MICHAEL LILLY

Nanoscale Electronics and Mechanics - Thrust Leader

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Education

Undergraduate:	University of Illinois, Champaign-Urbana	Engineering Physics 1991
Graduate	University of Massachusetts Amherst	Physics Ph.D. 1996

Appointments

CINT Acting Thrust Leader, August 2009 - present

CINT Thrust Leader, September 2005 – December 2008

Principal Member of Technical Staff, Sandia National Labs, October 2004 – Present

Senior Member of Technical Staff, Sandia National Labs, December 2000 – September 2004

Postdoctoral Scholar, California Institute of Technology, November 1996 – November 2000

Research Assistant/Teaching Assistant, University of Massachusetts, May 1991 - October 1996

Publications

1. *Charge sensing in enhancement mode double-top-gated metal-oxide-semiconductor quantum dots*, E. P. Nordberg, H. L. Stalford, R. Young, G. A. T. Eyck, K. Eng, L. A. Tracy, K. D. Childs, J. R. Wendt, R. K. Grubbs, J. Stevens, M. P. Lilly, M. A. Eriksson and M. S. Carroll, Appl. Phys. Lett. 95, 202102 (2009).
2. *Enhancement-mode double-top-gated metal-oxide-semiconductor nanostructures with tunable lateral geometry*, E. P. Nordberg, G. A. Ten Eyck, H. L. Stalford, R. P. Muller, R. W. Young, K. Eng, L. A. Tracy, K. D. Childs, J. R. Wendt, R. K. Grubbs, J. Stevens, M. P. Lilly, M. A. Eriksson and M. S. Carroll, Phys. Rev. B 80, 115331 (2009).
3. *Observation of percolation-induced two-dimensional metal-insulator transition in a Si MOSFET*, L. A. Tracy, E. H. Hwang, K. Eng, G. A. Ten Eyck, E. P. Nordberg, K. Childs, M. S. Carroll, M. P. Lilly and S. Das Sarma, Phys. Rev. B 79, 235307 (2009).
4. *Coulomb Drag in the Exciton Regime in Electron-Hole Bilayers*, J. A. Seamons, C. P. Morath, J. L. Reno and M. P. Lilly, Phys. Rev. Lett. 102, 026804 (2009).
5. *Density imbalance effect on the Coulomb drag upturn in an undoped electron-hole bilayer*, C. P. Morath, J. A. Seamons, J. L. Reno and M. P. Lilly, Phys. Rev. B 79, 041305 (2009).
6. *Layer interdependence of transport in an undoped electron-hole bilayer*, C. P. Morath, J. A. Seamons, J. L. Reno and M. P. Lilly, Phys. Rev. B 78, 115318 (2008).
7. *Tunneling spectroscopy in vertically coupled quantum wires*, E. Bielejec, J. L. Reno, S. K. Lyo and M. P. Lilly, Solid State Commun. 147, 79 (2008).
8. *Undoped electron-hole bilayers in a GaAs/AlGaAs double quantum well*, J. A. Seamons, D. R. Tibbetts, J. L. Reno and M. P. Lilly, Appl. Phys. Lett. 90, 052103 (2007).

Collaborators: Sankar Das Sarma (University of Maryland);Andrew Dzurak (University of New South Wales, Australia); Lloyd Engel (Nat. High Magnetic Field Lab); Mark Eriksson (University of Wisconsin); Guillaume Gervais (McGill University); Steve Lyon (Princeton University); Michelle Simmons (University of New South Wales, Australia).

Graduate and Postdoctoral Advisors: Robert Hallock (University of Massachusetts); Jim Eisenstein (Caltech)

Thesis Advisor and Postgraduate – Scholar Sponsor :*Current graduate students:*Eric Nordberg (University of Wisconsin), Dominique Laroche (McGill University); *Former graduate students*:John Seamons (University of Utah), Chris Morath (University of New Mexico). *Current postdoc:* Nathan Bishop; *Former postdocs*: Edward Bielejec and Lisa Tracy (both staff at Sandia National Laboratories)

Synergistic Activities

Professional Activities

Member of the American Physical Society

Employee Recognition Award for Individual Technical Merit, Sandia National Labs, 2009

National Academies Panel to review EEEL division at NIST, 2009

Organizer of DMP Focus Session for the 2008 APS March meeting

Program committee, 17th International Conference on the Electronic Properties of Two-Dimensional Systems (2007)

Co-chair and Manuscript Editor, 16th International Conference on the Electronic Properties of Two-Dimensional Systems (2005)

Tau Beta Pi engineering honor society (1990)