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# **Brian MacKie-Mason <brimacki@unm.edu>**

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## **EDUCATION**

- University of New Mexico** *2013-Present*  
**PhD Pre-Candidate Electrical Engineering, Expected 2017**  
**Advisor: Professor Zhen Peng**
- University of Wisconsin-Madison** *2011-2013*  
**MS Nuclear Engineering, May 2013**
- University of Michigan** *2007-2011*  
**BSE Nuclear Engineering, April 2011**

## **TECHNICAL SKILLS**

- Algorithm Development, Parallel Computing, Electromagnetic Analysis, MPI, OpenMP, Domain Decomposition Methods, Surface Integral Equation Methods, College Instruction, Scientific Computing
- 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. Wilkin Tang, Nathaniel Lockwood & Andrew Greenwood**  
**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)