

Chris Malec

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Objective: To add my extensive training and ingenuity in physics to skilled teams working on real world problems.

EDUCATION

GEORGIA TECH

PHD PHYSICS
Aug 2011 | Atlanta, GA

UW - MADISON

BS IN PHYSICS
May 2004 | Madison, WI

SKILLS

BASIC:

Atomic Layer Deposition • Focused Ion Beam • Laser dicing • Raman microscopy • RF measurement

INTERMEDIATE:

AFM/MFM, Ion Milling • Metal machining • Micromagnetic simulation • RIE/Plasma etching • Thin film sputter deposition • Python • Vibrating sample magnetometry • Wet chemical etching • Wire bonding

ADVANCED:

Autocad • Cryogenic measurement • E-beam lithography • Electron microscopy • Instrument automation • \LaTeX • Low-noise electronic measurement • High vacuum systems • Matlab/Octave • Microsoft Office • Probe station measurement • Superconducting magnet operation/fabrication • Thin film e-beam/thermal evaporation • UV lithography

REFERENCES

MARK JOHNSON - ADVISOR
mark.b.johnson@nrl.navy.mil

DRAGOMIR DAVIDOVIC - ADVISOR
dragomir.davidovic@gatech.edu

JOE CHRISTODOULIDES - COLLEAGUE
joseph.christodoulides@nrl.navy.mil

FRANCESCA GAMBER - HEAD OF EARLY COLLEGE, BHSEC
fgamber@bhsec.bard.edu

WORK EXPERIENCE

BARD HIGH SCHOOL EARLY COLLEGE | PHYSICS PROFESSOR

August 2015 , Present | Baltimore, MD

As one of the founding faculty at BHSEC - Baltimore, taught High School and College level physics to students in the Baltimore City Public School system.

Reference: Francesca Gamber • (410) 409 6266 • fgamber@bhsec.bard.edu

NAVAL RESEARCH LAB | NRC RESEARCH ASSOCIATE

April 2012 – Present | Washington, D.C.

Researched fabrication techniques, measurement methods, and analysis of novel Domain Wall based memory devices.

Reference: Mark Johnson • (202) 767 6265 • mark.b.johnson@nrl.navy.mil

GEORGIA TECH | GRADUATE RESEARCH/TEACHING ASSISTANT

August 2005 – November 2011 | Atlanta, GA

Conducted research into graphene devices and single nano particle based tunneling devices. Oversaw labs, graded and proctored exams.

Reference: Dragomir Davidović • (404) 385-1284 • dragomir.davidovic@gatech.edu

MAD SCIENCE OF ATLANTA | MAD SCIENTIST

November 2004 – August 2005 | Atlanta, GA

Brought engaging science experiments to elementary and middle school students. Built and maintained stock of demonstration equipment for fellow Mad Scientists.

Reference: Jason Raines • (678) 392 1500

OUTREACH AND OTHER ACTIVITIES

DOD X-STEM LUNCHEON

POSTDOCTORAL COLLOQUIUM ORGANIZER

SCIENCE DEMONSTRATIONS WITH NATIONAL AIR AND SPACE MUSEUM

GRAPHENE & CONDENSED MATTER JOURNAL CLUB ORGANIZER

PATENTS & PUBLICATIONS

PATENTS

No. 8497499 - A METHOD TO MODIFY THE CONDUCTIVITY OF GRAPHENE

Inventors: Dragomir Davidović, Walter A. de Heer, Christopher E. Malec

No. 0137200 - A METHOD OF DETECTING DOMAIN WALLS IN A NANO MAGNET

Inventors: Mark B. Johnson, Christopher E. Malec

PUBLICATIONS:

FIRST AUTHOR:

Detection of Domain Wall Motion with a Semiconductor Device • Transport in Graphene Tunnel Junctions • Electronic properties of Au-graphene contacts • Evidence for incompressible states in a metal-graphene tunnel junction in high magnetic field • Vacuum-annealed Cu contacts for graphene electronics

CONTRIBUTING AUTHOR:

Saturation of Spin-Polarized Current in Nanometer Scale Aluminum Grains • Modeling Electron-Spin Accumulation in a Metallic Nanoparticle • Spin-Polarized Electron Tunneling Through an Aluminum Particle in a Noncollinear Magnetic Field