− Program at a Glance −

Day 1 July 3rd (Mon)	Day 2 July 4th (Tue)	Day 3 July 5th (Wed)
***Opening & Plenary* (08:00-9:30)**	***Session V* (08:00-10:30)**	***Session VII* (08:00-10:30)**
Plenary 1: Gang Chen	Keynote 1: Arun Majumdar	Keynote 3: Li Shi
Plenary 2: Eiji Saitoh	Keynote 2: Hiroshi Yamaguchi	Keynote 4: Junichiro Shiomi
***Session I* (09:45-11:00)**	V-1 Patrick Hopkins	VII-1 Lucas Lindsay
I-1 Joseph Heremans	V-2 Yuji Awano	VII-2 Asegun Henry
I-2 Masahiro Nomura	V-3 Osamu Nakabeppu	VII-3 Philip Allen
I-3 Michael Pettes	V-4 Kenneth Goodson	VII-4 Terumasa Tadano
I-4 Ken-ichi Uchida	V-5 Taku Ohara	VII-5 Jennifer Lukes
I-5 Austin Minnich	V-6 Ryotaro Matsuda	VII-6 Xiulin Ruan
***Session II* (11:15-12:15)**	***Session VI* (10:45-13:00)**	***Session VIII* (10:45-13:00)**
II-1 Sebastian Volz	VI-1 Renkun Chen	VIII-1 Ken Uchida
II-2 Kazuhiro Fushinobu	VI-2 Toru Ujihara	VIII-2 Mona Zebarjadi
II-3 Pramod Reddy	VI-3 Deyu Li	VIII-3 Yoshiaki Nakamura
II-4 Katsunori Hanamura	VI-4 Takuma Shiga	VIII-4 Zhiting Tian
***Session III* (13:45-15:45)**	VI-5 Chris Dames	VIII-5 Tsunehiro Takeuchi
III-1 Masamichi Kohno	VI-6 Yoshihiro Taguchi	VIII-6 Keivan Esfarjani
III-2 Hirofumi Daiguji	VI-7 Amy Marconnet	VIII-7 Yoichi Murakami
III-3 Shalabh Maroo	VI-8 Koji Miyazaki	VIII-8 Xiaojia Wang
III-4 Koji Takahashi	VI-9	VIII-9 Yongjie Hu
III-5 Gota Kikugawa		***Closing***
III-6 Shannon Yee		
III-7 Tomohide Yabuki		
III-8 Mitsuhiro Matsumoto		
***Session IV* (16:00-17:30)**		
IV-1 Shohei Chiashi		
IV-2 Jonathan Malen		
IV-3 Shigeo Maruyama		
IV-4 Alan McGaughey		
IV-5 Tengfei Luo		
IV-6 Takashi Kodama		
***Millie Dresselhaus Memorial Session* (17:45-18:15)**		
***Poster Session* (18:15-20:30)**		

Schedule

Sunday, July 2nd

17:00 – 19:00 **Registration** at Take-no-Ma, 竹の間, (11F)

19:00 – 20:30 **Informal Welcome Reception**

Monday, July 3rd

08:00 – 09:30 **Opening & Plenary Talks** at Kujyaku-no-Ma, 孔雀の間, (11F)

08:00 – 08:10 **Welcome Remarks by the Chairs**

08:10 – 08:50 Plenary Talk 1: **Gang Chen** *Massachusetts Institute of Technology*
Coherent and localized phonon heat conduction

08:50 – 09:30 Plenary Talk 2: **Eiji Saitoh** *Tohoku University*
Spin current physics and applications

09:30 – 09:45 Coffee Break

09:45 – 11:00 **Session I** at Kujyaku-no-Ma, 孔雀の間, (11F)
Chairs: Patrick Hopkins and Junichiro Shiomi

09:45 – 10:00 **Joseph Heremans** *Ohio State University*
Entropy transport in Weyl semimetals with topologically protected charge carriers

10:00 – 10:15 **Masahiro Nomura** *University of Tokyo*
Thermal conduction engineering in Si membranes by phononic nanostructures

10:15 – 10.30 **Michael Pettes** *University of Connecticut*
Giant mechanico-optoelectronic effect in an atomically-thin semiconductor

10:30 – 10.45 **Ken-ichi Uchida** *National Institute for Material Science* (*NIMS*)
Thermal imaging of spin-caloritronic phenomena

10:45 – 11:00 **Austin Minnich** *California Institute of Technology*
Thermal response of materials to extreme temperature gradients and the role of the spatial frequency

11:00 – 11:15 Coffee Break

11:15 – 12:15	**Session II** at Kujyaku-no-Ma, 孔雀の間, (11F) Chairs: Austin Minnich and Koji Miyazaki

11:15 – 11:30 **Sebastian Volz** *National Center for Scientific Research* (*CNRS*)
Near-field radiation: tunneling and guiding heat

11:30 – 11:45 **Kazuhiro Fushinobu** *Tokyo Institute of Technology*
Nanoscale materials processing by means of modulated short pulse lasers

11:45 – 12:00 **Pramod Reddy** *University of Michigan*
Thermal radiation at the nanoscale

12:00 – 12:15 **Katsunori Hanamura** *Tokyo Institute of Technology*
Spectral control of near-field radiation transfer and its application for TPV generation of electricity

12:15 – 13:45 Lunch (on your own)

13:45 – 15:45	**Session III** at Kujyaku-no-Ma, 孔雀の間, (11F) Chairs: Amy Marconnet and Shohei Chiashi

13:45 – 14:00 **Masamichi Kohno** *Kyushu University*
Water molecule absorption/desorption on VA-SWNT film in water vapor

14:00 – 14:15 **Hirofumi Daiguji** *University of Tokyo*
Water transport in confined nanospace

14:15 – 14:30 **Shalabh Maroo** *Syracuse University*
Microlayer evolution and heat transfer with a steady state vapor bubble

14:30 – 14:45 **Koji Takahashi** *Kyushu University*
AFM and TEM studies on nanobubbles

14:45 – 15:00 **Gota Kikugawa** *Tohoku University*
Molecular transport of liquids in the confined space: A fundamental study and applications to device process

15:00 – 15:15 **Shannon Yee** *Georgia Institute of Technology*
Thermal and thermoelectric transport in polymers

15:15 – 15:30 **Tomohide Yabuki** *Kyushu Institute of Technology*

Boiling heat transfer enhancement by controlling microlayer behavior

15:30 – 15:45 **Mitsuhiro Matsumoto** *Kyoto University*
Fluid phase change in thin gap

15:45 – 16:00 Coffee Break

16:00 – 17:30 **Session IV** at Kujyaku-no-Ma, 孔雀の間, (11F)
Chairs: Shannon Yee and Gota Kikugawa

16:00 – 16:15 **Shohei Chiashi** *University of Tokyo*
Fabrication of pure-semiconducting single-walled carbon nanotube arrays and nanotube transistors

16:15 – 16:30 **Jonathan Malen** *Carnegie Mellon University*
Sound speed differentiates thermal transport in lead halide perovskites

16:30 – 16:45 **Shigeo Maruyama** *University of Tokyo*
Carbon nanotube films for perovskite solar cells with higher stability

16:45 – 17:00 **Alan McGaughey** *Carnegie Mellon University*
Degree-of-freedom resolved thermal transport in the C60 molecular crystal

17:00 – 17:15 **Tengfei Luo** *University of Notre Dame*
The role of surface functionalization on thermal transport across hard-soft material interfaces

17:15 – 17:30 **Takashi Kodama** *University of Tokyo*
Suppression of interfacial heat transport between silica nanoparicles by silane coupling method

17:30 – 17:45 Coffee Break

17:45 – 18:15 **Millie Dresselhaus Memorial Session** at Zuiho-no-Ma, 瑞宝の間, (10F)
Shigeo Maruyama, Arun Majumdar, Gang Chen

18:15 – 20:30 **Poster Session** at Zuiho-no-Ma, 瑞宝の間, (10F)

P-1. Akanksha Menon *Georgia Institute of Technology* (Understanding thermally activated charge transport in N-type metallo-organic polymers)

P-2. Andrea Pickel *University of California, Berkeley* (Investigating apparent

self-heating of individual luminescent nanoparticle thermometers)

P-3. Andrew Rohskopf *Georgia Institute of Technology* (Phonon optimized potentials)

P-4. Chengyun Hua *Oak Ridge National Laboratory* (*ORNL*) **(**Experimental metrology to obtain thermal phonon transmission coefficients at solid interfaces)

P-5. Dakotah Thompson *University of Michigan* (Radiative heat conductances between dielectric and metallic parallel plates with nanoscale gaps)

P-6. Geoff Wehmeyer *University of California, Berkeley* (Nanoscale thermometry utilizing thermal diffuse scattering in the scanning transmission electron microscope)

P-7. Haidong Wang *Kyushu University* (Thermal rectification in suspended monolayer graphene)

P-8. Hao Ma *Virginia Institute of Technology* (Significantly high thermal rectification in an asymmetric polymer molecule driven by diffusive versus ballistic transport)

P-9. Hiroaki Matsuura *Keio University* (Microscale mass transport in ternary polymer solutions observed by Soret forced Rayleigh scattering method)

P-10. Jeffrey Braun *University of Virginia* (Thermal conductivity reduction through increasing number of distinct components in entropy-stabilized oxides)

P-11. Kazuhito Dejima *Meji University* (Heat flux measurement in an internal combustion engine with a metal substrate MEMS sensor)

P-12. Kazuma Isobe *Tokyo Institute of Technology* (Parametric study of nanometer-sized pillar array structure for spectrally enhanced near-field radiation transfer)

P-13. Kozo Furuta *Kyoto University* (Shape sensitivity for thermal design problem based on the Boltzmann Transport Equation)

P-14. Laurent Tranchant *Kyushu Institute of Technology* (Measurement of the enhanced thermal transport and propagation of surface phonon-polaritons in the case of silica suspended thin films)

P-15. LeighAnn Larkin *University of Virginia* (The effect of long-range order on thermal conductivity in cold-worked $Fe_{50}Pd_{50}$ alloys)

P-16. Makoto Kamata *Keio University* (Nano-sized sample analysis based on diffusion coefficient using optoelectronic microfluidic sensor)

P-17. Masahiko Shibahara *Osaka University* (Molecular dynamics study on influence of nanostructures on energy transfer mechanism over a fluid-solid interface)

P-18. Qin-Yi Li *Kyushu University* (Dual-mode Raman method to measure thermal transport properties of 2D materials and van der Waals heterostructures)

P-19. Riku Enomoto *Tokyo Institute of Technology* **(**Investigations on thermophysical and electronic properties of Pt-porphyrin molecular solids)

P-20. Sean Lubner *Lawrence Berkeley National Laboratory* (*LBNL*) (Characterizing and engineering nanoscale thermal interfaces for advanced thermal insulation and Lithium-ion batteries)

P-21. Sergei Gluchko *National Center for Scientific Research* (*CNRS*) (Thermal excitation of broadband and long-range surface waves on SiO2 submicron films)

P-22. Shenghong Ju *University of Tokyo* (Designing nanostructures for phonon transport via materials informatics)

P-23. Shunta Harada *Nagoya University* (Change in thermal conductivity of natural superlattice oxides accommodating with oxygen deficiency)

P-24. Tsuyoshi Nagasawa *Tokyo Institute of Technology* (Nano-micro scaled active site imaging of porous composite cathode in solid oxide fuel cell by quenching and oxygen isotope labeling)

P-25. Wei-Lun Hsu *University of Tokyo* (Nanopore protein sensing using induced reverse electroosmotic flow)

P-26. Yoichiro Tsurimaki *Massachusetts Institute of Technology* (Enhancement of absorption of light in 1D multi-layered structures with interfacial states)

Banquet at Zuiho-no-Ma, 瑞宝の間, (10F)

Tuesday, July 4th

08:00 – 10:30	**Session V** at Kujyaku-no-Ma, 孔雀の間, (11F) Chairs: Xiaojia Wang and Yoichi Murakami

08:00 – 08:30 Keynote 1: **Arun Majumdar** *Stanford University*
Heat engines based on redox work

08:30 – 09:00 Keynote 2: **Hiroshi Yamaguchi** *NTT Basic Research Laboratories*
Acoustic phonon manipulation in GaAs/AlGaAs electromechanical systems

09:00 – 09:15 **Patrick Hopkins** *University of Virginia*
Actively switching the thermal conductivity of thin films via external loads: Electric fields, liquid infiltration of proteins and modulated laser energy

09:15 – 09:30 **Yuji Awano** *Keio University*
Advanced quasi-self-consistent Monte Carlo simulations of non-stationary-state electron and phonon transport in nanometer-scale Gallium Nitride High Electron Mobility Transistors (HEMTs)

09:30 – 09:45 **Osamu Nakabeppu** *Meji University*
Application of thin film thermal sensor to IC engine

09:45 – 10:00 **Kenneth Goodson** *Stanford University*
Nano thermal materials for power electronics

10:00 – 10:15 **Taku Ohara** *Tohoku University*
Analysis of molecular energy transfer for the design of thermal medium fluids

10:15 – 10:30 **Ryotaro Matsuda** *Nagoya University*
Gas adsorption and transformation heat in the nanospace of metal organic frameworks

10:30 – 10:45 Coffee Break

10:45 – 13:00 **Session VI** at Kujyaku-no-Ma, 孔雀の間, (11F)
Chairs: Michael Pettes and Mitsuhiro Matsumoto

10:45 – 11:00 **Renkun Chen** *University of California, San Diego*
Thermal transport in amorphous nanostructures

11:00 – 11:15 **Toru Ujihara** *Nagoya University*
Controlling thermal conductivity in tungsten trioxide by ion-intercalation

11:15 – 11:30 **Deyu Li** *Vanderbilt University*
Kinked morphology as a new freedom to tune the thermal conductivity of nanowires

11:30 – 11:45 **Takuma Shiga** *University of Tokyo*

Contributions of coherent and incoherent phonons to heat conduction

11:45 – 12:00 **Chris Dames** *University of California, Berkeley*
Nanoscale thermal metrology using electrons and photons

12:00 – 12:15 **Yoshihiro Taguchi** *Keio University*
Development of nanoscale thermometry using near-field optics

12:15 – 12:30 **Amy Marconnet** *Purdue University*
Thermal transport in mesoscale, heterogeneous systems

12:30 – 12:45 **Koji Miyazaki** *Kyushu Institute of Technology*
Printed thermoelectric device

12:45 – 13:00 **TBD**

13:00 – **Excursion**

Wednesday, July 5th

08:00 – 10:30 **Session VII** at Kujyaku-no-Ma, 孔雀の間, (11F)
Chairs: Alan McGaughey and Masamichi Kohno

08:00 – 08:30 Keynote 3: **Li Shi** *University of Texas at Austin*
Inelastic light scattering measurements of phonon and magnon transport in materials with unusual thermal properties

08:30 – 09:00 Keynote 4: **Junichiro Shiomi** *University of Tokyo*
Designability of nanostructures for thermal transport

09:00 – 09:15 **Lucas Lindsay** *Oak Ridge National Laboratory* (*ORNL*)
First principles nanoscale phonon transport: Insights and predictions

09:15 – 09:30 **Asegun Henry** *Georgia Institute of Technology*
Thinking beyond the phonon gas model

09:30 – 09:45 **Philip Allen** *Stony Brook University*
Ballistic/Diffusive (nonlocal) behavior: Boltzmann treatment of the temperature distribution near a heat source

09:45 – 10:00 **Terumasa Tadano** *National Institute for Material Science* (*NIMS*)
First-principles simulation of phononic thermal transport in strongly anharmonic solids

10:00 – 10:15 **Jennifer Lukes** *University of Pennsylvania*

Validity of the isotropic thermal conductivity assumption in supercell lattice dynamics

10:15 – 10:30 **Xiulin Ruan** *Purdue University*
Phonon spectroscopy using predictive atomic scale simulations

10:30 – 10:45 Coffee Break

10:45 – 13:00 **Session VIII** at Kujyaku-no-Ma, 孔雀の間, (11F)
Chairs: Tengfei Luo and Masahiro Nomura

10:45 – 11:00 **Ken Uchida** *Keio University*
Nanoscale low-energy molecular sensors with thermal awareness

11:00 – 11:15 **Mona Zebarjadi** *University of Virginia*
Cross-plane and in-plane thermoelectric transport in 2D materials

11:15 – 11:30 **Yoshiaki Nakamura** *Osaka University*
Epitaxial nanostructure design for control of phonon and electron transport

11:30 – 11:45 **Zhiting Tian** *Virginia Institute of Technology*
Boron arsenide phonon dispersion from inelastic x-ray scattering: Potential for ultrahigh thermal conductivity

11:45 – 12:00 **Tsunehiro Takeuchi** *Toyota Technological Institute*
Development of thermal diodes using Ag2Ch (Ch = S, Se, Te)

12:00 – 12:15 **Keivan Esfarjani** *University of Virginia*
Solid-state thermionic transport with layered materials

12:15 – 12:30 **Yoichi Murakami** *Tokyo Institute of Technology*
Kinetics and transport properties of triplet-sensitized photon upconversion in fluids and gels

12:30 – 12:45 **Xiaojia Wang** *University of Minnesota*
Time-resolved magneto-optical Kerr effect for ultrafast thermal and magnetic characterization

12:45 – 13:00 **Yongjie Hu** *University of California, Los Angeles*
Tuning and mapping the thermal spectra of 2D van der Waals materials

13:00 – 13:10 **Closing Remarks by the Chairs**

End of the seminar