

CURRICULUM VITAE OF Joseph A.F.S. Pingenot

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Center for Semiconductor Physics in Nanostructures
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Position: Postdoctoral Researcher
Appointed September 2008
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Languages: Fluent German (spoken, written)

EDUCATIONAL AND PROFESSIONAL HISTORY

Academic Preparation

Doctor of Philosophy 2009, University of Iowa, USA. Dissertation: *Electron And Hole Spins In Quantum Dots*.
Advisor: Michael Flatté.
Bachelor of Science 2002, Kansas State University, USA. Bachelor of Science in physics.

Professional Experience

Postdoc. Researcher 2008-present. Department of Physics and Astronomy, The University of Oklahoma, USA.
Research Assistant 2003-2008. Department of Physics and Astronomy, The University of Iowa, USA.
Teaching Assistant 2002-2008. Department of Physics and Astronomy, The University of Iowa, USA.
Intern Summer 2007. Seagate Technology, Bloomington, MN, USA. Developed software in perl to create simplified 3D ANSYS models of hard drive heads from 2D CAD data.
Intern Summer 2006. Seagate Technology, Bloomington, MN, USA. Ran thermomechanical simulations of hard drive heads and analyzed data. Began writing above-mentioned software.
Programmer Summer 2002. Physics Education Research Group, Kansas State University, USA. Wrote extensible interactive quantum well demonstration software in Java.
Programmer 1999-2002. Kansas State University, USA. Managed central campus Solaris servers and wrote software in perl, C, and sh/bash. Wrote inventory management website, with CGI.

Professional Memberships

American Physical Society; Deutsche Physikalische Gesellschaft; Association for Computing Machinery;
American Association for the Advancement of Science; Institute of Electrical and Electronics Engineers;
The Minerals, Metals, and Materials Society; Society for Industrial and Applied Mathematics

AWARDS AND EXCHANGES

Awards

Putnam Mathematical Competition	2001	Third-highest score at Kansas State University; top third in nation.
Swift Scholarship	2002	Department of Physics and Astronomy, University of Iowa.
Branson Scholarship	2001	Physics Department, Kansas State University.
Curnutte Scholarship	1999-2000	Physics Department, Kansas State University.
Cardwell Scholarship	1998	Physics Department, Kansas State University.
Travel award	2007	Spintech IV
NSF Travel Award to NATO ASI	2005	Manipulating Quantum Coherence in Solid State Systems
Travel award	2004	Gordon Research Conference: Defects in Semiconductors

Exchanges

International Bicycle Project	1999	Kiel, Germany
Kansas State University - Justus Liebig University	1997-1998	Gießen, Germany
Rotary Youth Exchange	1995-1996	Lilienthal, Germany

PRESENTATIONS AND PUBLICATIONS

Publications

- “Tuning the Rashba Spin-Orbit Interaction in Doped InSb Heterostructures,” Joseph Pingenot, K. Mullen, M. B. Santos, and S. Q. Murphy. Preparing for Publication.
- “Rashba Zero-Field Spin Splitting in InSb Heterostructures,” A. Ruwan Dedigama, Joseph Pingenot, P. A. R. Dilhani Jayathilaka, K. Mullen, M. B. Santos, and S. Q. Murphy. Preparing for Publication.
- “Electric-field Manipulation of the Landé g-Tensor of Holes in In_{0.5}Ga_{0.5}As/GaAs Self-assembled Quantum Dots,” Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté. Preparing for publication.
- “Spin Injection Enhancement Through Schottky Barrier Superlattice Design,” Joseph Pingenot and Michael E. Flatté. Submitted for publication; available at Arxiv: arXiv:0909.4594v1.
- “Manipulation of individual electronic spins in semiconductors,” Craig E. Pryor, Joseph Pingenot, Amrit De, and Michael E. Flatté, *Proc. SPIE* **7036**, 70361A (2008).
- “Method for Full Bloch-Sphere Control of a Localized Spin via a Single Electrical Gate,” Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, *Applied Physics Letters* **92**, 222502 (2008).

Seminar and Invited Presentations

- Joseph Pingenot, “There and Back Again: Reflections on a Nascent Physics Career,” *Engineering and Science Summer Institute* at Kansas State University (2010).
- Joseph Pingenot, Kieran J. Mullen, “Recent Progress in CSPIN Theory: Rashba in wells and excitons in shells,” *Joint C-SPIN Seminar for the University of Oklahoma and University of Arkansas* (2009).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Spin Manipulation in Quantum Dots,” *University of Arkansas* (2009).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “The Landé g-Tensor and Coherent Spin Manipulation in Quantum Dots,” *University of Oklahoma* (2008).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Method for Full Bloch-Sphere Control of a Localized Spin via a Single Electrical Gate,” *University of Iowa Solid State Seminar* (2008).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Electron Spin Resonance and g-Tensors,” *University of Iowa Solid State Seminar* (2007).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Optimizing g-factor tuning with electric fields in self-assembled InAs/GaAs Quantum Dots,” *University of Iowa Solid State Seminar* (2006).

Conference Presentations

- Joseph Pingenot and Kieran J. Mullen, “Inter-dot Effects in a Chain of CdS/CdSe/CdS Quantum Well Quantum Dots,” *APS March Meeting* (2010).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Fast Spin Manipulation of Hole Spins in In_{0.5}Ga_{0.5}As Quantum Dots,” *Advanced Workshop: Spin and Charge Properties of Low Dimensional Systems* (2009).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Method for Full Bloch-Sphere Control of a Localized Spin via a Single Electrical Gate,” *Device Research Conference* (2008).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Method for Full Bloch-Sphere Control of a Localized Spin in a Quantum Dot via a Single Electrical Gate,” *APS March Meeting* (2008).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Tuning Hole g-Factors in Self-Assembled InAs/GaAs Quantum Dots with an Electric Field,” *APS March Meeting* (2007).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Optimizing g-factor tuning with electric fields in self-assembled InAs/GaAs Quantum Dots,” *APS March Meeting* (2006).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Electric Field Dependence of the g Tensor of MBE-grown Semiconductor Quantum Dots,” *Electronic Materials Conference* (2005).
- Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Manipulating the Spin of a Single Electron In a Quantum Dot With an Electric Field,” *APS March Meeting* (2005).

Joseph Pingenot, Craig E. Pryor, and Michael E. Flatté, “Spin Injection Enhancement Through Schottky Barrier Engineering,” *APS March Meeting* (2004).

Joseph Pingenot, “Linux in the Enterprise,” *Kansas Conference on Higher Education Computing* (2002).