

Brian MacKie-Mason <brimacki@unm.edu>
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EDUCATION

PhD Pre-Candidate Electrical Engineering *Expected 2017*
University of New Mexico
Advisor: Professor Zhen Peng

MS Nuclear Engineering *2013*
University of Wisconsin-Madison

BSE Nuclear Engineering *2011*
University of Michigan

TECHNICAL SKILLS

- Algorithm Development, Parallel Computing, Electromagnetic Analysis, MPI, OpenMP, Domain Decomposition Methods, Surface Integral Equation Methods, Scientific Computing, College Instruction
- Languages: C++, MATLAB, Bash shell, Python, C
- Software Packages: ViSiT, CUBIT, KDevelop, SolidWorks (CAD), Improved Concurrent Electromagnetic Particle-in-Cell (ICEPIC)

PROFESSIONAL EXPERIENCE

Department of Electrical Engineering, University of New Mexico *August 2013 - Present*
Prof. Zhen Peng
Graduate Research Assistant, Computational Electromagnetics

- Researched and developed a geometry-aware domain decomposition (GA-IE-DDM) method for the integral solution to extreme-scale, multi-scale electromagnetics problems.
- Developed tools to automatically partition mesh files for GA-IE-DDM utilizing a k-way graph partitioning code and creating a global-to-local mapping scheme.
- Parallelized GA-IE-DDM in an MPI architecture with C++ for a scalable solution method to the Electric Field Integral Equation.

Air Force Research Lab, Kirtland AFB *Summers 2011-13*
Drs. Andrew Greenwood, Nathaniel Lockwood & Wilkin Tang
Graduate Research Assistant, Computational Electromagnetics

- Studied the effects of laser-induced field emission (2013).
- Designed diagnostics to improve the study of field emission (2012).
- Designed validation and verification test suite for ICEPIC (2011).
- Security clearance expiring 2022.

AWARDS & HONORS

- ECE GSA Student Paper Competition – Journal Paper Section, 3rd prize, April 2016.
- Eagle Scout, February 2007

OTHER EXPERIENCE

UNM GPSA *Fall 2015 - Present*

- Department of ECE Delegate (August 2015 - May 2016, August 2016 - Present)
- GPSA Finance Committee Member (August 2016 - Present)
- GPSA Representative to Information Technology Committee (August 2015 - May 2016)
- Legislative Steering Committee Member-at-large (February 2016 - May 2016)

ECE Graduate Student Association *Fall 2015 - Present*

- ECE GSA Vice-President (June 2016 - Present)