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EDUCATION

Johns Hopkins University, Dept. of Physics & Astronomy
Ph.D. expected May 2009, advisor: Nina Marković

M.I.T., Aeronautics & Astronautics
S. M. May 2001, advisor: John-Paul Clarke

University of Oklahoma, Engineering Physics
B. S. May 1998

WORK
EXPERIENCE

Johns Hopkins University, Baltimore, MD
Graduate Research and Teaching Assistant (2001-present)

Maryland Space Grant Observatory, Baltimore, MD
Observatory Technician (2007-2008)

U. S. House of Representatives - Committee on Science
Congressional Intern (summer 2002)

HONORS /
AWARDS

E. J. Rhee Teaching Award, 2008
Oklahoma Space Grant Recipient, 1998.
NASA Reduced Gravity Student Flight Program, 1998.

MENTORING

High School Students:
Grace Young – 2008, Megan Firko – 2004

Undergraduate Students:
Elan Horticoulon-Retzler – 2008, Mackenzie Barton Rowledge–
2008, James Medford – 2007

PUBLICATIONS

“Photoresponse of carbon nanotube films with Schottky contacts”, C. A. Merchant & N. Marković, *Nanotechnology* (submitted 2009).

“Diode Effect in a superconductor-carbon nanotube-ferromagnet structure”, C. A. Merchant & N. Marković, *J. Sup. & Nov.*

Mag., (accepted 2009).

“Current and shot noise measurements in a carbon nanotube spin diode”, C. A. Merchant & N. Marković, J. Appl. Phys., (accepted 2008).

“Effects of diffusion on photocurrent generation in single-walled carbon nanotube films”, C. A. Merchant & N. Marković, Appl. Phys. Lett., 92 243510 (2008).

“Electrically tunable spin polarization in a carbon nanotube spin diode”, C. A. Merchant & N. Marković, Phys. Rev. Lett. 100, 156601 (2008).

“Active acoustic reflection control using glow-discharge plasma panels”, C. A. Merchant & J. P. Clarke, AIAA 2001-2218 (2001).

CONFERENCE
PRESENTATIONS

“Effects of diffusion on photocurrent generation in single-walled carbon nanotube films”, (oral) APS March Meeting, Pittsburgh, PA (2009).

“Electrically tunable spin polarization in a carbon nanotube spin diode”, (oral) APS March meeting, New Orleans, LA (2008).

“Electrically tunable spin polarization in a carbon nanotube spin diode”, (oral) PASPS V Conferece, Foz do Iguaçu, Brazil (2008).

“Electrically tunable spin polarization in a carbon nanotube spin diode”, (poster) INBT Symposium, Baltimore, MD (2008).

“Asymmetric noise in carbon nanotube quantum dots”, (oral) APS March meeting, Denver, CO (2007).

“Electron transport in ferromagnetically-contacted single-walled carbon nanotubes”, (oral) APS March meeting, Los Angeles, CA (2005).

“Active noise control using glow-discharge plasma panels”, (oral) 7th AIAA Aeroacoustics Conference, Maastricht, The Netherlands (2001).

REFERENCES

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Director – Air Transportation Laboratory
Georgia Institute of Technology
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Terry Teays

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