingjie Zhang, Cristina V. Manzano, R. Alvaro, V. Altoe, Miquel Salmeron, Marsiol Martín Gonzalez Oral <i>Surface conduction of Bi<sub>2</sub>Te<sub>3</sub> topological insulator/thermoelectric nanowires</i>

12:30 – 13:30	Lunch	Large Hall
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Subsection 16C – Large-scale TE projects in Japan	Chair: T. Mori
Hall 3	

<b>16C.1</b> 10:30 – 11:00	<u>M. Mukaida</u> , Q. S. Wei, K. Kiriara, T. Ishida Invited <i>Anisotropic characteristics of PEDOT:PSS organic thermoelectric films</i>
<b>16C.2</b> 11:00 – 11:15	<u>Michihiro Ohta</u> , Xiaokai Hu, Priyanka Jood, Masaru Kunii, Kazuo Nagase, Hirotaka Nishiata, Mercouri G. Kanatzidis, Atsushi Yamamoto Oral <i>High-performance thermoelectric modules based on nanostructured PbTe</i>
<b>16C.3</b> 11:15 – 11:30	<u>Atsushi Yamamoto</u> , Michihiro Ohta, Chul-Ho Lee, Masayuki Murata Oral <i>High throughput screening of thermoelectric materials – preparation and measurement of ternary thin film library</i>
<b>16C.4</b> 11:30 – 11:45	<u>Atta U. Khan</u> , T. Mori Oral <i>Si and Te co-doped, rare-earths free skutterudites with attractive ZT</i>
<b>16C.5</b> 11:45 – 12:00	<u>H. Takaki</u> , K. Kobayashi, M. Shimono, N. Kobayashi, K. Hirose Oral <i>Thermoelectric properties of TiN/MgO superlattices by first-principles calculations</i>
<b>16C.6</b> 12:00 – 12:15	<u>N. Kawamoto</u> , Y. Kakefuda, T. Mori, M. Mitome, Y. Bando, D. Golberg Oral <i>Thermal resistivity measurement of heat sink composite material by using TEM</i>
<b>16C.7</b> 12:15 – 12:30	<u>Isao Ohkubo</u> , Takao Mori Oral <i>Attractive prospects for layered complex nitrides as thermoelectric materials</i>

12:30 – 13:30	Lunch	Large Hall
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Subsection 17A – Organic Materials	Chair: M. Martin-Gonzalez
Hall 1	

<b>17A.1</b> 13:30 – 13:45	<u>Liangjun Chen</u> , <u>Xianli Su</u> , <u>Yonggao Yan</u> , <u>Xinfeng Tang</u> Oral <i>Synthesis and morphology control of PEDOT/graphene by in situ polymerization</i>
<b>17A.2</b> 13:45-14:00	<u>Sanyin Qu</u> , <u>Qin Yao</u> , <u>Liming Wang</u> , <u>Wei Shi</u> , <u>Tiansong Zhang</u> , <u>Lidong Chen</u> Oral <i>Highly regular and orderly P<sub>3</sub>HT film with enhanced thermoelectric performance by small organic molecule induction</i>
<b>17A.3</b> 14:00-14:15	<u>B. Endrődi</u> , <u>C. Visy</u> , <u>C. Janáky</u> Oral <i>What dictates the thermoelectric performance of conducting polymers: A case study using poly(3-alkylthiophenes)</i>
<b>17A.4</b> 14:15-14:30	<u>S. Hwang</u> , <u>C. Adachi</u> Oral <i>Poly(pyridinium phenylene) as a potential n-type material for organic thermoelectric generators</i>
<b>17A.5</b> 14:30-14:45	<u>D. Beretta</u> , <u>G. Lanzani</u> , <u>M. Cairon</u> Oral <i>Practical assessments of organic thermoelectrics: From material properties to organic-TEG engineering</i>
<b>17A.6</b> 14:45-15:00	<u>B. Saglio</u> , <u>D. Beretta</u> , <u>C. Bertarelli</u> , <u>M. Caironi</u> Oral <i>The role of dopant structure on the conductivity of n-type polymers for organic thermoelectrics</i>
<b>17A.7</b> 15:00-15:15	<u>I. Petsagkourakis</u> , <u>B. Kuropatwa</u> , <u>E. Cloutet</u> , <u>C. Brochon</u> , <u>E. Pavlopoulou</u> , <u>G. Fleury</u> , <u>S. Dilhaire</u> , <u>G. Hadziioannou</u> Oral <i>Enhancement of the thermoelectric figure of merit of a conducting polymer based on poly(3,4-ethylenedioxythiophene) in thin film configuration</i>
<b>17A.8</b> 15:15-15:30	<u>T. Bian</u> , <u>S. Ashby</u> , <u>Pete Finn</u> , <u>J. García-Cañadas</u> , <u>G. Min</u> , <u>Y. Chao</u> Oral <i>Ligand doping on the power factor of hybrid thermoelectric materials based on silicon nanoparticles with polythiophene</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 17B – Materials development strategies III	Chair: J. Heremans
Hall 2	

<b>17B.1</b> 13:30 – 14:00	<u>L. Aixala</u> , N. Mingo, T. Baffie, G. Bernard-Granger, M. Boidot, C. Navone, J. Simon, T. Caroff, K. Romanjek, J. Carrete Invited <i>From thermoelectric material simulation to applications</i>
<b>17B.2</b> 14:00 – 14:15	<u>K. Suekuni</u> , F. S. Kim, H. Nishiate, M. Ohta, H. I. Tanaka, T. Takabatake Oral <i>Synthetic colusite <math>Cu_{26}V_2Sn_6S_{32}</math>: high-performance thermoelectric mineral</i>
<b>17B.3</b> 14:15 – 14:30	<u>B. Feng</u> , H. P. Martin, F. D. Börner, W. Lippmann, M. Schreier, A. Hurtado, A. Michaelis Oral <i>Development of ceramic thermoelectric modules based on boron carbide and titanium suboxide</i>
<b>17B.4</b> 14:30 – 14:45	<u>R. Nunna</u> , X. Shi, L.D. Chen Oral <i>Enhance the thermoelectric properties of copper telluride with silver doping prepared by Ball Mill and SPS <math>Ag_xCu_{2-x}Te</math> (<math>X= 0.05, 0.1, 0.15</math> and <math>0.2</math>)</i>
<b>17B.5</b> 14:45 – 15:00	<u>Olga Caballero-Calero</u> , Miguel Muñoz-Rojo, Jerónimo Buencuerpo, Marisol Martín-González Oral <i>Perfectly ordered bismuth telluride three-dimensional structures for reducing thermal conductivity</i>
<b>17B.6</b> 15:00 – 15:30	<u>Peijie Sun</u> Invited <i>Large Seebeck effect by charge-mobility engineering</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 17C – Modules and thermoelectric generators VIII	Chair: T. Weißgärber
Hall 3	

<b>17C.1</b> 13:30 – 14:00	<u>L. Anatyчук</u> Invited On wide applications and thermoelectricity and ways of their implementation
<b>17C.2</b> 14:00 – 14:15	<u>M. Gao</u> , Tanuj Singh, Jorge Garcia-Canadas, Robert Ellor Oral <i>Evaluation of thermoelectric generators by I-V curves</i>
<b>17C.3</b> 14:15 – 14:30	<u>M. Ohtani</u> , M. Mori, M. Matsumoto, T. Ozawa Oral <i>Cost effective module design for automotive thermoelectric generator</i>
<b>17C.4</b> 14:30 – 14:45	<u>Diaz-Chao, Pablo</u> ; Muniz-Piniella, Andres; Selezneva, Ekaterina; Cuenat, Alexandre <i>Uncertainty budget on thermoelectric module characterisation</i>
<b>17C.5</b> 14:45 – 15:00	<u>Rei-Cheng Juang</u> , Bing-Hung Chang, Tien-Yuan Li, Yu-Li Lin Oral <i>Thermal absorber coating for the industrial heat radiation recovery</i>
<b>17C.6</b> 15:00 – 15:15	<u>Lertsatitthanakorn, Charoenporn</u> ; Jamradloedluk, Jindaporn; Rungsiyopas, Montana; Soponronnarit, Somchart <i>Technoeconomic Analysis of a Rice Husk Cook Stove Integrated with a Thermoelectric Generator</i>
<b>17C.7</b> 15:15 – 15:30	<u>Alaa Attar</u> , HoSung Lee Oral <i>Designing and testing the optimum design of automotive air-to-air thermoelectric air conditioner (TEAC) system</i>

15:30 – 16:00	Coffee	Large Hall
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Subsection 18A – Chalcogenides	Chair: H. Scherrer
Hall 1	

<b>18A.1</b> 16:00 – 16:30	<u>Bo Brummerstedt Iversen</u> Invited <i>Crystallography of thermoelectric lead and tin chalcogenides</i>
<b>18A.2</b> 16:30 – 16:45	<u>Cédric Bourgès</u> , Gabin Guelou, Paz Vaqueiro, Anthony V. Powell, Oleg I. Lebedev, Emmanuel Guilmeau Oral <i>Mechanical alloying and thermoelectric properties of <math>Ti_{1-x}Nb_xS_2</math> dichalcogenides</i>
<b>18A.3</b> 16:45 – 17:00	<u>Dingfeng Yang</u> , Wei Yao, Qiufan Chen, Tao Yang, Xiaoyuan Zhou, Guoyu Wang Oral <i>Thermoelectric enhancement in quasi-one dimensional structure <math>SbCrSe_3</math> by Pb and Fe doping</i>
<b>18A.4</b> 17:00 – 17:15	R. Al Rahal Al Orabi, B. Fontaine, P. Gall, T. Zhou, M. Colin, A. Dauscher, <sup>2</sup> C. Candolfi, B. Lenoir, P. Gougeon, <u>R. Gautier</u> Oral <i>Molybdenum cluster chalcogenides: Promising thermoelectric materials</i>
<b>18A.5</b> 17:15 – 17:30	<u>Umut Aydemir</u> , Jan-Hendrik Poehls, Saurabh Bajaj, Hong Zhu, Zachary M. Gibbs, Anubhav Jain, Geoffroy Hautier, G. Jeffrey Snyder Oral <i>YCuTe<sub>2</sub>: A promising novel thermoelectric material</i>
<b>18A.6</b> 17:30 – 17:45	<u>K. Kutorasinski</u> , B. Wiendlocha, S. Kaprzyk, J. Tobola Oral <i>Electronic structure and thermoelectric properties of n- and p-type SnSe from first principles calculations</i>
<b>18A.7</b> 17:45 – 18:00	<u>J.-B. Vaney</u> ; Julie Carreaud; Gaëlle Delaizir; Annie Pradel; Andrea Piarristeguy; Eric Alleno; Cedric Morin; Judith Monnier; Antonio Gonçalves; Christophe Candolfi; Anne Dauscher; Bertrand Lenoir Oral <i>Thermoelectric Properties of Sn-Doped <math>\beta</math>-As<sub>2</sub>Te<sub>3</sub> phase</i>

18:00 – 18:30	Coffee	Foyer
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Subsection 18B – Basic Physics II	Chair: E. Müller
Hall 2	

<b>18B.1</b> 16:00 – 16:15	<u>Jesse Maassen</u> , Mark Lundstrom Oral <i>Analysis of ballistic effects in transient thermal transport experiments</i>
<b>18B.2</b> 16:15 – 16:30	<u>P. Jund</u> , K. Niedziolka, P. Hermet, J.C. Tédénac Oral <i>Design of thermoelectric materials via first principles calculations</i>
<b>18B.3</b> 16:30 – 16:45	<u>H. Kojima</u> , R. Abe, F. Fujiwara, K. Takahashi, M. Ito, R. Matsubara, D. Kuzuhara, H. Yamada, T. Yamamoto, H. Yakushiji, M. Ikeda, M. Nakamura Oral <i>Universality of giant Seebeck effect in organic semiconductors</i>
<b>18B.4</b> 16:45 – 17:00	Qinglong Meng, Hengchang Liu, Zhiwei Huang, Shuang Kong, Xiaowei Lu, Patrick Tomkins, <u>Peng Jiang</u> , Xinhe Bao Oral <i>Giant thermoelectric effect in graphene oxide by mixed conduction</i>
<b>18B.5</b> 17:00 – 17:15	Junphil Hwang, Hongchao Wang, Pankaj Kumar Rawat, <u>Woochul Kim</u> Oral <i>Extremely low thermal conductivity and high electrical conductivity due to the metastability during phase change</i>
<b>18B.6</b> 17:15 – 17:30	<u>Sit Kerdsonpanya</u> , Olle Hellman, Bo Sun, Yee Kan Koh, Ngo Van Nong, Jun Lu, Sergei I. Simak, Björn Alling, Per Eklund Oral <i>The effect of microstructure on lattice thermal conductivity of ScN thin films</i>
<b>18B.7</b> 17:30 – 17:45	<u>W. Liu</u> , H. Chi, V. Stoica, L. Endicott, Z.R. Li, X.F. Tang, C. Uher Oral <i>Outstanding electronic properties of n- and p-type MBE-grown <math>(Bi_{1-x}Sbx)_2Te_3</math> thin films due to optimized carrier doping</i>
<b>18B.8</b> 17:45 – 18:00	<u>M. Lindorf</u> , H. Rohrmann, G. Span, M. Albrecht Oral <i>Evolution of transport properties of multilayered SiGe/Al thin films during MIC phase change</i>

18:00 – 18:30	Coffee	Foyer
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Subsection 18C – Modules and thermoelectric generators IX	Chair: M. Ohtani
Hall 3	

<b>18C.1</b> 16:00 – 16:15	<u>L. Fonseca</u> , C. Calaza, M. Salleras, I. Dönmez, A. Tarancón, A. Morata, J.D. Santos, G. Gadea Oral <i>Improved isolation of micro thermogenerators based on silicon suspended platforms</i>
<b>18C.2</b> 16:15 – 16:30	<u>Sun Jin Kim</u> , Ju Hyung We, Sung-Jae Joo, Ji Hee Son, Byung Jin Cho Oral <i>Optimization of annealing process of screen printed <math>Bi_{0.5}Sb_{1.5}Te_3</math> and <math>Bi_{0.5}Te_{2.85}Se_{0.15}</math> thick films for thermoelectric power generator</i>
<b>18C.3</b> 16:30 – 16:45	H. C. Choi, <u>S. Y. Kim</u> , K. H. Lee, S. H. Park, M. J. Oh, J. W. Park, J. W. Kim Oral <i>Development of a portable thermoelectric Z-meter</i>
<b>18C.4</b> 16:45 – 17:00	G. Gaiser, <u>F. Frobenius</u> Oral <i>Thermoelectric generators for the integration into automotive exhaust systems for passenger cars and commercial vehicles</i>
<b>18C.5</b> 17:00 – 17:15	A. Heghmanns, <u>S. Wilbrecht</u> , M. Beitelschmidt, K. Geradts Oral <i>Parameter optimization and operating strategy of a TEG system for railway vehicles</i>
<b>18C.6</b> 17:15 – 17:30	<u>Terry J. Hendricks</u> , Shannon Yee Oral <i>Cost scaling of a real-world exhaust waste heat recovery thermoelectric generator: A deeper dive</i>
<b>18C.7</b> 17:30 – 17:45	<u>Sung Wng Kim</u> Oral <i>Dense dislocation arrays embedded in grain boundaries for high-performance bulk thermoelectrics</i>
<b>18C.8</b> 17:45 – 18:00	<u>D.T. Crane</u> , J. Chase, H. Arora, L. Miller, D. Freeman, J. Reifenberg, A. Lorimer, M. Scullin Oral <i>Scaled-up development and performance of tetrahedrite/magnesium silicide-based thermoelectric devices</i>

18:00 – 18:30	Coffee	Foyer
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Subsection 19 - Plenary & Closing	Chair: Yu. Grin
Hall 2+3	

<b>19K.1</b> 18:30 – 19:15	<u>G.D. Mahan</u> , Winner of the 2015 ITS Outstanding Achievement Award Keynote The Seebeck coefficient of insulators
<b>19K.2</b> 19:15 – 20:00	<u>Kornelius Nielsch</u> Keynote <i>Lessons learned from nanoscale thermoelectric systems</i>
<b>19K.3</b> 20:00 – 20:45	<u>Takao Mori</u> Keynote <i>New routes for enhancing thermoelectric properties, novel materials, and thermoelectric projects in Japan</i>
20:45 – 21:00	Yu. Grin Closing Remarks