

Mark A. Eriksson

Department of Physics
University of Wisconsin-Madison
Madison, WI 53706

Tel: (608)263-6289
Fax: (608)265-2334
email: maeriksson@wisc.edu

Education

Harvard University

Ph.D. 1997

Dissertation Title: Cryogenic Scanning Probe Microscopy
for Semiconductor Nanostructures

A.M. 1994

University of Wisconsin-Madison

B.S. with Honors in Physics and Mathematics, 1992

Positions

2007-present	Professor, Department of Physics, University of Wisconsin-Madison Affiliate Appointment, Department of Materials Science and Engineering
2008-2009	Professorial Visiting Fellow (Sept. 2008-May 2009) School of Physics, Faculty of Science, University of New South Wales
2004-2007	Associate Professor Department of Physics, University of Wisconsin-Madison
1999-2004	Assistant Professor Department of Physics, University of Wisconsin-Madison
1997-1999	Postdoctoral Member of Technical Staff Bell Laboratories, Lucent Technologies
1996-1997	Teaching Fellow and Research Assistant, Harvard University
1995-1996	Harvard Merit Fellow, Harvard University
1994	Teaching Fellow, Harvard University
1992-1995	NSF Graduate Fellow, Harvard University

Honors and Awards

CAREER Award, National Science Foundation (2001-2006)
Research Innovation Award, Research Corporation (2001)
Harvard Merit Fellowship (1995-96)
Goldhaber Prize, Harvard Physics (1995)
John Parker Scholarship, Harvard University (1995)
Graduate Fellow, National Science Foundation (1992-95)
Whiting Fellowship, Harvard Physics (1993)

Scientific Society Affiliations

APS, AAAS, MRS, AVS, and IEEE

Chapters of Books:

3. "Si/SiGe Quantum Devices, Quantum Wells, and Electron-Spin Coherence," by J. L. Truitt, K. A. Slinker, K. L. M. Lewis, D. E. Savage, C. Tahan, L. J. Klein, R. Joynt, M. G. Lagally, D. W. van der Weide, S. N. Coppersmith, M. Friesen and M. A. Eriksson, in *Topics in Applied Physics, vol. 115: Electron Spin Resonance and Related Phenomena in Low-Dimensional Structures*, Ed. M. Fanciulli (Springer-Verlag, Berlin, 2009), p. 101.
2. "Chromic Transitions and Nanomechanical Properties of (Poly)diacetylene Molecular Films," R.W. Carpick, A.R. Burns, D.Y. Sasaki, M. A. Eriksson, M.S. Marcus. In: *Chromogenic Phenomena in Polymers: Tunable Optical Properties*, Eds. D. Kiserow and S.A. Jenekhe (ACS Books) 2004.
1. L.L. Sohn, C.T. Black, M.A. Eriksson, M. Crommie, and H. Hess, "Scanning Probe Microscopes and their Applications," in *Mesoscopic Electron Transport*, NATO ASI Series E 345, ed. by L.L. Sohn, L.P. Kouwenhoven, and G. Schon (Kluwer, 1997).

Journal Publications

67. "A fast "hybrid" silicon double quantum dot qubit." Zhan Shi, C. B. Simmons, J. R. Prance, John King Gamble, Teck Seng Koh, Yun-Pil Shim, Xuedong Hu, D. E. Savage, M. G. Lagally, M. A. Eriksson, Mark Friesen, and S. N. Coppersmith, *Phys. Rev. Lett.* **108**, 140503 (2012).
66. "Single-shot measurement of triplet-singlet relaxation in a Si/SiGe double quantum dot." J. R. Prance, Zhan Shi, C. B. Simmons, D. E. Savage, M. G. Lagally, L. R. Schreiber, L. M. K. Vandersypen, Mark Friesen, Robert Joynt, S. N. Coppersmith, and M. A. Eriksson, *Phys. Rev. Lett.* **108**, 046808 (2012).
65. "Tunable singlet-triplet splitting in a few-electron Si/SiGe quantum dot." Zhan Shi, C. B. Simmons, J. R. Prance, John King Gamble, Mark Friesen, D. E. Savage, M. G. Lagally, S. N. Coppersmith, and M. A. Eriksson, *Appl. Phys. Lett.* **99**, 233108 (2011).
64. "Embracing the quantum limit in silicon computing." John J. L. Morton, Dane R. McCamey, M. A. Eriksson, and S. A. Lyon, *Nature* **479**, 345 (2011).
63. "Spectroscopic Properties of Nanotube-Chromophore Hybrids." Changshui Huang, Randy K. Wang, Bryan M. Wong, David J. McGee, F. Leonard, Yunjun Kim, Kirsten F. Johnson, Micahel S. Arnold, M. A. Eriksson, and P. Gopalan, *ACS Nano* **5**, 7767 (2011).
62. "Single-shot measurement and tunnel-rate spectroscopy of a Si/SiGe few-electron quantum dot." Madhu Thalakulam, C. B. Simmons, B. J. Van Bael, B. M. Rosemeyer, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Phys. Rev. B* **84**, 045307 (2011).
61. "Unconventional Transport in the "Hole" Regime of a Si Double Quantum Dot." Teck Seng Koh, C. B. Simmons, M. A. Eriksson, S. N. Coppersmith, and Mark Friesen, *Phys. Rev. Lett.* **106**, 186801 (2011).

60. "Tunable Spin Loading and T_1 of a Silicon Spin Qubit Measured by Single-Shot Readout." C. B. Simmons, J. R. Prance, B. J. Van Bael, Teck Seng Koh, Zhan Shi, D. E. Savage, M. G. Lagally, Robert Joynt, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Phys. Rev. Lett.* **106**, 156804 (2011).
59. "Si/SiGe quantum dot with superconducting single-electron transistor charge sensor." Mingyun Yuan, Feng Pan, Zhen Yang, T. J. Gilheart, Fei Chen, D. E. Savage, M. G. Lagally, M. A. Eriksson, and A. J. Rimberg, *Appl. Phys. Lett.* **98**, 142104 (2011).
58. "Distance Dependence of Neuronal Growth on Nanopatterned Gold Surfaces." C. Staii, C. Viesselmann, J. Ballweg, J. C. Williams, E. W. Dent, S. N. Coppersmith, and M. A. Eriksson, *Langmuir* **27**, 233 (2011).
57. "Pauli spin blockade and lifetime-enhanced transport in a Si/SiGe double quantum dot." C. B. Simmons, Teck Seng Koh, Nakul Shaji, Madhu Thalakulam, L. J. Klein, Hua Qin, H. Luo, D. E. Savage, M. G. Lagally, A. J. Rimberg, Robert Joynt, R. Blick, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Phys. Rev. B* **82**, 245312 (2010).
56. "Quantitative Determination of Contributions to the Thermoelectric Power Factor in Si Nanostructures." Hyuk Ju Ryu, Z. Aksamija, D. M. Paskiewicz, Shelley A. Scott, M. G. Lagally, I. Knezevic, and M. A. Eriksson, *Phys. Rev. Lett.* **105**, 256601 (2010).
55. "Double quantum dot with tunable coupling in an enhancement-mode silicon metal-oxide semiconductor device with lateral geometry." L. A. Tracy, E. P. Nordberg, R. W. Young, C. Borrás Pinilla, H. L. Stalford, G. A. Ten Eyck, K. Eng, K. D. Childs, J. R. Wendt, R. K. Grubbs, J. Stevens, M. P. Lilly, M. A. Eriksson, and M. S. Carroll, *Appl. Phys. Lett.* **97**, 192110 (2010).
54. "Spectroscopy of few-electron single-crystal silicon quantum dots." Martin Fuechsle, S. Mahapatra, F. A. Zwanenburg, Mark Friesen, M. A. Eriksson, and Michelle Y. Simmons, *Nature Nanotech.* **5**, 502 (2010).
53. "Electron tunnel rates in a donor-silicon single electron transistor hybrid." Hans Huebl, Christopher D. Nugroho, Andrea Morello, Christopher C. Escott, M. A. Eriksson, Changyi Yang, David N. Jamieson, Robert G. Clark, and Andrew S. Dzurak, *Phys. Rev. B* **81**, 235318 (2010).
52. "Fast tunnel rates in Si/SiGe one-electron single and double quantum dots." Madhu Thalakulam, C. B. Simmons, B. M. Rosemeyer, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Appl. Phys. Lett.* **96**, 183104 (2010).
51. "Valley splitting in a Si/SiGe quantum point contact." L. M. McGuire, Mark Friesen, K. A. Slinker, S. N. Coppersmith, and M. A. Eriksson, *N. Journ. Phys.* **12**, 033039 (2010).
50. "Charge sensing in enhancement mode double-top-gated metal-oxide-semiconductor quantum dots." E. P. Nordberg, H. L. Stalford, R. W. Young, G. A. Ten Eyck, K. Eng, L. A. Tracy, K. D. Childs, A. E. Wendt, R. K. Grubbs, J. Stevens, M. P. Lilly, M. A. Eriksson, and M. S. Carroll, *Appl. Phys. Lett.* **95**, 202102 (2009).

49. "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).
48. "Charge Sensing and Controllable Tunnel Coupling in a Si/SiGe Double Quantum Dot." C. B. Simmons, Madhu Thalakulam, B. M. Rosemeyer, B. J. Van Bael, E. K. Sackmann, D. E. Savage, M. G. Lagally, Robert Joynt, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Nano Lett.* **9**, 3234 (2009).
47. "Influence of Surface Chemical Modification on Charge Transport Properties in Ultrathin Silicon Membranes." Shelley A. Scott, W. Peng, Arnold M. Kiefer, Hongquan Jiang, I. Knezevic, D. E. Savage, M. A. Eriksson, and M. G. Lagally, *ACS Nano* **3**, 1683 (2009).
46. "Positioning and guidance of neurons on gold surfaces by directed assembly of proteins using Atomic Force Microscopy." C. Staii, C. Viesselmann, J. Ballweg, L. Shi, G. -Y. Liu, J. C. Williams, E. W. Dent, S. N. Coppersmith, and M. A. Eriksson, *Biomat.* **30**, 3397 (2009).
45. "Predicting the Results of Chemical Vapor Deposition Growth of Suspended Carbon Nanotubes." Matthew S. Marcus, J. M. Simmons, S. E. Baker, Robert J. Hamers, and M. A. Eriksson, *Nano Lett.* **9**, 1806 (2009).
44. "Excitation of longitudinal and transverse coherent acoustic phonons in nanometer free-standing films of (001) Si." Maher Harb, W. Peng, German Sciaini, Christoph T. Hebeisen, Ralph Ernstorfer, M. A. Eriksson, M. G. Lagally, Sergei G. Kruglik, and R. J. Dwayne Miller, *Phys. Rev. B* **79**, 094301 (2009).
43. "Spin blockade and lifetime-enhanced transport in a few-electron Si/SiGe double quantum dot." Nakul Shaji, C. B. Simmons, Madhu Thalakulam, L. J. Klein, Hua Qin, H. Luo, D. E. Savage, M. G. Lagally, A. J. Rumberg, Robert Joynt, Mark Friesen, R. Blick, S. N. Coppersmith, and M. A. Eriksson, *Nat. Phys.* **4**, 540 (2008).
42. "Electronically driven structure changes of Si captured by femtosecond electron diffraction." Maher Harb, Ralph Ernstorfer, Christoph T. Hebeisen, German Sciaini, W. Peng, Thibault Dartigalongue, M. A. Eriksson, M. G. Lagally, Sergei G. Kruglik, and R. J. Dwayne Miller, *Phys. Rev. Lett.* **100**, 155504 (2008).
41. "Single-electron quantum dot in Si/SiGe with integrated charge sensing." C. B. Simmons, Madhu Thalakulam, Nakul Shaji, L. J. Klein, Hua Qin, R. Blick, D. E. Savage, M. G. Lagally, S. N. Coppersmith, and M. A. Eriksson, *Appl. Phys. Lett.* **91**, 213103 (2007).
40. "Dielectrophoretic manipulation and real-time electrical detection of single-nanowire bridges in aqueous saline solutions." Matthew S. Marcus, Lu Shang, Bo Li, J. A. Streifer, Joseph D. Beck, E. Perkins, M. A. Eriksson, and Robert J. Hamers, *Small* **3**, 1610 (2007).

39. "Single-crystal silicon/silicon dioxide multilayer heterostructures based on nanomembrane transfer." W. Peng, Michelle M. Roberts, E. P. Nordberg, F. Flack, P. E. Colavita, Robert J. Hamers, D. E. Savage, M. G. Lagally, and M. A. Eriksson, *Appl. Phys. Lett.* **90**, 183107 (2007).
38. "Anisotropic fluorocarbon plasma etching of Si/SiGe heterostructures." R. Ding, L. J. Klein, M. A. Eriksson, and A. E. Wendt, *J. Vac. Sci. Tech. B* **25**, 404 (2007).
37. "Optically modulated conduction in chromophore-functionalized single-wall carbon nanotubes." J. M. Simmons, I. In, V. E. Campbell, T. J. Mark, F. Leonard, P. Gopalan, and M. A. Eriksson, *Phys. Rev. Lett.* **98**, 086802 (2007).
36. "Coulomb blockade and Kondo effect in a few-electron silicon/silicon-germanium quantum dot." L. J. Klein, D. E. Savage, and M. A. Eriksson, *Appl. Phys. Lett.* **90**, 033103 (2007).
35. "Controllable valley splitting in silicon quantum devices." S. Goswami, K. A. Slinker, Mark Friesen, L. M. McGuire, J. L. Truitt, Charles Tahan, L. J. Klein, J. O. Chu, P. M. Mooney, Daniel W. van der Weide, Robert Joynt, S. N. Coppersmith, and M. A. Eriksson, *Nat. Phys.* **3**, 41 (2007).
34. "Magnetic field dependence of valley splitting in realistic Si/SiGe quantum wells." Mark Friesen, M. A. Eriksson, and S. N. Coppersmith, *Appl. Phys. Lett.* **89**, 202106 (2006).
33. "Photogating carbon nanotube transistors." Matthew S. Marcus, J. M. Simmons, O. M. Castellini, Robert J. Hamers, and M. A. Eriksson, *J. Appl. Phys.* **100**, 084306 (2006).
32. "Electrical conductivity in silicon nanomembranes." P. P. Zhang, E. P. Nordberg, Byoung-Nam Park, I. Knezevic, Paul G. Evans, M. A. Eriksson, and M. G. Lagally, *N. Journ. Phys.* **8**, 200 (2006).
31. "Critical oxide thickness for efficient single-walled carbon nanotube growth on silicon using thin SiO₂ diffusion barriers." J. M. Simmons, B. M. Nichols, Matthew S. Marcus, O. M. Castellini, Robert J. Hamers, and M. A. Eriksson, *Small* **2**, 902 (2006).
30. "Electrically directed assembly and detection of nanowire bridges in aqueous media." Robert J. Hamers, Joseph D. Beck, M. A. Eriksson, Bo Li, Matthew S. Marcus, Lu Shang, J. M. Simmons, and J. A. Streifer, *Nanotech.* **17**, 280 (2006).
29. "Elastically relaxed free-standing strained-silicon nanomembranes." Michelle M. Roberts, L. J. Klein, D. E. Savage, K. A. Slinker, Mark Friesen, George Celler, M. A. Eriksson, and M. G. Lagally, *Nat. Mater.* **5**, 388 (2006).
28. "Effect of ozone oxidation on single-walled carbon nanotubes." J. M. Simmons, B. M. Nichols, S. E. Baker, Matthew S. Marcus, O. M. Castellini, Chang-Soo Lee, Robert J. Hamers, and M. A. Eriksson, *J. Phys. Chem. B* **110**, 7113 (2006).
27. "Microparticle manipulation using inertial forces." Michael Eglin, M. A. Eriksson, and Robert W. Carpick, *Appl. Phys. Lett.* **88**, 091913 (2006).

26. "Electronic transport in nanometre-scale silicon-on-insulator membranes." P. P. Zhang, Emma Tevaarwerk, Byoung-Nam Park, D. E. Savage, George Celler, I. Knezevic, Paul G. Evans, M. A. Eriksson, and M. G. Lagally, *Nature* **439**, 703 (2006).
25. "Quantum dots and etch-induced depletion of a silicon two-dimensional electron gas." L. J. Klein, K. L. M. Lewis, K. A. Slinker, S. Goswami, Daniel W. van der Weide, R. Blick, P. M. Mooney, J. O. Chu, S. N. Coppersmith, Mark Friesen, and M. A. Eriksson, *J. Appl. Phys.* **99**, 023509 (2006).
24. "Electrical characterization of nanowire bridges incorporating biomolecular recognition elements." Lu Shang, Tami Lasseter Clare, M. A. Eriksson, Matthew S. Marcus, Kevin M. Metz, and Robert J. Hamers, *Nanotech.* **16**, 2846 (2005).
23. "Quantum dots in Si/SiGe 2DEGs with Schottky top-gated leads." K. A. Slinker, K. L. M. Lewis, C. C. Haselby, S. Goswami, L. J. Klein, J. O. Chu, S. N. Coppersmith, Robert Joynt, R. Blick, Mark Friesen, and M. A. Eriksson, *N. Journ. Phys.* **7**, 246 (2005).
22. "Template-directed carbon nanotube network using self-organized Si nanocrystals." B. Yang, Matthew S. Marcus, D. G. Keppel, P. P. Zhang, Z. W. Li, B. J. Larson, D. E. Savage, J. M. Simmons, O. M. Castellini, M. A. Eriksson, and M. G. Lagally, *Appl. Phys. Lett.* **86**, 263107 (2005).
21. "Quantitative analysis of electric force microscopy: The role of sample geometry." Emma Tevaarwerk, D. G. Keppel, P. Rugheimer, M. G. Lagally, and M. A. Eriksson, *Rev. Sci. Instrum.* **76**, 053707 (2005).
20. **Invited:** "Spin Based Quantum Dot Quantum Computing in Silicon." M. A. Eriksson, Mark Friesen, S. N. Coppersmith, Robert Joynt, L. J. Klein, K. A. Slinker, Charles Tahan, P. M. Mooney, J. O. Chu, and S. J. Koester, *Quant. Inf. Proc.* **3**, 133 (2004).
19. "Phase imaging and the lever-sample tilt angle in dynamic atomic force microscopy." Matthew J. D'Amato, Matthew S. Marcus, M. A. Eriksson, and Robert W. Carpick, *Appl. Phys. Lett.* **85**, 4738 (2004).
18. "Electrically addressable biomolecular functionalization of carbon nanotube and carbon nanofiber electrodes." Chang-Soo Lee, S. E. Baker, Matthew S. Marcus, Wensha Yang, M. A. Eriksson, and Robert J. Hamers, *Nano Lett.* **4**, 1713 (2004).
17. **Invited:** "Measurements of in-plane material properties with scanning probe microscopy." Robert W. Carpick and M. A. Eriksson, *Bull. Mat. Res. Soc.* **29**, 472 (2004).
16. "Coulomb blockade in a silicon/silicon-germanium two-dimensional electron gas quantum dot." L. J. Klein, K. A. Slinker, J. L. Truitt, S. Goswami, K. L. M. Lewis, S. N. Coppersmith, Daniel W. van der Weide, Mark Friesen, R. Blick, D. E. Savage, M. G. Lagally, Charles Tahan, Robert Joynt, M. A. Eriksson, J. O. Chu, J. A. Ott, and P. M. Mooney, *Appl. Phys. Lett.* **84**, 4047 (2004).

15. **Invited:** “Polydiacetylene films: a review of recent investigations into chromogenic transitions and nanomechanical properties.” Robert W. Carpick, Darryl Y. Sasaki, Matthew S. Marcus, M. A. Eriksson, and Alan R. Burns, *J. Phys.: Cond. Matt* **16**, 679 (2004).
14. “Valley splitting in strained silicon quantum wells.” Timothy B. Boykin, Gerhard Klimeck, M. A. Eriksson, Mark Friesen, S. N. Coppersmith, Paul von Allmen, Fabiano Oyafuso, and Seungwon Lee, *Appl. Phys. Lett.* **84**, 115 (2004).
13. “Spin readout and initialization in a semiconductor quantum dot.” Mark Friesen, Charles Tahan, Robert Joynt, and M. A. Eriksson, *Phys. Rev. Lett.* **92**, 037901 (2004).
12. “Thermal decomposition of surfactant coatings on Co and Ni nanocrystals.” V. Prez-Dieste, O. M. Castellini, J. N. Crain, M. A. Eriksson, A. Kirakosian, J. -L. Lin, J. L. McChesney, F. J. Himpsel, C. T. Black, and C. B. Murray, *Appl. Phys. Lett.* **83**, 5053 (2003).
11. “Practical design and simulation of silicon-based quantum-dot qubits.” Mark Friesen, P. Rugheimer, D. E. Savage, M. G. Lagally, Daniel W. van der Weide, Robert Joynt, and M. A. Eriksson, *Phys. Rev. B* **67**, 121301 (2003).
10. “Pseudo-digital quantum bits.” Mark Friesen, Robert Joynt, and M. A. Eriksson, *Appl. Phys. Lett.* **81**, 4619 (2002).
9. “Electrically isolated SiGe quantum dots.” Emma Tevaarwerk, P. Rugheimer, O. M. Castellini, D. G. Keppel, S. T. Utley, D. E. Savage, M. G. Lagally, and M. A. Eriksson, *Appl. Phys. Lett.* **80**, 4626 (2002).
8. “Material anisotropy revealed by phase contrast in intermittent contact atomic force microscopy.” Matthew S. Marcus, Robert W. Carpick, Darryl Y. Sasaki, and M. A. Eriksson, *Phys. Rev. Lett.* **88**, 226103 (2002).
7. “Comparison of wear characteristics of etched-silicon and carbon nanotube atomic-force microscopy probes.” T. Larsen, K. Moloni, F. Flack, M. A. Eriksson, M. G. Lagally, and C. T. Black, *Appl. Phys. Lett.* **80**, 1996 (2002).
6. “Inelastic light scattering by gap excitations of fractional quantum Hall states at $1/3 \leq \nu \leq 2/3$.” Moonsoo Kang, A. Pinczuk, B. S. Dennis, M. A. Eriksson, L. N. Pfeiffer, and K. W. West, *Phys. Rev. Lett.* **84**, 546 (2000).
5. “Collective excitations in the dilute 2D electron system.” M. A. Eriksson, A. Pinczuk, B. S. Dennis, S. H. Simon, L. N. Pfeiffer, and K. W. West, *Phys. Rev. Lett.* **82**, 2163 (1999).
4. “GaAs/AlGaAs self-sensing cantilevers for low temperature scanning probe microscopy.” R. G. Beck, M. A. Eriksson, M. Topinka, R. M. Westervelt, K. D. Maranowski, and A. C. Gossard, *Appl. Phys. Lett.* **73**, 1149 (1998).
3. “Point contact conductance of an open resonator.” J. A. Katine, M. A. Eriksson, A. S. Adourian, R. M. Westervelt, J. D. Edwards, A. Lupu-Sax, E. J. Heller, K. L. Campman, and A. C. Gossard, *Phys. Rev. Lett.* **79**, 4806 (1997).

2. "Cryogenic scanning probe characterization of semiconductor nanostructures." M. A. Eriksson, R. G. Beck, M. Topinka, J. A. Katine, R. M. Westervelt, K. L. Campman, and A. C. Gossard, *Appl. Phys. Lett.* **69**, 671 (1996).
1. "Strain-sensing cryogenic field-effect transistor for integrated strain detection in GaAs/AlGaAs microelectromechanical systems." R. G. Beck, M. A. Eriksson, R. M. Westervelt, K. L. Campman, and A. C. Gossard, *Appl. Phys. Lett.* **68**, 3763 (1996).

Conference Proceedings

20. "Toward Si/SiGe Quantum Dot Spin Qubits: Gated Si/SiGe Single and Double Quantum Dots." C. B. Simmons, J. R. Prance, Madhu Thalukulam, B. M. Rosemeyer, B. J. Van Bael, D. E. Savage, M. G. Lagally, Robert Joynt, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *ECS Transactions* **33**, 639 (2010).
19. "Controlling Neuronal Growth on Au Surfaces by Directed Assembly of Proteins." C. Staii, C. Viesselmann, J. Ballweg, Steven Hart, J. C. Williams, E. W. Dent, S. N. Coppersmith, and M. A. Eriksson, in *Biosurfaces and Biointerfaces*, edited by J. A. Garrido, E. Johnston, C. Werner, T. Boland (Mater. Res. Soc. Symp. Proc. **Volume 1236E**, Warrendale, PA, 2010), 1236-SS01-05.
18. "Sidewall damage in plasma etching of Si/SiGe heterostructures." R. Ding, L. J. Klein, Mark Friesen, M. A. Eriksson, and A. E. Wendt, *J. Vac. Sci. Tech. A* **27**, 836 (2009).
17. "Phonon Transport and Thermoelectricity in Silicon Nanostructures." Hyuk Ju Ryu, Clark Ritz, L. J. Klein, Hendrik Hamann, M. G. Lagally, and M. A. Eriksson, *ECS Transactions* **16**, 983 (2008).
16. "Top-gated few-electron double quantum dot in Si/SiGe." Nakul Shaji, C. B. Simmons, L. J. Klein, Hua Qin, D. E. Savage, M. G. Lagally, S. N. Coppersmith, Robert Joynt, Mark Friesen, R. Blick, and M. A. Eriksson, *Physica E* **40**, 520 (2008).
15. "A Novel Method to Fabricate Multiple-Layer SOI: Single-Crystal Si Nanomembrane Transfer and Stacking." W. Peng, Michelle M. Roberts, E. P. Nordberg, F. Flack, P. E. Colavita, Robert J. Hamers, D. E. Savage, M. G. Lagally, and M. A. Eriksson, *ECS Transactions* **6**, 333 (2007).
14. "Electron Spin Coherence in Si." A. M. Tyryshkin, S. A. Lyon, T. Schenkel, J. Bokor, J. O. Chu, W. Jantsch, F. Schaffler, J. L. Truitt, S. N. Coppersmith, and M. A. Eriksson, *Physica E* **35**, 257 (2006).
13. "Photodetector Based on Network of Carbon Nanotubes on Decomposed SOI." H.-C. Yuan, B. Yang, J. M. Simmons, Z. Q. Ma, M. A. Eriksson, and M. G. Lagally, Proceedings of SPIE Volume 5971, Photonic Applications in Nonlinear Optics, Nanophotonics, and Microwave Photonics, Roberto A. Morandotti, Harry E. Ruda, Jianping Yao, Editors, 597118-1-7 (Oct. 3, 2005), SPIE Photonics North, Toronto, Canada, September 12-14, pp. 289-295 (2005).

12. "Pattern Formation on Silicon-on-Insulator." F. Flack, B. Yang, M.-H. Huang, Matthew S. Marcus, J. M. Simmons, O. M. Castellini, M. A. Eriksson, Feng Liu, and M. G. Lagally, in *Kinetics-Driven Nanopatterning on Surfaces*, edited by Eric Chason, George H. Gilmer, Hanchen Huang, and Enge Wang (Mater. Res. Soc. Symp. Proc. **849**, Warrendale, PA, 2005), KK1.3.1/JJ1.3.1/U1.3.1.
11. "Directed Assembly and Strain Engineering of SiGe Films and Nanostructures." M. G. Lagally, M. A. Eriksson, Z. Q. Ma, Feng Liu, George Celler, L. J. Klein, D. E. Savage, K. A. Slinker, Michelle M. Roberts, B. Yang, P. P. Zhang, and M.-H. Huang, *Electrochem. Soc. Proceedings PV*, eds. D. Harame et al. 2004-7, 1153 (2004).
10. "In-Plane Contributions to Phase Contrast in Intermittent Contact Atomic Force Microscopy." Matthew S. Marcus, M. A. Eriksson, Darryl Y. Sasaki, and Robert W. Carpick, *Ultramicroscopy* **97**, 145 (2003).
9. "Pseudo-digital qubits: a general approach." Mark Friesen, Robert Joynt, and M. A. Eriksson, in *Proceedings of the 6th International Conference on Quantum Communication, Measurement and Computing*, Ed. J. H. Shapiro and O. Hirota (Rinton Press, Princeton, NJ), 271-274 (2003).
8. "Nanometer-Scale Studies of Anisotropic Polymer Surfaces." Robert W. Carpick, Matthew S. Marcus, Matthew J. D'Amato, Darryl Y. Sasaki, and M. A. Eriksson, *Polymer Preprints: Polymeric Materials: Science & Engineering* **88**, 499 (2002).
7. "Collective Excitations in Low Density 2D Electron Systems." M. A. Eriksson, A. Pinczuk, B. S. Dennis, C. F. Hirjibehedin, S. H. Simon, L. N. Pfeiffer, and K. W. West, *Physica E* **6**, 165 (2000).
6. "Inelastic Light Scattering by Collective Excitations in the Fractional Quantum Hall Regime." Moonsoo Kang, A. Pinczuk, B. S. Dennis, M. A. Eriksson, L. N. Pfeiffer, and K. W. West, *Physica E* **6**, 69 (2000).
5. "Measuring the Mechanical Resonance of a GaAs/AlGaAs Cantilever Using a Strain-Sensing Field Effect Transistor." R. G. Beck, M. A. Eriksson, R. M. Westervelt, K. D. Maranowski, and A. C. Gossard, *Semicond. Sci. and Tech.* **13**, 83 (1998).
4. "Spectroscopy of Low Density 2D Electron Systems: Interplay Between Interactions and Disorder." M. A. Eriksson, A. Pinczuk, B. S. Dennis, L. N. Pfeiffer, and K. W. West, in *Proceedings 24th Int'l. Conf. on Physics of Semiconductors*, ed. by D. Gershoni (World Scientific Publishing Co. Pte. Ltd., 1998).
3. "Effect of a Charged Scanned Probe Microscope Tip on a Subsurface Electron Gas." M. A. Eriksson, R. G. Beck, M. Topinka, J. A. Katine, R. M. Westervelt, K. L. Campman, and A. C. Gossard, *Superlatt. and Microstruct.* **20**, 435 (1996).
2. "Low Noise Field-Effect Transistor for Integrated Strain Sensing in Micro-Electromechanical Systems at 77 K." R. G. Beck, M. A. Eriksson, R. M. Westervelt, K. L. Campman, and A. C. Gossard, *Superlatt. and Microstruct.* **20**, 363 (1996).

1. “Experimental Observation of Coherent Backscattering in Open Ballistic Microstructures.”
J. A. Katine, M. A. Eriksson, R. M. Westervelt, K. L. Campman, and A. C. Gossard, *Superlatt. and Microstruct.* **20**, 337 (1996).

Invited Presentations

Conferences and Workshops

43. 31st International Conference on the Physics of Semiconductors (ICPS-31), Zurich, Switzerland, *to be given*, 29 July, 2012.
42. Plenary Talk, International SiGe Technology and Device Meeting (ISTDM), Berkeley, *to be given*, 4 June, 2012.
41. 15th International Workshop on Computational Electronics, University of Wisconsin-Madison, *to be given*, 22 May, 2012.
40. 1st International Conference on Adiabatic Quantum Computing, Albuquerque, NM, 7 March, 2012.
39. NASA Quantum Technologies Conference, NASA Ames, CA, 17 January, 2012.
38. Quantum Control of Solid State Systems, Princeton University, 3-5 November, 2011.
37. CMOS Emerging Technologies, Whistler, BC, Canada, 15-17 June, 2011.
36. Ohio Section Meeting of the APS, Marietta College, October 8, 2010.
35. International Conference on Quantum Communication, Measurement and Computation (QCMC), Brisbane, Australia, 19-23 July, 2010.
34. International Symposium on Quantum Nanostructures and Spin-related Phenomena (QNSP), Tokyo, Japan, 9-11 March, 2010.
33. INTRIQ Workshop, Montreal, Canada, October 2, 2009.
32. Quantum Frontiers Symposium, University of Queensland, Brisbane, Australia, 3 April, 2009.
31. Annual Meeting, Centre for Quantum Computer Technology, Sydney, Australia, 9 February, 2009.
30. MRS Fall Meeting, Symposium MM, Applications of Group IV Semiconductor Nanostructures, Boston, Massachusetts, December, 2008.
29. IEEE Nanotechnology Materials and Devices Conference (NMDC), Kyoto, Japan, 20-22 October, 2008.
28. Solid State Devices & Materials Conference (SSDM), Tsukuba, Japan, September, 2008.
27. International Conference on the Physics of Semiconductors (ICPS-29), Rio de Janeiro, Brazil, July 27 – Aug 1, 2008.
26. UK Semiconductors, Sheffield, United Kingdom, 2 July, 2008
25. IEEE Silicon Nanoelectronics Workshop, Honolulu, Hawaii, 15 June, 2008

24. Silicon Focus Group, Sydney, Australia, 21 February, 2008.
23. Annual Meeting, Centre for Quantum Computer Technology, Melbourne, Australia, 18 February, 2008.
22. 38th Winter Colloquium on The Physics of Quantum Electronics, Snowbird, UT, January 6-10, 2008
21. ISANN, Kailua Kona, HI, November 30, 2007.
20. Workshop: Nanoelectronics, CNM, Argonne National Lab, May 10, 2007.
19. March Meeting of the APS, March 6, 2007.
18. ICONN2006, July 3-July 7, 2006.
17. ISTDM'06 - May 15-17, 2006.
16. ESR Workshop, Villa Nobel, Italy, March 6-8, 2006.
15. American Vacuum Society (AVS), Nov. 3, 2005.
14. Midwest Solid State Conference, University of Missouri-Columbia, Oct. 8, 2005.
13. March Meeting of APS, March 2005.
12. Fields Institute, Toronto, Canada, Quantum Information and Quantum Control Conference, July, 2004.
11. 2004 IEEE NTC Quantum Device Technology Workshop, May 17-24, 2004.
10. DARPA Workshop, Scalable Quantum Information Processing via Error Control, May 6-7, 2004.
9. Solid State Quantum Information Processing Conference, Amsterdam, The Netherlands, December 18, 2003.
8. Midwest Microscopy and Microanalysis Society, October 3, 2003.
7. AAPT National Meeting, August 6, 2003.
6. Workshop on Group-IV Quantum Computing, March 29, 2003.
5. APS March Meeting, March 2003.
4. DOE Workshop, January 18, 2003.
3. Workshop on Solid State Quantum Computation (SSQC), IBM Watson Research Center, Yorktown Heights, NY, 2002.
2. APS Centennial Meeting, March, 1999.
1. APS March Meeting, March, 1997.

Colloquia and Seminars

58. Institute for Quantum Computing, Waterloo, ON, Canada, Seminar, to be given, May 28, 2012.
57. International Institute for Nanotechnology, Northwestern University, Seminar, to be given, May 10, 2012.
56. University of Wisconsin-Stevens Point, Colloquium, November 18, 2011.
55. NRC, Ottawa, Canada, Seminar, March 18, 2011.
54. McGill University, Colloquium, March 14, 2011.
53. University of Maryland, Center for Nanophysics and Advanced Materials Colloquium, Feb. 17, 2011.
52. University of Utah, Colloquium, November 11, 2010.
51. University of New Mexico, Center for Quantum Information and Control, Seminar, May 13, 2010.
50. University of Maryland, Joint Quantum Institute, Seminar, March 29, 2010.
49. School of Physics, Australian National University, Seminar, May 19, 2009.
48. School of Physics, University of Melbourne, Colloquium, March 31, 2009.
47. Department of Physics, University of Queensland, Colloquium, March 20, 2009.
46. Harvard University, Seminar, Dec. 2, 2008.
45. Sydney University, Seminar, Oct. 29, 2008.
44. University of New South Wales, Colloquium, Oct. 7, 2008.
43. Swarthmore College, Colloquium, Nov. 16, 2007.
42. University of Wisconsin-Madison, Colloquium, Nov. 14, 2007.
41. University of Illinois, Urbana-Champaign, Seminar, Oct. 26, 2007.
40. ZMD Corporation, Middleton, Wisconsin, Aug. 8, 2007.
39. Ohio State University, Seminar, January 25, 2007.
38. Colloquium, SUNY-Buffalo, Department of Physics, Oct. 26, 2006.
37. Colloquium, Sandia National Labs, Oct. 4, 2006.
36. Seminar, Purdue University, Sept. 22, 2006.
35. Colloquium, University of Iowa, Department of Physics, Feb. 27, 2006.

34. UW Materials Science Seminar, Feb. 16, 2006
33. UCLA Condensed Matter Seminar, January 25, 2006.
32. Colloquium, HRL, January 24, 2006.
31. Delft University, The Netherlands, Seminar, Nov. 9, 2005.
30. Dartmouth University, Colloquium, Spring 2005.
29. Ohio State University, Seminar, Spring 2005.
28. Princeton University, Seminar, Feb. 28, 2005.
27. Sandia National Lab (CA), Seminar, Feb. 15, 2005.
26. Michigan State University, Seminar, Oct. 20, 2004.
25. Boston College, Department of Physics Colloquium, Sept. 15, 2004.
24. GE Corporate Research Center, Schenectady, NY, April 11, 2003.
23. IBM Thomas J. Watson Research Center, April 8, 2003.
22. Rice University, Physics Department Seminar, March 10, 2003.
21. Seminar, University of Wisconsin-Madison, Physics Department, Organic monolayers and semiconductor quantum dots, 2001.
20. Colloquium, University of Wisconsin-Madison, Physics Department, 1999.
19. Seminar, University of Wisconsin-Madison, Materials Science and Engineering, 1999.
18. Seminar, Rice University, Electrical and Computer Engineering Department, 1999.
17. Seminar, California Institute of Technology, Applied Physics Department, 1999.
16. Seminar, Ohio State University, Physics Department, 1999.
15. Seminar, McGill University, Physics Department, 1999.
14. Seminar, Boston College, Physics Department, 1999.
13. Seminar, IBM Watson, 1999.
12. Seminar, Wake Forest University, Physics Department, 1999.
11. Seminar, University of Wisconsin-Madison, Materials Science Department, 1999.
10. Seminar, University of Pennsylvania, Physics Department, 1999.
9. Colloquium, Colgate University, Physics Department, 1999.

8. Colloquium, Lewis and Clark College, Physics Department, 1999.
7. Seminar, Bell Labs, 1998.
6. Seminar, Columbia University, Physics Department, 1998.
5. Seminar, SUNY Buffalo, Physics Department, 1998.
4. Seminar, Bell Labs, 1998.
3. Seminar, Yale University, Physics Department, 1998.
2. Seminar, Dartmouth University, Physics Department, 1997.
1. Seminar, University of Wisconsin-Madison, Physics Department, 1997.