Pattanasak Teeratchanan

Department of Physics
Srinakharinwirot University
Bangkok, Thailand

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EDUCATION

Ph.D. (Physics) 2013-2017
University of Edinburgh, UK
Thesis: "First-principles studies of gas hydrates and clathrates under pressure"
Advisor: Dr. Andreas Hermann

M.Sc. (Materials Science) 2009-2012
University of California, Los Angeles, USA
Thesis: "First-principles studies of the Li-Na-Ca-N-H system: compound structures and hydrogen storage properties"
Advisor: Dr. Vidvuds Ozolins

B.Sc. (Physics) 2003-2007
Prince of Songkhla University, Thailand
Thesis: "Controlling LCR meters via LabVIEW for testing piezoelectric materials"
Advisor: Dr. Suwimon Dubost

RESEARCH INTERESTS

- Computational modeling and simulation of materials: first-principles studies
- Structural predictions of materials
- Phase stabilities: thermodynamics and kinetic mechanisms
- Effects of impurities: defects, dislocations

RESEARCH EXPERIENCE

- First-principles studies of ice, gas hydrates and clathrathes under pressure, Centre of Science at Extreme Conditions, Edinburgh, UK (2013-2017)
- First-principles studies of solid state compound structures for hydrogen strorage materials, UCLA, USA (2009-2012)
- Traffic wave modeling using non-linear wave theory, Mahidol University, Thailand (2008)
- LabVIEW software and interface for controlling LCR meters for testing piezoelectric materials, Prince of Songkhla University, Thailand (2006)
- Electron transport modeling in disorder organic layer using Monte-Carlo simulation, Mahidol University, Thailand (2006)

AWARDS AND SCHOLARSHIPS

Higher Educational Strategic Scholarships for Frontier Research Network 2009-2017

Development and Promotion of Science and Technology Talent Project 2000-2009

PUBLICATIONS

- M.E. Donnelly, **P. Teeratchanan**, C.L. Bull, J.S. Loveday, and A. Hermann, "Ostwald's rule of stages and metastable transitions in the hydrogen-water system at high pressure", *Phys. Chem. Chem. Phys.*, **20**(26853), 2018
- J. Kosata, P. Merkl, **P. Teeratchanan**, and A. Hermann, "Stability of Hydrogen Hydrates from Second-Order Møller-Plesset Perturbation Theory", *J. Phys. Chem. Lett.*, **9**(18), 2018
- D. Amos, M.E. Donnelly, **P. Teeratchanan**, C.L. Bull, A. Falenty, W.F. Kuhs, A. Hermann, and J.S. Loveday, "A Chiral Gas-Hydrate Structure Common to the Carbon Dioxide-Water and Hydrogen-Water Systems", *J. Phys. Chem. Lett.*, **8**(4295), 2017
- **P. Teeratchanan** and A. Hermann, "Computational phase diagrams of noble gas hydrates under pressure", *J. Chem Phys*, **143**(15), 2015