Dr. Patrick Schelling
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(a) Professional Preparation

A list of the individual's undergraduate and graduate education and postdoctoral training as indicated below:

University of Minnesota, Minneapolis, MN	Physics	BS, 1992
University of Minnesota, Minneapolis, MN	Physics	PhD, 1999
Argonne National Lab, Mat. Sci. Division	Materials Science	1999-2003

(b) Appointments

Associate Professor, U. Central Florida, 2009-present
Assistant Professor, U. Central Florida, 2003-2009
Visiting Scientist, Argonne National Lab and Institute for Nanotechnology, Karlsruhe 2001-2003
Postdoctoral Researcher, Argonne National Lab, Mat. Sci. Division. 1999-2001

(c) Publications

1. P. K. Schelling, "Physical mechanism of the Soret effect in binary Lennard-Jones liquids elucidated with thermal-response calculations," *J. Chem Phys.* **158**, 044501 (2023) doi.org/10.1063/5.0135244

2. N. Bohm and P. K. Schelling, "Analysis of ballistic resonance in the α-Fermi-Pasta-Ulam-Tsinguo model," *Phys. Rev. E* **106**, 024212 (2022) doi.org/10.1103/PhysRevE.106.024212

3. B. D. Doan and P. K. Schelling, "Dissipation and adhesion hysteresis between (010) forsterite surfaces using molecular-dynamics simulation and the Jarzynski equality," *Comp. Mat. Sci.* **206**, 111259 (2022) doi.org/10.1016/j.commatsci.2022.111259

4. W. E. Richardson, E. R. Mucciolo, and P. K. Schelling, "Resistivity size effect due to surface steps on ruthenium thin films computed with a realistic tight-binding model," *Journal of Applied Physics* **130**, 195108 (2021) doi.org/10.1063/5.0069046

5. B. Doan, A. R. Dove, and P. K. Schelling, "Dissipation and adhesion between amorphous FeO nanoparticles," *J. Aero. Sci.* **155**, 105742 (2021) doi.org/10.1016/j.jaerosci.2020.105742

6. K. Barmak, S. Ezzat, R. Gusley, A. Jog, S. Kerdsongpanya, A. Khanya, E. Milosevic, W. Richardson, K. Sentosun, A. Zangiabadi, D. Gall, W. E. Kaden, E. R. Mucciolo, P. K. Schelling, A. C. West, and K. R. Coffey, "Epitaxial metals for interconnects beyond Cu", *J. Vac. Sci. Tech. A* **38**, 033406 (2020) doi.org/10.1116/6.0000018

7. K. Fernando and P. K. Schelling, "Non-local linear-response functions for thermal transport computed with equilibrium molecular-dynamics simulation," *J. Appl. Phys.* **128**, 215105 (2020) doi.org/10.1063/5.0032014

8. W. C. Tucker, A. R. Dove, and P. K. Schelling, "Dissipation and plastic deformation in collisions between metallic nanoparticles," *Comp. Mat. Sci.* **161**, 215-222 (2019) doi.org/10.1016/j.commatsci.2019.02.004

9. A. H. Quadery, B. Doan, W. C. Tucker, A. Dove, and P. K. Schelling, "Role of surface chemistry in grain adhesion and dissipation during collisions of silica nanograins," *The Astrophysical Journal* **84**, 105 (2017) doi.org/10.3847/1538-4357/aa7890

10. W. C. Tucker, A. H. Quadery, P. K. Schelling, A. Schulte, R. Blair, W. Kaden, and D. Britt, "Strong catalytic activity of iron nanoparticles on the surfaces of reduced olivine," *Icarus* **299**, 502-512 (2018) doi.org/10.1016/j.icarus.2017.08.027

(d) Graduate teaching experience

- PHY 5524, Statistical Physics, Spring 2021, 2022, 2023

(e) Graduate students mentored (to completion, if applicable)

Chaired:

1. Mark Nurge, Physics PhD, 2007
2. Lalit Shokeen, Materials Science PhD, 2012
3. William Tucker, Physics PhD, 2019
4. Abrar Quadery, Physics PhD, 2017
5. Baochi Doan, Materials Science PhD, 2021
6. Santosh Kumar, Materials Science MS, 2006

Member:

1. James Janesko, Chemistry PhD, 2023

Total mentored as committee member: ~10-12

(f) Other synergistic activities related to Graduate Education

1. I was president and co-founder of the Florida Society for Materials Simulation in 2006-7, and 2010-11. This society brought together researchers and students from across the state (UCF, UF, FSU, USF), and held an annual meeting and poster presentation. This lead to an REU program at UCF. The FSMS is no longer active.
2. As a member of the WCE committee, I lead recitations for the statistical mechanics portion of the exam.