

Invited Presentations

- [52] A. C. Seabaugh, Q. Liu, S. Sutar, Q. Zhang, W. Zhao, J. Zhao, Y. Yan, B. Wu, S. Kabeer, D. Wheeler, Z. Racz, and P. Fay, "High speed, low power, and mixed signal tunneling device technology," Int. COE Workshop on Nano Processes and Devices, and their Applications, Nagoya, Japan, December 15-16, 2005.
- [51] A. Seabaugh, "Tunnel diodes and transistors" at the Post-CMOS Deep Dive Workshop, IBM T. J. Watson Research Center, Yorktown Heights, NY, September 22, 2004.
- [50] A. Seabaugh, "Applications of Nanoelectronics," Intel Corporation, Hillsboro, OR, May 19, 2004.
- [49] A. Seabaugh, "Silicon tunnel diodes and integrated circuits," Sematech, Austin, TX March 26, 2004.
- [48] A. Seabaugh, "Towards Autonomous Microsystems," Zyvex Corporation, Richardson, TX, March 25, 2004.
- [47] A. Seabaugh, "Nanoelectronics - Evolutionary" at the National Nanotechnology Workshop on Grand Challenges in Nano-electronics, -Photonics, and -Magnetics in Arlington, VA on February 11, 2004.
- [46] A. Seabaugh, "Nanoelectronics in Autonomous Low-Power CMOS Systems" at the DARPA Workshop on the Integration of Scalable CMOS Systems with Novel Nanostructures in McLean, VA on January 12, 2004.
- [45] A. Seabaugh, "Emerging Technologies for Ambient Intelligence" at the Fifth International Workshop on Future Information Processing Technologies in Miyazaki, Japan on November 10, 2003
- [44] A. Seabaugh, "Difference-defined nanofabrication" at the DARPA Workshop on Massively Reconfigurable Microfabrication Tools in Napa, California, October 29, 2003.
- [43] A. Seabaugh, NSF IGERT (Integrative Graduate Education and Research Trainingship) Lecture, "Nanotechnology: Devices, Agents, and Swarms" at the University of Michigan, Ann Arbor, Michigan, October 10, 2003.
- [42] A. Seabaugh, "Nanoelectromechanical Switches and Circuits," to the Sensors Directorate of the Wright Patterson Air Force Base, February 6, 2003.
- [41] A. C. Seabaugh, "Multi-Valued Logic and the Esaki Tunnel Diode," at the 11th International Workshop on Post Binary Ultra Large Scale Integration (ULSI), University of Massachusetts, Boston, May 15, 2002.
- [40] A. C. Seabaugh, "Fundamentals of Nanotechnology and Nanocomputing" and "Integrated Molecular Electronics," at the International Conference on Nanocomputing, SASTRA University, Thanjavur, India on December 16, 17, 2001.
- [39] A. Seabaugh, "Tunneling Device Nanoelectronics" Ohio State University, Columbus, OH, May 29, 2001.
- [38] A. Seabaugh, "Tunneling Device Nanoelectronics" Lund University, Sweden on May 1, 2001.
- [37] A. Seabaugh, "Tunnel Diodes for RF and Digital Applications" IEEE International Symposium Workshop on RF and High Speed Applications of Tunnel Devices, Phoenix, Arizona, May 20, 2001.
- [36] A. C. Seabaugh, "Toward an integrated tunnel diode - promise and prospects," Advanced Micro Devices, Inc., Sunnyvale, CA on December 14; Intel Corporation and the Oregon Graduate Institute, Hillsboro, OR, December 15, 2000.
- [35] A. C. Seabaugh, Z. Hu, Q. Liu, D. Rink, and J. Wang, "Silicon-based tunnel diodes and

- integrated circuits," *4th International Workshop on Quantum Functional Devices*, Kanazawa, Japan, November 15.
- [34] A. C. Seabaugh, "Tunnel Diode Integrated Circuits," IEEE Int. Symp. Circ. Sys. Geneva, Switzerland, May 29-31, 2000.
- [33] A. C. Seabaugh, "Resonant Tunneling Transistors," Minneapolis, MN, March 20-24, 2000.
- [32] A. C. Seabaugh, "Promise of Tunnel Diode Integrated Circuits," Si Tunnel Diode and CMOS/HBT Integration Workshop, December 9, 1999.
- [31] A. C. Seabaugh, "Integrated quantum devices: why bother?" *43rd Int. Conf. on Electron, Ion and Photon Beam Technology and Nanofabrication*, San Marco Island, FL, June 2, 1999.
- [30] A. C. Seabaugh, "Tunneling-effect nanoelectronics," *82nd Canadian Society for Chemistry Conf.*, Toronto, Canada, June 1, 1999.
- [29] A. C. Seabaugh, "Nanoelectronic devices, circuits, and systems," *Government Microcircuits Applications Conference Short Course*, Arlington, VA, March 16, 1998.
- [28] A. Seabaugh, B. Brar, T. Broekaert, F. Morris, G. Frazier, X. Deng, and T. Blake "Transistors and tunnel diodes for analog/mixed-signal circuits and embedded memory," San Francisco, *Int. Electron Dev. Mtg.*, Dec. 6, 1998.
- [27] A. C. Seabaugh, B. Brar, T. Broekaert, F. Morris, and G. Frazier, "Resonant tunneling analog/mixed signal circuit technology," *Top. Workshop on Heterostructure Microelectronics for Information Systems Applications*, Hayamachi, Japan, Aug. 20, 1998.
- [26] A. C. Seabaugh, R. Lake, B. Brar, R. Wallace, and G. Wilk, "Beyond the roadmap technology: silicon heterojunctions, optoelectronics, and quantum devices," *Mat. Res. Soc. Symp.* Boston, Dec. 2, 1997.
- [25] A. C. Seabaugh, "Quantum meets LSI," *3rd Int. Workshop on Quantum Functional Devices*, Gaithersburg, Maryland, Nov. 5, 1997.
- [24] A. C. Seabaugh, B. Brar, T. Broekaert, G. Frazier, and P. van der Wagt, "Resonant tunneling circuit technology: has it arrived?" *GaAs IC Symposium*, Anaheim, California, Oct. 14, 1997.
- [23] A. C. Seabaugh, "What happens after deep submicron CMOS," *NRC Canada Research Colloquium*, Ottawa, Canada, May 13, 1996.
- [22] A. C. Seabaugh, T. P. E. Broekaert, and A. H. Taddiken, "Resonant tunneling and quantum integrated circuits (Invited)," *22nd Int. Symp. on Comp. Semicond.*, Cheju Island, Korea, Aug. 28-Sept. 2, 1995.
- [21] A. C. Seabaugh, "Resonant tunneling and quantum integrated circuits," *IEEE Cornell Conf. on Adv. Concepts in High Speed Semicond. Dev. and Circ.*, Ithaca, Aug. 7-9, 1995.
- [20] A. C. Seabaugh, C.-C. Cho, R. M. Steinhoff, T. S. Moise, K. H. Park, and Y. Okuno, "Silicon-based resonant tunneling," *1995 Quantum Functional Devices Workshop*, Matsue, Japan, May 22-25, 1995.
- [19] A. C. Seabaugh, "Resonant tunneling quantum devices and circuits," *Workshop on Physics and Computation*, Dallas, TX, Nov. 17-20, 1994.
- [18] A. C. Seabaugh, "Resonant tunneling and quantum integrated circuits," *Eighth Int. Conf. on Molecular Beam Epitaxy*, Osaka, Japan, Aug. 30, 1994.
- [17] A. C. Seabaugh, "Nanoelectronics" *Texas Instruments Marketing Technical Symposium*, Houston, TX, March 21, 1994.
- [16] A. C. Seabaugh, "Nanoelectronics," *1993 IEEE Bipolar/BiCMOS Circuits and Technology Meeting*, Minneapolis, MN, Oct. 4-5, 1993.
- [15] A. C. Seabaugh, A. H. Taddiken, E. A. Beam, and J. N. Randall, "Room temperature properties of III-V resonant tunneling devices and logic circuits," *International Workshop*

- on *Quantum Structures (QUEST)*, Santa Barbara, CA, March 15-16, 1993.
- [14] A. C. Seabaugh, "Resonant tunneling transistors," *Science and Technology Center Colloquium*, Univ. of Texas at Austin, Feb. 8, 1993.
 - [13] A. C. Seabaugh, "Resonant tunneling transistors," *Ultrafast Electronics and Optoelectronics Meeting*, San Francisco, CA, January 25-27, 1993.
 - [12] A. C. Seabaugh, "Quantum devices: teraflops or superflops" (rump session), *1992 Dev. Res. Conf.*, Boston, June 22-24, 1992.
 - [11] A. Seabaugh, J. Luscombe, J. Randall, Y.-C. Kao, S. Bedair, P. Colter, "Atomic layer epitaxy of quantum-well devices," *2nd Int. Symp. on Atomic Layer Epitaxy*, Raleigh, NC, June 3-5, 1992.
 - [10] A. Seabaugh, J. Luscombe, J. Randall, and G. Frazier, "Quantum functional devices based on resonant tunneling," *1st Int. Workshop on Quantum Functional Devices*, Nasu Kohgen, Japan, May 13-15, 1992.
 - [9] A. C. Seabaugh (panelist), "Nanoelectronics as an alternative for gigascale integration," *IEEE Int. Solid State Circuits Conf.*, (with panel: D. Antoniadis (MIT), K. Izumi (NTT), G. Mahler (Univ. Stuttgart), J. Meindl (Rensselaer Polytech.), T. Smith (IBM), and W. Beinvoogl (Siemens)), San Francisco, Feb. 20, 1992.
 - [8] A. C. Seabaugh, "Quantum functional devices: present status and future prospects," *MIT Heterostructure Device Seminar Series*, Cambridge, MA, Dec. 2, 1991.
 - [7] A. C. Seabaugh, "Transport and magnetotransport in the bipolar quantum-well resonant tunneling transistor," *Texas A&M Physics Colloquium*, Nov. 13, 1991.
 - [6] A. C. Seabaugh, "Quantum-effect transistors: future computing elements," *Texas Society of Telephone Engineers*, Dallas, TX, May 23, 1991.
 - [5] A. C. Seabaugh, J. H. Luscombe, and J. N. Randall, "Resonant-tunneling transistor logic," *Government Microcircuits Applications Conference, Technology Strategies of the 90s*, Las Vegas, Nevada, November 6, 1990.
 - [4] A. C. Seabaugh, "The quantum transistor: realizing useful devices near the dimensional limit," *MIDCON Electronic Show and Convention*, Dallas, TX, September 13, 1990.
 - [3] A. C. Seabaugh, "Toward practical quantized electron devices," seminar presented at Osaka Institute of Technology, Aug. 20, Institute of Industrial Science, University of Tokyo, August 27, Fujitsu Atsugi Laboratories, Aug. 28, Nippon Telephone and Telegraph, August 29, and the Sony Research Center, Hodogoya, Aug. 30, 1990.
 - [2] A. C. Seabaugh, "Quantum-well resonant-tunneling transistors," *IEEE/Cornell Conference on High Speed Semiconductor Devices and Circuits*, Ithaca, NY, Aug. 7-9, 1989
 - [1] A. C. Seabaugh, "Resonant tunneling transistors," *Research Colloquium*, Texas Instruments, Houston, March 2, 1989