




Andrey Gunawan

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EDUCATION

- Ph.D. Mechanical Engineering**, Arizona State University (ASU), Tempe, AZ  2015
- M.S. Aerospace Engineering**, University of Southern California, Los Angeles, CA  2010
- B.S. Aeronautics and Astronautics**, Institut Teknologi Bandung (ITB), Bandung, Indonesia  2008

PROFESSIONAL EXPERIENCE

Research Engineer II, Georgia Institute of Technology Jan 2016 – present



Senior personnel at Scalable Thermal Energy Engineering Laboratory, currently co-leading \$2.2 million U.S. Department of Energy (DOE) Solar Energy Technologies Office Gen3CSP project on researching thermophysical property measurements of heat transfer media and containment materials that will ultimately provide the necessary data to advance high-temperature concentrating solar power (CSP) systems. [\[more info\]](#)

FUNDED PROJECTS


Co-Principal Investigator, “Thermophysical Property Measurement of Heat Transfer Media and Containment Materials,” supported by **DOE Solar Energy Technologies Office (\$2,184,934)**, 08/15/18 – 08/15/23

Senior Personnel, “Sodium Ion Expansion Power Block for Distributed CSP,” supported by DOE SunShot (\$2,348,780), 10/01/15 – 06/30/19

Principal Investigator, “Thermogalvanic Waste Heat Recovery in Automobiles,” supported by Arizona State University Graduate Research Support Program (\$1,600), 11/15/14 – 11/15/15


Principal Investigator, “Thermogalvanic Waste Heat Recovery in Transportation Energy Systems,” supported by **The Electrochemical Society (ECS) (\$5,000)**, 04/15/14 – 08/15/14

NOTABLE AWARDS AND HONORS

Best Paper Award (2nd Prize), ASME Power & Energy 2018 Conference  2018

Best Paper Award (1st Prize), ASME Power & Energy 2015 Conference  2015

Joseph W. Richards Summer Fellowship, The Electrochemical Society  2014

Link Foundation Energy Fellowship (Honorable Mention), Link Foundation  2014

JOURNAL PUBLICATIONS

Total Number of Citations: 683

Google Scholar Profile: <https://scholar.google.com/citations?user=FOT749AAAAAJ&hl=en>

1. A. Gunawan, R.A. Simmons, M.W. Haynes, D. Moreno, A.K. Menon, M.C. Hatzell, S.K. Yee, *Techno-economics of Cogeneration Approaches for Combined Power and Desalination from Concentrated Solar Power*, **ASME J. Sol. Energy Eng.**, in press, 2018
2. A. Limia, J.M. Ha, P. Kottke, A. Gunawan, A.G. Fedorov, S.W. Lee, S.K. Yee, *A dual-stage sodium thermal electrochemical converter (Na-TEC)*, **J. Power Sources**, 371, pp. 217-224, 2017

3. [A. Gunawan](#), H. Li, C.-H. Lin, D.A. Buttry, V. Mujica, R.A. Taylor, R.S. Prasher, P.E. Phelan, *The Amplifying Effect of Natural Convection on Power Generation of Thermogalvanic Cells*, **Int. J. Heat Mass Transf.**, 78, pp. 423-434, 2014
4. R.A. Taylor, J.K. Wong, S. Baek, Y. Hewakuruppu, X. Jiang, C. Chen, [A. Gunawan](#), *Nanoparticle-Assisted Heating Utilizing a Low-Cost White Light Source*, **ASME J. Nanotechnol. Eng. Med.**, 4, pp. 040903, 2014
5. S. Lee, P.E. Phelan, L. Dai, R. Prasher, [A. Gunawan](#), R.A. Taylor, *Experimental Investigation of the Latent Heat of Vaporization in Aqueous Nanofluids*, **Appl. Phys. Lett.**, 104, pp. 151908, 2014
6. [A. Gunawan](#), C.-H. Lin, D.A. Buttry, V. Mujica, R.A. Taylor, R.S. Prasher, P.E. Phelan, *Liquid Thermoelectrics: Review of Recent and Limited New Data of Thermogalvanic Cell Experiments*, **Nanoscale Microscale Thermophys. Eng.**, 17, pp. 304-323, 2013 ([Cover Article](#); [Top 4 'Most cited articles'](#))
7. R.A. Taylor, S. Coulombe, T.P. Otanicar, P.E. Phelan, [A. Gunawan](#), W. Lv, G. Rosengarten, R.S. Prasher, H. Tyagi, *Small Particle, Big Impacts: A Review of the Diverse Applications of Nanofluids*, **Appl. Phys. Rev.** (was still a part of J. Appl. Phys.), 113, pp. 011301, 2013 ([Cover Article](#))
8. R.A. Taylor, P.E. Phelan, R.J. Adrian, [A. Gunawan](#), T.P. Otanicar, *Characterization of Light-Induced, Volumetric Steam Generator in Nanofluids*, **Int. J. Therm. Sci.**, 56, pp.1-11, 2012

TEACHING & MENTORING EXPERIENCE

Instructor of Record for ME 3322-H–Thermodynamics (Georgia Tech, Fall 2017); Instructor of Record for ASU 101-MEE–The ASU Experience for Mechanical Engineering students (ASU, Fall 2015); Teaching Assistant for two freshman-level courses (ASU, Spring 2011); Teaching Assistant for a sophomore- and two senior-level courses (ITB, Fall 2006-Fall 2007)

Advisor for Georgia Tech PURA Project (1): Megan W Haynes (B.S., 2018); Student Mentor for ASU Master Theses (3) and Undergraduate Projects (2): Chao-Han Lin (M.S., 2012), Christopher Ruckel (M.S.E., 2011), Rhet Stinson (M.S., 2011), Elizabeth Besenyei (B.S., 2015), Jessica Johnson (B.S., 2015)

SELECTED PROFESSIONAL SERVICE

Session Organizer for ‘Manufacturing Methods for Electrochemical Energy Conversion and Storage’ Track at the ASME 2018 Power and Energy Conference & Exhibition, Lake Buena Vista, FL

Session Organizer for ‘Student Competition’ Tracks at the ASME 2016, 2017, and 2018 Power and Energy Conferences & Exhibitions

Referee for The Electrochemical Society – Georgia Local Conference Poster Competition (Apr 27th, 2018)

Reviewer for Georgia Tech President’s Undergraduate Research Awards (PURA) applications (Fall 2017)

Judge for Georgia Tech Spring 2016 Capstone Design Expo (Apr 26th, 2016) and Georgia Tech Career Research and Innovation Development Conference (CRIDC) Poster Competition (Mar 10th, 2016)

Journal reviewer for *Joule*, *Journal of Power Sources*, *International Journal of Hydrogen Energy*, *International Journal of Thermal Sciences*, *International Journal of Heat and Mass Transfer*, *ASME Journal of Electrochemical Energy Conversion and Storage*, *ASME Journal of Energy Resources Technology*, and *Entropy*

SOCIETY AFFILIATIONS

American Society of Mechanical Engineers (since 2011)

National Institute for Energy Ethics and Society (since 2013)

The Electrochemical Society (since 2013)

Eta Kappa Nu (IEEE-HKN) Electrical Engineering Honor Society (since 2014)