**Licenses, Registrations, and/or Certifications:**

Engineer in Training (EIT) Certification, May 1982

**Students Mentored:**

Lowe, Kirk, “*Direct Cooled Substrate Project”,* 2008-2010 ORISE Post-Master’s Program, Power Electronics and Electric Machines Group, Doctoral Dissertation, 2010.

Wilkins, Jonathan, “*High Power Wireless Charging, UPS Wireless Charging, ENABLE Air Cooled Inverter, GM Materials Testing CRADA, DELPHI Substrate Pressureless Sintering CRADA”,* 2018 ORISE Technician Intern.

Spires, John, “*Toyota Traction Drive Integration Project”,* 2018 ORISE HERE Pre-Bachelors summer student.

**Research and Infrastructure Grants/Awards to date total: $682,475.00**

R.H. Wiles, D.A. Adams, “Direct Cooled Substrate Project”, Vehicle Technologies Office, Department of Energy, October 2008 – September 2009, $195,688.36.

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**Patents**

R. Wiles, A. Wereszczak, C. Ayers, K. Lowe, “Direct Cooled Power Electronics Substrate”, Patent No.

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**Invention Disclosures**

Flux Switching Generator for Exhaust Waste Heat Recovery, J. Miller, C. Ayers, R. Wiles, August 2011,

I.D. #2585-IDSA

Cross-field Weakened Surface Permanent Magnet Generator, J. Miller, C. Ayers, R. Wiles, August 2012, I.D. #2918-IDSA

Integrated Cooling for Traction Drive Motors, R. Wiles, April 2014, I.D. #3316-IDSA

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Contactless Rotor Excitation for Traction Motors, T. Raminosoa, R. Wiles, November 2017, I.D. #4035-IDSA

Rotating Flexural Strength Fixture for Brittle Material Cylinders and Tubes, A. Wereszczak, R. Wiles, March 2018, I.D. # DOE S-138,781

**Journal Publications**

J. Hsu, S. Lee, R. Wiles, C. Coomer, K. Lowe, “Effect of Side Permanent Magnets for Reluctance Interior Permanent Magnet Reluctance Machines”, *38th IEEE Power Electronics Specialists Conference (PESC 2007)*

J. Hsu, T. Burress, S. Lee, R. Wiles, C. Coomer, J. McKeever, D. Adams, “16,000-rpm Interior Permanent Magnet Reluctance Machine with Brushless Field Excitation”, *Proceedings of the 2008 IEEE Industry Applications Society Annual Meeting*

A. Wereszczak, T. Morrissey, C. Volante, P. Farris, R. Groele, R. Wiles, H. Wang, “Thermally Conductive MgO-Filled Epoxy Molding Compounds”, *IEEE Transactions on Components, Packaging and Manufacturing Technology*

A. Wereszczak, J. Cousineau, K. Bennion, H. Wang, R. Wiles, T. Burress, T. Wu, “Anisotropic Thermal Response of Packed Copper Wire”, *Journal of Thermal Science and Engineering Applications*

**Refereed Conference Publications**

R. Wiles, “Direct Cooled Power Electronics Substrate*”, DOE Vehicle Technologies Office Annual Merit Review, 2008*

R. Wiles, C. Ayers, A. Wereszczak, K. Lowe, “Direct Cooled Power Electronics Substrate Project Update”, *DOE Vehicle Technologies Office Annual Merit Review, 2009*

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T. Moore, C. Britton, D. Ezell, L. Marlino, M. Chinthavali, A. Wereszczak, R. Wiles, H. Lin, Z. Liang, “Device Characterization, Evaluation and Simulation, *DOE Vehicle Technologies Office Annual Merit Review, 2011*

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M. Chinthavali, C. Ayers, S. Campbell, R. Wiles, B. Ozpineci, “A 10-kW SIC Inverter with A Novel Printed Metal Power Module with Integrated Cooling Using Additive Manufacturing”, *2nd IEEE WiPDA Workshop, 2014*

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