

ECT2007

Conference Program

(current as of July 16, 2007)

Sunday, September 9, 2007	
17:00- 20:00 <i>Welcome of the participants and registration (Hall of HOS)</i>	
Monday, September 10, 2007	
8:00	Registration (Hall of HOS)
9:00	Opening remarks by the conference chairman (V. Semenyuk) Welcome words by the President of the European Thermoelectric Society (H. Scherrer) Welcome words by the rector of OSAR (V. Prytula)
<u>Session 1 (Green Room) – Current Status and Prospects</u>	
Chairman: J. Stockholm	
9:30	I1 – Activities and Future Vision of Komatsu Electronics <u>Hirokuni Hachiuma</u> , Katsushi Fukuda, Komatsu Electronics, Kanagawa, Japan
10:00	I2 – ZT ~ 3.5: Fifteen Years of Progress and Things to Come <u>C. B. Vining</u> , ZT Services, Auburn, USA
10:30	Coffe break
<u>Session 2 (Green Room) – Current Status and Prospects</u>	
Chairman: J. Stockholm	
11:00	I3 – Economic Thermoelectric Recovery of Low Temperature Heat <u>D.M. Rowe</u> , School of Engineering , Cardiff University,Wales, UK
11:30	I4 – Current Status and Some Prospects of Thermoelectricity <u>L.I. Anatyчук</u> , Institute of Thermoelectricity, Chernivtsi, Ukraine
12:00	I5 – Role and Prospects of Use of Radionuclide Thermoelectric Generators (RTG) on Base of Plutonium-238 for Planetary Exploration <u>A. Pustovalov</u> , Research-Industrial Enterprise «BIAPOS»
12:30	Lunch
<u>Session 3 (Green Room) – Thermoelectric Materials I</u>	
Chairman: H. Scherrer	
14:00	I6 – Self-organizing Nanoscale Systems for Thermoelectric Application <u>Harald Böttner</u> , Fraunhofer-IPM, Freiburg, Germany
14:30	O1 – Structural and Thermoelectric Investigation of Bi-Te Films with Controlled Nanostructure M. Bailini, F. Donati, M. Zamboni, V. Russo, M. Passoni, C.S. Casari, <u>A. Li Bassi</u> , C.E. Bottani NEMAS, Politecnico di Milano, Italy
14:45	O2 – Nanoscale Antimonides of Zinc and Cadmium M. Artamonowa, C. Erk, M. Yosef, <u>S. Schlecht</u> , Freie Universität Berlin, Berlin, Germany
15:00	O3 – Zintl Phases as Thermoelectric Materials <u>F. Gascoin</u> , G. J. Snyder, S. Brown; S. M. Kauzlarich

	Université Montpellier II, Montpellier, France
15:15	O4 – Electronic properties of 2D alkali cobalt oxides <u>J.P. Doumerc</u> , M. Blangero, M. Pollet, D. Carlier-Larregaray, M. Ménétrier, J. Darriet, C. Delmas ICMCB, CNRS, Université Bordeaux, France
15:30	O5 – Thermoelectric Coefficients for Electron Tunnelling Through a Nanocrystal <u>X. Zianni</u> , Technological Educational Institution of Chalkida, Greece
15:45	O6 – Thermoelectric power of single Bi and Sb microwires at helium temperatures D. Gitsu, N. Bondarchuk, T. Huber, <u>L. Konopko</u> , A. Nikolaeva, IEEIT ASM, Cisinaiu, Moldova
16:00	O7 – Thermopower Enhancement in Nanocrystalline p-type Bi _{0.5} Sb _{1.5} Te ₃ <u>Z. Dashevsky</u> , V. Kasiyan, V. Ezersky, S. Moise, Ben Gurion University, Israel
16:15	O8 – High Performance <i>n</i> - and <i>p</i> -type Functionally Graded Materials (FGM) Based on PbTe for Thermoelectric Applications <u>Z. Dashevsky</u> , Y. Gelbstein, and M.P. Dariel, Ben Gurion University, Israel
16:30	Coffe break
16:45	Poster Session
18:30	Guided tour of Odessa
20:00	Conference banquet

Tuesday, September 11, 2007

Session 4 (Green Room) – Thermoelectric Materials II

Chairman: H. Boettner

8:30	I7 – Advanced Bulk Materials for High Temperature Power Generation Applications <u>J.-P. Fleurial</u> , JPL, Pasadena, USA
9:00	I8 – Thermal, electrical and thermoelectric transport in nanostructured ErAs:InGaAlAs materials <u>A. Shakouri</u> , University of California, Santa Cruz, CA, USA
9:30	I9 – Quantum Size Effects and Thermoelectric Transport in IV-VI – Based 2D-Structures <u>E.I. Rogacheva</u> , M.S. Dresselhaus, National Technical University, Kharkov, Ukraine
10:00	I10 – Band structure parameters influence on the thermoelectric figure of merit <u>M.I. Fedorov</u> , A.F.Ioffe Physico-Technical Institute, St-Petersburg, Russia

10:30 **Coffe break**

Session 5 (Green Room) – Thermoelectric Materials III

Chairman: M. Fedorov

11:00	I11 – Low dimensional organic compounds as promising thermoelectric materials <u>A. Casian</u> , V. Dusciac, R. Dusciac, Technical University of Moldova, Chisinaiu, Moldova
11:30	O9 – Hot Extruded (Bi,Sb) ₂ (Te,Se) ₃ Alloys for Advanced Thermoelectric Modules. <u>D. Vasilevskiy</u> , N. Kukhar, S. Turenne, R. A. Masut École Polytechnique de Montréal, Montréal (Québec), Canada
11:45	O10 – Novel Skutterudites: Crystal Chemistry and Physical Properties <u>A. Grytsiv</u> , N. Melnychenko-Koblyuk, Xing-Qiu Chen, P. Rogl, E. Bauer, H. Michor, E. Royanian, M. Rotter, H. Schmid, G. Giester, University of Vienna, Vienna, Austria
12:00	O11 – Chemistry of Materials a Tool for Skutterudite Tailoring. Application to Cobalt Based Material P. Amornpitokuk, D. Ravot, F. Gascoin, <u>J.C. Tedenac</u>

	Universite Montpellier II, Montpellier, France
12:15	O12 – Rapid Homogenization of Bi _{0.85} Sb _{0.15} Alloy by Equal Channel Angular Extrusion <u>S.Ceresara</u> , G.Giunchi, P.Bassani, T. Cavallin, C. Fanciulli EDISON S.p.A, Milano, Italy
12:30	<i>Lunch</i>
Session 6 (Green Room) – Application Chairman: A. Pustovalov	
14:00	I12 – Vehicular Thermoelectric Applications <u>John W. Fairbanks</u> , Us Department Of Energy, Washington, D.C., USA
14:30	I13 – Thermoelectric generators on living beings <u>V. Leonov</u> , R. J. M. Vullers, IMEC, Leuven, Belgium
15:00	O13 - Small-size BiTe thermopiles and a thermoelectric generator for wearable sensor nodes <u>V. Leonov</u> , T. Torfs, N. V. Kukhar, C. Van Hoof, R. J. M. Vullers, IMEC, Leuven, Belgium
15:15	O14 – Novel Maximum Power Point Tracking Control System for Thermoelectric Generator and Evaluation of Mismatch Power Loss Reduction <u>H. Nagayoshi</u> , K. Tokumisu, T. Kajikawa Tokyo National College of Technology, Tokyo, Japan
15:30	O15 – Development of a thermoelectric ice maker of fingers incorporated into a static domestic refrigerator. <u>J.G. Vián</u> , D. Astrain, and A. Rodríguez, Dpto. De Ingeniería Mecánica, Energética y de Materiales Universidad Pública de Navarra
15:45	O16 – Diffusion Protection of Thermoelectric Cooler Junctions as a Means of Increasing Their Reliability V. Semenyuk, and <u>A. Antonenko</u> Odessa State Academy of Refrigeration, Odessa, Ukraine
16:00	O17 – Thermoelectric Cooling With Constrained Heat Removal V. Semenyuk, <u>R. Dehtyaruk</u> Odessa State Academy of Refrigeration, Odessa, Ukraine
16:15	O18 – From Experience of Development of Thermoelectric Conditioners for Driver’s Cabins of Rail Transport V.V. Semenov, <u>G.V. Seropyan</u> , E.V. Khanin Research-Production Enterprise «Kvant», Moscow, Russia
16:30	<i>Coffe break</i>
16:45	Poster Session
18:00	<i>Boat outing along Odessa sea shore</i>

Wednesday, September 12, 2007

Session 7 (Green Room) – Measurement and Theoretical Aspects

Chairman: Z. Dashevsky

8:15	I14 - Ab initio calculations in thermoelectric and magnetocaloric materials <u>J. Tobola</u> , AGN University of Science and Technology, Krakow, Poland
8:45	O19 - Theoretical study of the Harman method and key features of an experimental setup for evaluating the thermoelectric performance of materials and components at high temperature <u>A. Jacquot</u> , M. Jäggle, J. König, D. G. Ebling, H. Böttner

	Fraunhofer IPM, Freiburg, Germany
9:00	O20 - Melt spinning preparation of Bismuth Telluride and partially alloying with IV-VI compounds for thermoelectric application, <u>H. Böttner</u> , D.G. Ebling, A. Jacquot, Uta Kühn, J. Schmidt Fraunhofer-IPM, Freiburg, Germany
9:15	O21 - Vacancies and transport properties in $Ba_8Zn_xGe_{46-x}[]_y$ <u>E. Alleno</u> , G. Maillat, O. Rouleau, E. Leroy, C. Godart ICMPE-CNRS, CMTR, THIAIS, FRANCE
9:30	O22 - From $Ca_{1-x}Sm_xMnO_3$ Synthesis to the Design and Characterization of Thermoelectric Modules <u>S. Lemonnier</u> , Ch. Goupil, E. Guilmeau, M. Prevel, and J. Noudem Laboratoire CRISMAT, UMR CNRS ENSICAEN 6508 CAEN cedex, France
9:45	O23 - Structural and thermoelectric properties of $AgSbSe_2$ and $AgSbTe_2$ <u>K. Wojciechowski</u> , J. Tobola, M. Schmidt, R. Zybala AGH University of Science and Technology, Krakow, Poland
10:00	Coffe break
Session 8 (Green Room) – Theoretical Aspects	
Chairman: J. Tobola	
10:30	O24 - Thermoelectric Integrated Numerical Modeling Process of a Temperature and Humidity Control Device Apply to Vehicles for Fogging Preventing A. López, F. Villasevil, <u>G. Noriega</u> , and Platzek Cidete Ingenieros SL, Barsezona, Spain
10:45	O25 - Power and Efficiency calculation in commercial TEG and application in wasted heat recovery in automobile K.T. Zorbas, <u>E. Hatzikraniotis</u> , and K.M. Paraskevopoulos Aristotle University of Thessaloniki, Thessaloniki, Greece
11:00	O26 - Thermal matching of a thermoelectric energy scavenger with the ambient <u>V. Leonov</u> , P. Fiorini IMEC, Leuven. Belgium
11:15	O27 - Numerical modelization by finite differences of a thermoelectric refrigeration device of “double jump”. Experimental validation <u>A. Rodríguez</u> , J.G. Vián, D. Astrain Universidad Pública de Navarra, Pamplona, Spain
11:30	Concluding remarks
12:30	Farwell Party