Mark A. Eriksson

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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

2020-present	John Bardeen Professor of Physics Department of Physics, University of Wisconsin-Madison
2021-present	Chair, Department of Physics, University of Wisconsin-Madison
2016-2020	Vilas Distinguished Achievement Professor Department of Physics, University of Wisconsin-Madison
2015-2016	Visiting Scientist (Sabbatical: Sept. 2015-May 2016) Delft University of Technology
2007-2016	Professor, Department of Physics, University of Wisconsin-Madison
2008-2009	Professorial Visiting Fellow (Sabbatical: 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

WARF Named Professorship, University of Wisconsin-Madison (2020)
Vilas Associates Award, University of Wisconsin-Madison (2018)

Fellow, American Association for the Advancement of Science (2015)
Kellett Mid-Career Award, University of Wisconsin-Madison (2013)
Fellow, American Physical Society (2012)
CAREER Award, National Science Foundation (2001-2006)
Research Innovation Award, Research Corporation (2001)
Goldhaber Prize, Harvard Physics (1995)
Graduate Fellow, National Science Foundation (1992-95)
Phi Beta Kappa (1991)

Scientific Society Affiliations

APS, AAAS, MRS, AVS, and IEEE

HIghlights of Scholarly Activities

- 39 papers published in Physical Review X, Physical Review X-Quantum, Physical Review Letters, Nature, Nature Physics, Nature Materials, Nature Nanotechnology, Nature Communications, or PNAS.
- Co-author of an overview of semiconductor quantum computing in *Physics Today* [*click pdf for link to web*].
- Co-author of an invited review of silicon as a host for spin qubits published in *Nature* [*click pdf for link to web*].
- Co-author of a review of silicon quantum electronics published in *Reviews of Modern Physics* [*click pdf for link to web*].
- Organizer or co-organizer for four international workshops on silicon quantum electronics, one in 2007, one in 2011, one in 2016, and most recently the 2017 workshop held in Portland, Oregon, USA.
- Member, International Program Committee (IPC)]for the 36th International Conference on the Physics of Semiconductors (ICPS2024). *To be held in* Ottawa, Canada, July 28-August 2 2024.
- Delivered 174 invited presentations at conferences, colloquia, and seminars.
- Google scholar page link: [*click pdf for link to web*].

Patents Issued and Patent Applications Pending

1. United States Patent #6,597,010: Solid-state quantum dot devices and quantum computing using nanostructured logic gates. Issued: July 22, 2003. Inventors: Mark A. Eriksson, Mark Friesen, Robert Joynt, Max G. Lagally, Dan van der Weide, Paul Rugheimer, Don Savage.

2. United States Patent #7,135,697: Spin readout and initialization in semiconductor quantum dots. Issued November 14, 2006. Inventors: Mark A. Eriksson, Mark Friesen, Charles Tahan, Robert Joynt.

3. United States Patent #7,354,809: Method for double-sided processing of thin film transistors. Issued April 8, 2008. Inventors: Hao-Chih Yuan, Guogong Wang, Mark A. Eriksson, Paul Evans, Max G. Lagally, Zhenqiang Ma.

4. United States Patent #7,645,933: Carbon nanotube Schottky barrier photovoltaic cell. Issued January 12, 2010. Inventors: Todd Narkis, Matthew Marcus, Max Lagally, Mark A. Eriksson.

5. United States Patent #7,812,353: Front and backside processed thin film electronic devices. Issued October 12, 2010. Inventors: Hao-Chih Yuan, Guogong Wang, Mark A. Eriksson, Paul G. Evans, Max G. Lagally, Zhenqiang Ma.

6. United States Patent #7,776,642: Quantum-well photoelectric device assembled from nanomembranes. Issued August 17, 2010. Inventors: Arnold Kiefer, Max G. Lagally, Mark A. Eriksson.

7. United State Patent #8,089,073: Front and backside processed thin film electronic devices. Issued January 3, 2012. Inventors: Paul G. Evans, Max G. Lagally, Zhenqiang Ma, Hao-Chih Yuan, Guogong Wang, Mark A. Eriksson.

8. United States Patent #9,842,921: Direct Tunnel Barrier Control Gates in a Two-Dimensional Electronic System. Issued December 12, 2017. Inventors: Mark A. Eriksson, John King Gamble, Daniel R. Ward, Susan N. Coppersmith, Mark G. Friesen.

9. United States Patent #10,572,814: System and Method for Quantum Computation Using Symmetrical Charge Qubits. Issued February 25, 2020. Inventors: Mark Friesen, Mark A. Eriksson, Susan N. Coppersmith. Issued September 28, 2021.

10. United States Patent #11,133,388: Silicon-germanium heterostructures with quantum wells having oscillatory germanium concentration profiles for increased valley splitting. Inventors: Don Savage, Mark A. Eriksson, Mark Friesen, Robert Joynt, Susan Coppersmith. Submitted July 23, 2020.

11. US Patent Appl. No. 63/123,779: Submitted. Substrate modications to suppress correlated errors in multiqubit arrays. Inventors: Robert F. McDermott, Mark A. Eriksson.

12. US Patent Appl. Submitted: Silicon-germanium heterostructures with shear strain and germanium concentration oscillations for enhanced valley splitting. Inventors: Ben Woods, Robert Joynt, Emily Joseph, Mark Friesen, Mark A. Eriksson.

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).

Commentary and Roadmaps

2. "Quantum Simulators: Architectures and Opportunities,"
Ehud Altman, et al., *Phys. Rev. X* **2**, 017003 (2021).

1. "Quantum devices – nanowires charging towards integration,"
M.A. Eriksson and M. Friesen, *Nature Nanotechnology* **2**, 595 (2007).

Journal Publications

141. "Coupling conduction-band valleys in modulated SiGe heterostructures via shear strain." B.D. Woods, H. Soomro, E. S. Joseph, C.C.D. Frink, Robert Joynt, M. A. Eriksson, and Mark Friesen, *submitted to Nat. Mater.*

140. "Longitudinal coupling between a Si/SiGe quantum dot and an off-chip TiN resonator." J. Corrigan, B. Harpt, Nathan Holman, R. Ruskov, P. Marciniec, D. Rosenberg, D. Yost, R. Das, W.D. Oliver, R. McDermott, Charles Tahan, Mark Friesen, and M. A. Eriksson, *Phys. Rev. Applied* **20**, 064005 (2023).

139. "Practical Strategies for Enhancing the Valley Splitting in Si/SiGe Quantum Wells." M. Losert, M. A. Eriksson, Robert Joynt, Rajib Rahman, G. Scappucci, S. N. Coppersmith, and Mark Friesen, *Phys. Rev. B* **108**, 125405 (2023).

138. "Thickness-Dependent Cross-Plane Thermal Conductivity Measurements of Exfoliated Hexagonal Boron Nitride." G. R. Jaffe, Keenan J. Smith, K. Watanabe, T. Taniguchi, M. G. Lagally, M. A. Eriksson, and Victor W. Brar, *ACS Appl. Mat. Int.* **15**, 12545 (2023).

137. "Latched readout for the quantum dot hybrid qubit." J. Corrigan, J. P. Dodson, B. Thorgrimsson, S. F. Neyens, T. J. Knapp, T. McJunkin, S. N. Coppersmith, and M. A. Eriksson, *Appl. Phys. Lett.* **122**, 074001 (2023).

136. "Spin-orbit enhancement in Si/SiGe heterostructures with oscillating Ge concentration." B.D. Woods, M. A. Eriksson, Robert Joynt, and Mark Friesen, *Phys. Rev. B* **107**, 035418 (2023).

135. "SiGe quantum wells with oscillating Ge concentrations for quantum dot qubits." T. McJunkin, B. Harpt, Y. Feng, M. Losert, Rajib Rahman, J. P. Dodson, M. Wolfe, D. E. Savage, M. G. Lagally, S. N. Coppersmith, Mark Friesen, Robert Joynt, and M. A. Eriksson, *Nature Comm.* **13**, 7777 (2022).

134. "How valley-orbit states in silicon quantum dots probe quantum well interfaces." J. P. Dodson, H.E. Ercan, J. Corrigan, M. Losert, Nathan Holman, T. McJunkin, L. F. Edge, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Phys. Rev. Lett.* **128**, 146802 (2022).

133. "Toward Robust Autotuning of Noisy Quantum Dot Devices." J. Ziegler, T. McJunkin, E. S. Joseph, Sandesh S. Kalantre, B. Harpt, D. E. Savage, M. G. Lagally, M. A. Eriksson, Jacob M. Taylor, and Justyna P. Zwolak, *Phys. Rev. Applied* **17**, 024069 (2022).

132. "A Simple Numerical Method for Evaluating Heat Dissipation from Wires in Arbitrary Shapes with Periodic Applied Heating." G. R. Jaffe, Victor W. Brar, M. G. Lagally, and M. A. Eriksson, *Appl. Phys. Lett.* **119**, 163501 (2021).

131. "Coherent control and spectroscopy of a semiconductor quantum dot Wigner molecule." J. Corrigan, J. P. Dodson, H.E. Ercan, J. C. Abadillo-Uriel, B. Thorgrimsson, T. J. Knapp, Nathan Holman, T. McJunkin, S. F. Neyens, E. R. MacQuarrie, R. H. Foote, L. F. Edge, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Phys. Rev. Lett.* **127**, 127701 (2021).

130. "3D integration and measurement of a semiconductor double quantum dot with a high-impedance TiN resonator." Nathan Holman, D. Rosenberg, D. Yost, J.L. Yoder, R. Das, W.D. Oliver, R. McDermott, and M. A. Eriksson, *npj Quant. Inf.* **7**, 137 (2021).

129. "Magnetic gradient free two axis control of a valley spin qubit in SiGe." Y.-Y. Liu, L.A. Orona, S. F. Neyens, E. R. MacQuarrie, M. A. Eriksson, and A. Yacoby, *Phys. Rev. Lett.* **16**, 024029 (2021).

128. "Valley splittings in Si/SiGe quantum dots with a germanium spike in the silicon well." T. McJunkin, E. R. MacQuarrie, L. Tom, S. F. Neyens, J. P. Dodson, B. Thorgrimsson, J. Corrigan, H.E. Ercan, D. E. Savage, M. G. Lagally, Robert Joynt, S. N. Coppersmith, Mark Friesen, and M. A. Eriksson, *Phys. Rev. B* **104**, 085406 (2021).

127. "Radio frequency reflectometry in silicon-based quantum dots." Y.-Y. Liu, S. G. J. Philips, L.A. Orona, N. Samkharadze, T. McJunkin, E. R. MacQuarrie, M. A. Eriksson, L. M. K. Vandersypen, and A. Yacoby, *Phys. Rev. Applied* **16**, 014057 (2021).

126. "High-density covalent grafting of spin-active molecular moieties to diamond surfaces." Benjamin Bachman, Z. Jones, G. R. Jaffe, J. Salman, R. A. Wambold, Zhaoning Yu, J. T. Choy, S. Kolkowitz, M. A. Eriksson, Mikhail Kats, and Robert J. Hamers, *Langmuir* **37**, 9222 (2021).

125. "Ray-Based Framework for State Identification in Quantum Dot Devices." Justyna P. Zwolak, T. McJunkin, Sandesh S. Kalantre, S. F. Neyens, E. R. MacQuarrie, M. A. Eriksson, and Jacob M. Taylor, *PRX Quantum* **2**, 020335 (2021).

124. "Adjoint-optimized nanoscale light extractor for nitrogen-vacancy centers in diamond." R. A. Wambold, Zhaoning Yu, Yuzhe Xiao, Benjamin Bachman, G. R. Jaffe, S. Kolkowitz, J. T. Choy, M. A. Eriksson, Robert J. Hamers, and Mikhail Kats, *Nanophotonics* **10**, 393 (2021).

123. "Fabrication process and failure analysis for robust quantum dots in silicon." J. P. Dodson, Nathan Holman, B. Thorgrimsson, S. F. Neyens, E. R. MacQuarrie, T. McJunkin, R. H. Foote, L. F. Edge, S. N. Coppersmith, and M. A. Eriksson, *Nanotech.* **31**, 505001 (2020).

122. "Progress Towards a Capacitively Mediated CNOT Between Two Charge Qubits in Si/SiGe." E. R. MacQuarrie, S. F. Neyens, J. P. Dodson, J. Corrigan, B. Thorgrimsson, Nathan Holman, M. Palma, L. F. Edge, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *npj Quant. Inf.* **6**, 81 (2020).

121. "Microwave Engineering for Semiconductor Quantum Dots in a cQED Architecture." Nathan Holman, J. P. Dodson, L. F. Edge, S. N. Coppersmith, Mark Friesen, R. McDermott, and M. A. Eriksson, *Appl. Phys. Lett.* **117**, 083502 (2020).

120. "Three-Omega Thermal-Conductivity Measurements with Curved Heater Geometries." G. R. Jaffe, Keenan J. Smith, Victor W. Brar, M. G. Lagally, and M. A. Eriksson, *Appl. Phys. Lett.* **117**, 073102 (2020).

119. "Spatial Noise Correlations in a Si/SiGe Two-Qubit Device from Bell State Coherences." Jelmer M. Boter, X. Xue, Tobias S. Krahenmann, T. F. Watson, Vickram N. Premakumar, D. R. Ward, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, M. A. Eriksson, Robert Joynt, and L. M. K. Vandersypen, *Phys. Rev. B* **101**, 235133 (2020).

118. "The effect of external electric fields on silicon with superconducting gallium nano-precipitates." B. Thorgrimsson, T. McJunkin, E. R. MacQuarrie, S. N. Coppersmith, and M. A. Eriksson, *J. Appl. Phys.* **127**, 215102 (2020).

117. "Repetitive quantum non-demolition measurement and soft decoding of a silicon spin qubit." X. Xue, Benjamin D'Anjou, T. F. Watson, D. R. Ward, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, M. A. Eriksson, William A. Coish, and L. M. K. Vandersypen, *Phys. Rev. X* **10**, 021006 (2020).

116. "Auto-tuning of double dot devices in situ with machine learning." Justyna P. Zwolak, T. McJunkin, Sandesh S. Kalantre, J. P. Dodson, E. R. MacQuarrie, D. E. Savage, M. G. Lagally, S. N. Coppersmith, M. A. Eriksson, and Jacob M. Taylor, *Phys. Rev. Applied* **13**, 034075 (2020).

115. "Majorana bound states in nanowire-superconductor hybrid systems in periodic magnetic fields." Viktoriia Kornich, M. G. Vavilov, Mark Friesen, M. A. Eriksson, and S. N. Coppersmith, *Phys. Rev. B* **101**, 125414 (2020).

114. "Measurements of capacitive coupling within a quadruple quantum dot array." S. F. Neyens, E. R. MacQuarrie, J. P. Dodson, J. Corrigan, Nathan Holman, B. Thorgrimsson, M. Palma, T. McJunkin, L. F. Edge, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Phys. Rev. Applied* **12**, 064049 (2019).

113. "Enhancing the dipolar coupling of a S-T0 qubit with a transverse sweet spot." J. C. Abadillo-Uriel, M. A. Eriksson, S. N. Coppersmith, and Mark Friesen, *Nature Comm.* **10**, 5641 (2019).

112. "Quantum computing with semiconductor spins." L. M. K. Vandersypen and M. A. Eriksson, *Physics Today* **72**, 38 (2019).

111. "Benchmarking Gate Fidelities in a Si/SiGe Two-Qubit Device." X. Xue, T. F. Watson, J. Helsen, D. R. Ward, D. E. Savage, M. G. Lagally, S. N. Coppersmith, M. A. Eriksson, S. Wehner, and L. M. K. Vandersypen, *Phys. Rev. X* **9**, 021011 (2019).

110. "Measurements of the Thermal Resistivity of InAlAs, InGaAs, and InAlAs/InGaAs Superlattices." G. R. Jaffe, S. Mei, C. Boyle, J. D. Kirch, D. E. Savage, D. Botez, L. J. Mawst, I. Knezevic, M. G. Lagally, and M. A. Eriksson, *ACS Appl. Mat. Int.* **11**, 11970 (2019).

109. "Compressed Optimization of Device Architectures for Semiconductor Quantum Devices." Adam Frees, John King Gamble, D. R. Ward, R. Blume-Kohout, M. A. Eriksson, Mark Friesen, and S. N. Coppersmith, *Phys. Rev. Applied* **11**, 024063 (2019).

108. "Signatures of atomic-scale structure in the energy dispersion and coherence of a Si quantum-dot qubit." J. C. Abadillo-Uriel, B. Thorgrimsson, Dohun Kim, L. W. Smith, C. B. Simmons, D. R. Ward, R. H. Foote, J. Corrigan, D. E. Savage, M. G. Lagally, M. J. Calderon, S. N. Coppersmith, M. A. Eriksson, and Mark Friesen, *Phys. Rev. B* **98**, 165438 (2018).

107. "The critical role of substrate disorder in valley splitting in Si quantum wells." S. F. Neyens, R. H. Foote, B. Thorgrimsson, T. J. Knapp, T. McJunkin, L. M. K. Vandersypen, P. Amin, N. K. Thomas, J. S. Clarke, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Appl. Phys. Lett.* **112**, 243107 (2018).

106. "Valley dependent anisotropic spin splitting in silicon quantum dots." Rifat Ferdous, E. Kawakami, P. Scarlino, Michal P. Nowak, D. R. Ward, D. E. Savage, M. G. Lagally, S. N. Coppersmith, Mark Friesen, M. A. Eriksson, L. M. K. Vandersypen, and Rajib Rahman, *npj Quant. Inf.* **4**, 26 (2018).

105. "A programmable two-qubit quantum processor in silicon." T. F. Watson, S. G. J. Philips, E. Kawakami, D. R. Ward, P. Scarlino, M. Veldhorst, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, M. A. Eriksson, and L. M. K. Vandersypen, *Nature* **555**, 633 (2018).

104. "Electronic Transport in Hydrogen-Terminated Si(001) Nanomembranes." W. Peng, M. Zamiri, Shelley A. Scott, F. Cavallo, J. J. Endres, I. Knezevic, M. A. Eriksson, and M. G. Lagally, *Phys. Rev. Applied* **9**, 024037 (2018).

103. "Silicon Nanomembranes with Hybrid Crystal Orientations and Strain States." Shelley A. Scott, Christoph Deneke, D. M. Paskiewicz, Hyuk Ju Ryu, Angelo Malachias, Stefan Baunack, Oliver G. Schmidt, D. E. Savage, M. A. Eriksson, and M. G. Lagally, *ACS Appl. Mat. Int.* **9**, 42372 (2017).

102. "Effects of charge noise on a pulse-gated singlet-triplet S-T$_-$ qubit." Zhenyi Qi, X. Wu, D. R. Ward, J. R. Prance, Dohun Kim, John King Gamble, R. T. Mohr, Zhan Shi, D. E. Savage, M. G. Lagally, M. A. Eriksson, Mark Friesen, S. N. Coppersmith, and M. G. Vavilov, *Phys. Rev. B* **96**, 115305 (2017).

101. "Extending the coherence of a quantum dot hybrid qubit." B. Thorgrimsson, Dohun Kim, Yuan-Chi Yang, L. W. Smith, C. B. Simmons, D. R. Ward, R. H. Foote, J. Corrigan, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *npj Quant. Inf.* **3**, 32 (2017).

100. "A decoherence-free subspace in a charge quadrupole qubit." Mark Friesen, J. Ghosh, M. A. Eriksson, and S. N. Coppersmith, *Nature Comm.* **8**, 15923 (2017).

99. "Dressed photon-orbital states in a quantum dot: Inter-valley spin resonance." P. Scarlino, E. Kawakami, T. Jullien, D. R. Ward, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, M. A. Eriksson, and L. M. K. Vandersypen, *Phys. Rev. B* **95**, 165429 (2017).

98. "Gate fidelity and coherence of an electron spin in an Si/SiGe quantum dot with micromagnet." E. Kawakami, T. Jullien, P. Scarlino, D. R. Ward, D. E. Savage, M. G. Lagally, V. V. Dobrovitski, Mark Friesen, S. N. Coppersmith, M. A. Eriksson, and L. M. K. Vandersypen, *Proc. Natl. Acad. Sci.* **113**, 11738 (2016).

97. "State-conditional coherent charge qubit oscillations in a Si/SiGe quadruple quantum dot." D. R. Ward, Dohun Kim, D. E. Savage, M. G. Lagally, R. H. Foote, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *npj Quant. Inf.* **2**, 16032 (2016).

96. "Combining experiment and optical simulation in coherent X-ray nanobeam characterization of Si/SiGe semiconductor heterostructures." J. A. Tilka, J. Park, Y. Ahn, A. Pateras, K. C. Sampson, D. E. Savage, J. R. Prance, C. B. Simmons, S. N. Coppersmith, M. A. Eriksson, M. G. Lagally, M. V. Holt, and Paul G. Evans, *J. Appl. Phys.* **120**, 015304 (2016).

95. "Electrode-stress-induced nanoscale disorder in Si quantum electronic devices." J. Park, Y. Ahn, J. A. Tilka, K. C. Sampson, D. E. Savage, J. R. Prance, C. B. Simmons, M. G. Lagally, S. N. Coppersmith, M. A. Eriksson, M. V. Holt, and Paul G. Evans, *APL Materials* **4**, 066102 (2016).

94. "Characterization of a gate-defined double quantum dot in a Si/SiGe nanomembrane." T. J. Knapp, R. T. Mohr, Y. S. Li, B. Thorgrimsson, R. H. Foote, X. Wu, D. R. Ward, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Nanotech.* **27**, 154002 (2016).

93. "Thermal resistance of transferred silicon nanomembrane interfaces." D. P. Schroeder, Z. Aksamija, A. Rath, P. M. Voyles, M. G. Lagally, and M. A. Eriksson, *Phys. Rev. Lett.* **115**, 256101 (2015).

92. "High-fidelity resonant gating of a silicon-based quantum dot hybrid qubit." Dohun Kim, D. R. Ward, C. B. Simmons, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *npj Quant. Inf.* **1**, 15004 (2015).

91. "Transport through an impurity tunnel coupled to a Si/SiGe quantum dot." R. H. Foote, D. R. Ward, J. R. Prance, John King Gamble, E. Nielsen, B. Thorgrimsson, D. E. Savage, A. L. Saraiva, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Appl. Phys. Lett.* **107**, 103112 (2015).

90. "Second Harmonic Coherent Driving of a Spin Qubit in a Si/SiGe Quantum Dot." P. Scarlino, E. Kawakami, D. R. Ward, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, M. A. Eriksson, and L. M. K. Vandersypen, *Phys. Rev. Lett.* **115**, 106802 (2015).

89. "High Fidelity Singlet-Triplet S-T$_-$ Qubits in Inhomogeneous Magnetic Fields." C. H. Wong, M. A. Eriksson, S. N. Coppersmith, and Mark Friesen, *Phys. Rev. B* **92**, 045403 (2015).

88. "Electronic Transport Properties of Epitaxial Si/SiGe Heterostructures Grown on Single-Crystal SiGe Nanomembranes." Y. S. Li, P. Sookchoo, X. Cui, R. T. Mohr, D. E. Savage, R. H. Foote, R. B. Jacobson, J. R. Sanchez-Perez, D. M. Paskiewicz, X. Wu, D. R. Ward, S. N. Coppersmith, M. A. Eriksson, and M. G. Lagally, *ACS Nano* **9**, 4891 (2015).

87. "Identifying single electron charge sensor events using wavelet edge detection." J. R. Prance, B. J. Van Bael, C. B. Simmons, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Nanotech.* **26**, 215201 (2015).

86. "Microwave-driven coherent operations of a semiconductor quantum dot charge qubit." Dohun Kim, D. R. Ward, C. B. Simmons, John King Gamble, R. Blume-Kohout, E. Nielsen, D. E. Savage, M. G. Lagally, Mark Friesen, S. N. Coppersmith, and M. A. Eriksson, *Nature Nanotech.* **10**, 243 (2015).

85. "Exceptional Charge Transport Properties of Graphene on Germanium." F. Cavallo, R. R. Delgado, M. M. Kelly, J. R. S. Perez, D. P. Schroeder, H. G. Xing, M. A. Eriksson, and M. G. Lagally, *ACS Nano* **8**, 10237 (2014).

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