

Oral Presentation

Symposium 4. Thermal-to-Electrical Energy Conversion Materials and Applications

February 21(TUE)

Time	Program	
	[Session 4-1] Thermal-to-Electrical Energy Conversion Materials and Applications	
	Chair: Min-Wook Oh (Hanbat National University), Weon Ho Shin (KICET)	
15:50-16:20	[SO4-1] Influence of Metal iodide doping on the thermoelectric effect of Bi ₂ Te ₃ (Invited Talk)	Sung-Jin Kim (Ewha Womans University)
16:20-16:50	[SO4-2] A Role of Intrinsic and Extrinsic Meta-States in Bi-Te & Pb-Te Telluride Compound (Invited Talk)	Su-Dong Park (KERI)
16:50-17:05	[SO4-3] Synthesis of Bi-Te Based Heterogeneous Structures and Their Thermoelectric Properties	Weon Ho Shin (KICET)
17:05-17:35	[SO4-4] Free-electron creation at 60twin boundary in Bi ₂ Te ₃ (Invited Talk)	Seung-Hyub Baek (KIST)
17:35-17:50	[SO4-5] Optimization of Thermoelectric Properties of N-type Bi ₂ (Te,Se) ₃ with Optimizing Ball Milling Time	Min-Wook Oh (Hanbat National University)

February 22 (WED)

Time	Program	
	[Session 4-2] Thermal-to-Electrical Energy Conversion Materials and Applications	
	Chair:Woochul Kim, Su-Dong Park (KERI)	
10:40-11:10	[SO4-6] Tailoring Thermoelectric Films by Electrodeposition (Keynote presentation)	Nosang Myung (University of California Riverside)
11:10-11:40	[SO4-7] Thermoelectric & Thermo-Electro-Chemical Conversion: opportunities for improved efficiency (Invited Talk)	Shannon Yee (Georgia Institute of Technology)
11:40-12:10	[SO4-8] Electrochemical synthesis of high efficient thermoelectric materials with embedded nanostructures (Invited Talk)	Jae-Hong Lim (KIMS)
Time	Program	
	[Session 4-3] Thermal-to-Electrical Energy Conversion Materials and Applications	
	Chair: Jae Sung Son (UNIST), Nosang Myung (University of California Riverside)	
15:50-16:20	[SO4-9] Atomic scale defects in high performance bulk thermoelectric materials (Keynote presentation)	Sung Wng Kim (Sungkyunkwan University)
16:20-16:50	[SO4-10] High performance p-type half-Heusler thermoelectric materials (Invited Talk)	Tiejun Zhu (Zhejiang University)
16:50-17:20	[SO4-11] Towards high thermoelectric performance in PbTe and SnTe by band engineering and morphological control (Invited Talk)	Hongchao Wang (Shandong University)
17:20-17:50	[SO4-12] The achievement of high ZT in n-type SnSe single crystal (Invited Talk)	Sunglae Cho (University of Ulsan)

February 23(THU)

Time	Program	
	[Session 4-4] Thermal-to-Electrical Energy Conversion Materials and Applications	
	Chair:Soonil Lee (KICET), Hoyoung Kim (DGIST)	
09:00-09:30	[SO4-13] Flexible Thermoelectric Generators Using Organic Materials by Printing Process (Invited Talk)	Song Yun Cho (KRICT)
09:30-09:45	[SO4-14] Inorganic materials based flexible thermoelectric device	Yomin Eom (Yonsei university)
09:45-10:00	[SO4-15] Fill Factor Modulation of Flexible Thermoelectric Device for Maximized Energy Harvesting from Human Body Heat	Choong Sun Kim (KAIST)
10:00-10:15	[SO4-16] The Influence of Nano-sized Interfacial Defect-Zone on the Thermoelectric Properties of Bi ₂ Te _{2.7} Se _{0.3} Matrix Composites	Taesik Min (KIMS)
Time	Program	
	[Session 4-5] Thermal-to-Electrical Energy Conversion Materials and Applications	
	Chair: In Chung (Seoul National University), Song Yun Cho (KRICT)	
10:50-11:20	[SO4-17] Thermoelectric devices from bulk nanocrystalline silicon: Materials processing and device concepts (Invited Talk)	Gabi Schierning (Leibniz Institute for Solid State and Materials Research Dresden)
11:20-11:50	[SO4-18] The Interfacial Resistances of Thermoelectric Device from the I-V Measurement (Invited Talk)	Hoyoung Kim (DGIST)

11:50-12:20	[SO4-19] Challenges of Thermoelectric Materials and Modules for Mid-High Temperature Applications (Invited Talk)	Soonil Lee (KICET)
Time	Program	
	[Session 4-6] Thermal-to-Electrical Energy Conversion Materials and Applications	
	Chair: Jae-Hong Lim (KIMS), Joo-Hyoung Lee (GIST)	
13:30-14:00	[SO4-20] Defects Engineering for High-Performance Thermoelectric Materials (Invited Talk)	Kyu Hyoung Lee (Kangwon National University)
14:00-14:30	[SO4-21] Cu-based thermoelectric materials (Invited Talk)	Xun Shi (Shanghai Institute of Ceramics)
14:30-15:00	[SO4-22] Phonon scattering and propagation considerations for thermoelectrics (Invited Talk)	Yanzhong Pei (Tongji UnivUniversity)
15:00-15:15	[SO4-23] Extraordinary off-stoichiometric n-type Bi ₂ Te ₃ : A new strategy for enhancing power factor	In Chung (Seoul National University)
15:15-15:30	[SO4-24] Computational design of high-performance thermoelectric materials	Joo-Hyoung Lee (GIST)
Time	Program	
	[Session 4-7] Thermal-to-Electrical Energy Conversion Materials and Applications	
	Chair: Kyu Hyoung Lee (Kangwon National University), Joo-Hyoung Lee (GIST)	
15:50-16:20	[SO4-25] Thermoelectric Performance of Metastable Rock-salt GeTe-rich Ge-Sb-Te Thin Films (Invited Talk)	Kuei-Hsien Chen (Academia Sinica)
16:20-16:50	[SO4-26] Expanding the versatility of thermoelectric materials by the introduction of nano- and molecular-solders (Invited Talk)	Jae Sung Son (UNIST)
16:50-17:20	[SO4-27] Synthesis and Characterization of Thermoelectric Nanocomposites using Carbon-Nanomaterials (Invited Talk)	Kyung Tae Kim (KIMS)
17:20-17:35	[SO4-28] Direct observation of dislocation arrays forming at grain boundary in high-performance bulk thermoelectric materials	Hyeona Mun (Sungkyunkwan University)
17:35-17:50	[SO4-29] Flexible thermoelectric refrigerator using bulk material	Hwanjoo Park (Yonsei University)
17:50-18:20	[SO4-30] Thermoelectric material via Nanoengineering (Invited Talk)	Jinyao Tang (The University of Hong Kong)

February 24(FRI)

Time	Program	
	[Session 4-8] Thermal-to-Electrical Energy Conversion Materials and Applications	
	Chair: Jae-Hong Lim (KIMS), Min-Wook Oh (Hanbat National University)	
09:15-09:30	[SO4-31] Effect of Hydrogen Annealing on Contact Resistance of Screen-printed Thermoelectric Thick Films	Yongjun Kim (KAIST)
09:30-09:45	[SO4-32] ζ per W enhancement of flexible wearable thermoelectric devices by geometrical optimization	Dimuthu Prasad Wijethunge (yonsei university)
09:45-10:00	[SO4-33] Effect of Thickness of Antimony Telluride Films on Their Thermoelectric Properties	Haishan Shen (Korea Institute of Machinery & Materials)
10:00-10:15	[SO4-34] Thermoelectric properties of Bi-Te based alloys fabricated by water atomization and SPS process	Chul-Hee Lee (Kongju National University)
10:15-10:30	[SO4-35] Material Corrosion Troubles in Boiler Tube of Waste Energy Plant	Ha-Na Jang (Yonsei University)