Ronggui Yang

Education

- Ph.D. Mechanical Engineering, MIT, 2006
- M.S. Mechanical Engineering, University of California at Los Angeles, 2001
- MEng Engineering Thermophysics, Tsinghua University, Beijing, China, 1999
- B.S. Thermal Engineering, Xi'an Jiaotong University, Xi'an, China, 1996

Professional Recognition

- 2009-2014 CAREER Award, National Science Foundation
- 2008 Technology Review's TR35 Award (one of the 35 young scientists and technologists in world who are under the age of 35, but their work--spanning medicine, computing, communications, electronics, nanotechnology, energy, and more--is changing our world.)
- 2008 DARPA/MTO Young Faculty Award (one of the 39 rising stars in university microsystems research)
- 2008-2011 Sanders Faculty Fellow, College of Engineering and Applied Science, CU-Boulder.
- 2008 Outstanding Research Award, Department of Mechanical Engineering, CU-Boulder
- 2008 Nominated for IEEE/ACM William J. McCalla ICCAD 2008 Best Paper Award by the conference organizers of the 2008 International Conference on Computer-Aided Design.
- 2005 Best Paper Award – Research, InterPACK 2005 (the ASME/Pacific Rim Technical Conference and Exhibition on Integration and Packaging of MEMS, NEMS, and Electronic Systems), 1 out of >500 papers.
- 2005 Goldsmid Award for Excellence in Research in Thermoelectrics, the sole award by the International Thermoelectrics Society.
- 2004 NASA Certificate of Recognition for a Technical Innovation (Space Act Tech Brief Award), NASA Inventions and Contributions Board.

Research Interests

- Micro/Nanoscale and Ultrafast Transport Phenomena
- Micro- and Nanotechnology for Energy Conversion and Storage
- Thermal Management of Electronic and Optoelectronic Devices
- Nanostructured Materials (Nanocomposites, Hybrid Micro/Nano-strucured Materials)
- MEMS/NEMS and Micro/Nanofabrication.

Selected Publications

- Mark Siemens, Qing Li, Margaret Murnane, Henry Kapteyn, **Ronggui Yang,**Keith Nelson, Nanoscale Heat Transport Probed with Soft-X-Rays, Paper CWA6, OSA Conference on Lasers and Electro-Optics and the Quantum Electronics and Laser Science Conference (CLEO/QELS), May 2008, San Jose, CA, highlighted as Physics Update in

the monthly American Physical Society member magazine Physics Today in July 2008 issue, p.17 (July 2008).

- Nicholas Allec, Zyad Hassan, Li Shang, Robert P. Dick and **Ronggui Yang**, "ThermalScope: Multi-scale Thermal Analysis for Nanometer-scale Integrated Circuits," submitted to IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, September 2008
- Ming-Shan Jeng, **Ronggui Yang**, David W. Song, and Gang Chen, Modeling the Thermal Conductivity and Phonon Transport in Nanoparticle Composites using Monte Carlo Simulation, ASME Journal of Heat Transfer, Vol. 130, Article #042410 (1-11), April 2008.
- Weixue Tian and **Ronggui Yang**, Phonon Transport and Thermal Conductivity Percolation in Random Nanoparticle Composites (Invited Paper), Computer Modeling in Engineering and Sciences (CMES), Vol. 24, p.123-141, 2008.
- M. S. Dresselhaus, G. Chen, M.Y. Tang, **R.G. Yang**, H. Lee, D.Z. Wang, Z. F. Ren, J. P. Fleurial, and P. Gogna, New Directions for Low Dimensional Thermoelectric Materials **(Invited Review)**, Advanced Materials **19**, pp.1043-1053, April 2007.
- **Ronggui Yang**, Gang Chen, and Mildred S. Dresselhaus, Thermal Conductivity of Simple and Tubular Nanowire Composites in the Longitudinal Direction, Physical Review B **72**, 125418, 2005.
- **Ronggui Yang**, Gang Chen, and Mildred Dresselhaus, Thermal Conductivity Modeling of Core-Shell and Tubular Nanowires, Nano Letters, Vol. **5**, pp. 1111-1115, June 2005.
- **Ronggui Yang**, Gang Chen, Marine Laroche, and Yuan Taur, Multidimensional Transient Heat Conduction at Nanoscale using the Ballistic-Diffusive Equations and the Boltzmann Equation, ASME Journal of Heat Transfer, Vol. **127**, pp.298-306, 2005.
- **Ronggui Yang** and Gang Chen, Thermal Conductivity Modeling of Periodic Two-Dimensional Nanocomposites, Physical Review B, Vol. **69**, 195316 (1-10), 2004.
- **Ronggui Yang**, Gang Chen, G. Jeffrey Snyder, and Jean-Pierre Fleurial, Multistage Thermoelectric Micro Coolers, Journal of Applied Physics, Vol. **95**, pp. 8226-8232, 2004.