

Gary Rubloff – INVITED CONFERENCE PRESENTATIONS

1. "Time-Resolved Spectroscopic Studies of Surface Reactions", G. W. Rubloff, 4th Symposium on Fluid/Solid Surface Interactions, National Bureau of Standards, Gaithersburg, Md., Oct. 18-20, 1978.
2. "Properties of the Pd/Si Interface During Initial Silicide Formation", P. S. Ho, J. L. Freeouf, G. W. Rubloff, T. Y. Tan, J.E. Lewis and T.S. Kuan, 156th Meeting of the Electrochemical Society, Los Angeles, Calif., Oct. 14-19, 1979.
3. "Chemical Bonds and Reactions at the Metal-Silicon Interface", G. W. Rubloff, Materials Research Society Symposium on Semiconductor Interfaces, Cambridge, Mass., Nov. 26-28, 1979.
4. "Electronic States and Microstructure at the Silicide-Silicon Interface", P. S. Ho and G. W. Rubloff, 5th International Thin Films Congress, Herzlia-on-Sea, Israel, Sept. 21-25, 1981.
5. "Electronic Structure of Silicide/Si Interfaces", G. W. Rubloff and P. S. Ho, Materials Research Society meeting, Boston, Mass., Nov. 16-19, 1981.
6. "Interfacial Characteristics and the Silicon Schottky Barrier", G. W. Rubloff, American Physical Society annual meeting, San Francisco, California, Jan. 25-28, 1982.
7. "Microscopic Properties and Behavior of Silicide Interfaces", G. W. Rubloff, Keynote Lecture, Second Trieste IUPAP Semiconductor Symposium on Surfaces and Interfaces, Trieste, Italy, Aug. 30-Sept. 3, 1982.
8. "Transition-Metal/Si and Silicide/Si Contacts", G. W. Rubloff, Keynote Lecture, Conference on Metal-Semiconductor Interfaces and Schottky Barriers, Institute of Physics, London, Feb. 9, 1983.
9. "Microscopic Properties and Behavior of Metal/Semiconductor Interfaces", G. W. Rubloff, Plenary Talk, Spring meeting of the German Physical Society, Freudenstadt, F. R. Germany, March 21-25, 1983.
10. "Bonds and Structure at Silicon-Silicide Interfaces", G. W. Rubloff, Gordon Research Conference on Point Defects, Line Defects, and Interfaces in Semiconductors, Plymouth, New Hampshire, July 11-15, 1983.
11. "Silicide/Silicon Interface Bonding", G. W. Rubloff, Arizona State University Conference on Atomic-Scale Structure and Properties of Interfaces, Wickenburg Inn, Arizona, Jan. 10-13, 1984.
12. "Metal/Semiconductor Interfaces and Schottky Barriers", G. W. Rubloff, 3 Invited Lectures at Course "Dynamical Phenomena at Surfaces, Interfaces, and Superlattices", International School of Material Science and Technology, Ettore Majorana Centre for Scientific Culture, Erice (Sicily), Italy, July 1-14, 1984.
13. "Transition-Metal/Silicon Interfaces", G. W. Rubloff, IBM Europe Institute Conference on Thin Films and Interfaces, Davos, Switzerland, Aug. 13-17, 1984.
14. "Chemical Interactions at Metal-Polymer Interfaces", P. O. Hahn, G. W. Rubloff, J. W. Bartha, F. LeGoues, R. Tromp, and P. S. Ho, Materials Research Society Symposium on Electronic Packaging Materials Science, Boston, Nov. 27-29, 1984.
15. "Chemical Bonding and Reaction at Polymer Surfaces and Metal/Polymer Interfaces", P. S. Ho, P. O. Hahn, G. W. Rubloff, F. K. LeGoues, and D. Silverman, 31th Nat'l. Symposium of the American Vacuum Society, Reno, Dec. 4-7, 1984.
16. "Microscopic Chemistry and Properties of Solid-Solid Interfaces", G. W. Rubloff, Surface Science Division Symposium on "Thin Films and Interfaces", 68th Canadian Chemical Conference, Kingston, Ontario, Canada, June 3, 1985.
17. "Chemical Bonding, Reaction, and Adhesion at Metal/Polymer Interfaces", G. W. Rubloff, Dept. of Energy Panel Workshop on Bonding and Adhesion at Interfaces, Aspen, Colorado, Aug. 11-16, 1985.

18. "Competing Initial Reactions at Transition-Metal/Silicon Interfaces", G. W. Rubloff, Materials Research Society meeting, Symposium on Thin Films - Interfaces and Phenomena, Boston, Mass., Dec. 2-6, 1985.
19. "High Temperature Reaction and Defect Generation at the Si/SiO₂ Interface", G. W. Rubloff, First Annual Materials and Processing Science Symposium, IBM Research, Yorktown, March 24-25, 1986.
20. "Microscopic Bonding, Structure, and Reaction at Microelectronic Interfaces", G. W. Rubloff, Keynote Talk, Industry-University Advanced Materials Conference, sponsored by the Advanced Materials Institute in conjunction with the annual meeting of The Metallurgical Society, Denver, Colorado, Feb. 25-27, 1987.
21. "Fundamentals of Laser Photoemission for Testing High Speed Devices and Circuits", G. W. Rubloff, Characterization of Very High Speed Semiconductor Devices and Circuits, Conference 795, SPIE Advances in Semiconductors and Semiconductor Structures, Bay Point, Florida, March 22-27, 1987.
22. "Defect Microchemistry at the SiO₂/Si Interface", G. W. Rubloff, Materials Research Society Symposium on SiO₂ and Its Interfaces, Boston, Nov. 30-Dec. 5, 1987.
23. "Selected Area Processing in Semiconductor Microelectronics", G. W. Rubloff, Topical Conference on Selected Area Processing, American Vacuum Society 35th National Symposium, Atlanta, Georgia, Oct. 3-7, 1988.
24. "Selected Area Processing", G. W. Rubloff, 33rd International Symposium on Electron, Ion, and Photon Beams, Monterey, California, May 30-June 2, 1989.
25. "Defect Microchemistry in SiO₂/Si Structures", G. W. Rubloff, 36th National Symposium of the American Vacuum Society, Boston, Mass., Oct. 23-27, 1989.
26. "Ultraclean and Integrated Processing", G. W. Rubloff, Annual Symposium of IBM Advanced Silicon Technology Laboratory, East Fishkill, NY, Nov. 9, 1989.
27. "Surface Etching and Roughening in Integrated Processing of Thermal Oxides", M. Offenber, M. Liehr, and G. W. Rubloff, American Vacuum Society 36th National Symposium, Toronto, Canada, Oct. 9-12, 1990.
28. "Advanced Chemical Control in Ultraclean Integrated MOS Processing", G. W. Rubloff, National X-Ray Lithography Program Workshop on X-Ray Damage, Manassas, VA, Jan. 17, 1991.
29. "Integrated Processing - from Research to Manufacturing", G. W. Rubloff, SEMICON/Korea 90, Seoul, Korea, Dec. 6-7, 1990.
30. "Integrated Processing - from Research to Manufacturing", G. W. Rubloff, New England Combined Chapter, American Vacuum Society, Burlington, MA, June 10-11, 1991.
31. "Fluorine Impurities in MOS Structures: Diffusion, Processing, and Device Reliability", G. W. Rubloff, American Physical Society March Meeting, Indianapolis, IN, March 16-20, 1992.
32. "Positron Studies Applied to Microelectronics Technology", G. W. Rubloff, Dept. of Energy Workshop, The Application of Positron Spectroscopy to Materials Science, Rancho Mirage, CA, Sept. 9-11, 1992.
33. "Fundamental Chemistry in Advanced MOS Technology and Manufacturing", G. W. Rubloff and M. Anderle, XII National Conference on Vacuum Science and Technology, Italian Vacuum Society, Bolzano, Italy, March 23-26, 1993.
34. "Three-Dimensional Chemistry in Semiconductor Manufacturing Processes", G. W. Rubloff, Plenary Session, Physical Chemistry Division Symposium on "Materials Research at the Crossroads of Physical and Solid-State Chemistries", American Chemical Society National Meeting, Washington, D.C., Aug. 21-26, 1994.
35. "Research Issues for Semiconductor Manufacturing", AVS Southern California Chapter Symposium on Manufacturing Science and Technology, Sept. 13, 1994.

36. "Chemical Engineering at the Heart of Electronic Materials Processing for Manufacturing ", Electronic Materials Symposium at the American Institute of Chemical Engineers Meeting, San Francisco, Nov. 14-16, 1994.
37. "In-Situ Diagnostics: Integration of Experiment and Simulation for Process and Environmental Optimization", L. L. Tedder, G. Brian Lu, and Gary W. Rubloff, AVS Rocky Mountain Chapter Meeting, Aug. 14, 1995.
38. "Mass Spectrometry for CVD Process Optimization and Control", G. W. Rubloff, Sematech RGA Workshop, Austin, TX, Oct. 26, 1995.
39. "Real-Time Sensing and Dynamic Simulation for CVD Optimization and Control", 13th Internat'l. Conf. on Chemical Vapor Deposition (CVD-XIII), The Electrochemical Society, Los Angeles, CA, May 5-10, 1996.
40. "Process System Optimization for ECM using Dynamic Simulation and Chemical Sensing", G. W. Rubloff, Sematech Topical Workshop on Economic and Technical Issues in Optimizing Plasma Processes to Minimize ESH Impacts", Austin, TX, July 1-2, 1996.
41. "Process Sensors, Simulation, and Control to Build In Reliability", Proc. Integrated Reliability Workshop, Lake Tahoe, CA, Oct. 20-23, 1996.
42. "Engineered Learning Systems for Engineering Education", NSF Engineering Education Innovators' Conference, Arlington, VA, April 7-8, 1997.
43. "Challenges for Real-Time Control in Reactive Semiconductor Manufacturing Process Environments", AVS 45th National Symposium, Baltimore, MD, Nov. 2-6, 1998.
44. "Some Experiments in Dynamic-Simulator-Based Control Education", R. Sreenivasan, W. S. Levine, and G. W. Rubloff, American Control Conference, San Diego, CA, June 2-4, 1999.
45. "Some Dynamic-Simulator-Based Control Education Modules", R. Sreenivasan, W. S. Levine, and G. W. Rubloff, American Control Conference, Chicago, IL, June 28-30, 2000.
46. "EquiPSim: Hands-On Training in Semiconductor Equipment and Process Behavior", G. W. Rubloff and A. R. Rose, Sixth Annual Conference/Workshops on Advanced Technological Education in Semiconductor Manufacturing, Lake Buena Vista, FL, July 31-Aug. 4, 2000.
47. "Dynamic Simulation: Guiding Manufacturing from Process Mechanisms to Factory Operations", G. W. Rubloff, AVS 47th National Symposium, Boston, MA, Oct. 2-6, 2000.
48. "Surfaces, Interfaces, and Chemical Reactions in Semiconductor Technology and Manufacturing", AVS 2000 Gaede-Langmuir Award Lecture, G. W. Rubloff, AVS 47th National Symposium, Boston, MA, Oct. 2-6, 2000.
49. "Surfaces, Interfaces, and Chemical Reactions in Semiconductor Technology and Manufacturing", G. W. Rubloff, plenary presentation at Hans Lüth Festkolloquium, Forschungszentrum Jülich, Dec. 1, 2000.
50. "EquiPSim: Hands-On Training in Semiconductor Equipment and Process Behavior", G. W. Rubloff, invited workshop at the 7th Annual Conference/Workshops on Advanced Technological Education in Semiconductor Manufacturing, Austin, TX, July 31- Aug. 2, 2001,.
51. "EquiPSim: Hands-On Training in Equipment & Process Behavior", invited presentation at the 10th Annual Conference of the Technician Performance Improvement Council, Austin, TX, Aug. 2-4, 2001.
52. "Fostering Collaboration Across Centers: CEBSM-UMD ISR Case Study", Farhang Shadman and Gary W. Rubloff, NSF EEC ERC Annual Meeting, Washington, DC, Nov. 3, 2002.
53. "The Changing Face of Semiconductor Technology and Manufacturing", Gary W. Rubloff, plenary presentation at the 40th anniversary of the ITC-irst Centro per la Ricerca Scientifica e Tecnologica, Trento, Italy, Nov. 20, 2002.

54. "[In-situ metrology: the Path to Real-Time Advanced Process Control](#)", Gary W. Rubloff, invited presentation at the Intl. Conf. On Characterization and Metrology for ULSI Technology, Austin, TX, March 24-28, 2003.
55. "[Chemical Sensing and Advanced Process Control in Electronic Materials Processing](#)", Gary W. Rubloff, invited presentation at the 16th International Vacuum Congress, 12th International Conference on Solid Surfaces, and 8th International Conference on Nanometer-Scale Science and Technology, Venice, Italy, June 28 – July 2, 2004.
56. "Universities – Enabling the Nanotech Revolution", Gary W. Rubloff, invited presentation at the Nano2004 Conference, Baltimore MD, Nov. 11-12, 2004.
57. "Evolution of Combinatorial CVD and ALD", Gary W. Rubloff, invited presentation at CoSMIC-NIST Workshop on Data Driven Materials Research, NIST, Gaithersburg, MD, Jan. 24-25, 2005.
58. "Biofabrication: Enlisting Biological Materials for Fabrication", G. F. Payne, L. Q. Wu, H. Yi, W. E. Bentley, J. N. Culver, G. W. Rubloff, and R. Ghodssi, invited, AVS 52nd Nat'l. Symp., Boston, MA, Oct. 31 – Nov. 3, 2005.
59. "BioMicroSystems: Labs and Fabs for Nanotechnology and Manufacturing", Gary W. Rubloff, MEMS Alliance, JHU APL Columbia, MD, April 4, 2006.
60. "Real-time Chemical Sensing for Advanced Process Control in ALD", Gary W. Rubloff, Laurent Henn-Lecordier, and Wei Lei, AVS 6th Int'l. Conf. on Atomic Layer Deposition, Seoul, Korea, July 24-26, 2006.
61. "Combinatorial Chemical Synthesis of Thin Film Materials: CVD and ALD", Gary W. Rubloff, 4th International Workshop on Combinatorial Materials Science and Technology, San Juan, Puerto Rico, Dec. 4-6, 2006.
62. "Chitosan: an Interface between Biology and Microsystems", Reza Ghodssi, Stephan T. Koev, Michael A. Powers, Vlad Badilita, Hyunmin Yi, Li-Qun Wu, William E. Bentley, Gary W. Rubloff, and Gregory F. Payne, invited presentation at Int'l. Conf. on Chitin and Chitosan – Euchis '06, Montpellier, France, Sept. 6-9, 2006 (<http://10thiccc.ema.fr/index.php>).
63. "Controlling Biology at the Nanoscale: Next Generation BioChips for Drug Discovery", Gary Rubloff, Nanomedicine Research Day, University of Maryland Center for Nanomedicine and Cellular Delivery, Baltimore, MD, March 23, 2007.
64. "Is there Vacuum in Nano?", Gary W. Rubloff, Vacuum Technology and Coatings Exposition, Italian Vacuum Society, Milan, Italy, Oct. 6, 2007.
65. "Nanostructures for Energy Devices", Gary W. Rubloff, Research Frontiers and Capability Gaps for Controlling and Designing Functional Materials, Los Alamos, NM, Jan. 20-22, 2009.
66. "ALD – Enabling Nanostructure Devices for Energy", Parag Banerjee, Israel Perez, Erin Cleveland, Laurent Henn-Lecordier, Sang Bok Lee, Gary W. Rubloff et al, 9th Int'l. Conf. on Atomic Layer Deposition 2009, Monterey, Ca, July 19-22, 2009.
67. "Surface chemistry controlling technology: multiscale spatial behavior in atomic layer deposition", Gary W. Rubloff, Laurent Henn-Lecordier, Erin Cleveland, Parag Banerjee, Israel Perez, EuroCVD-17 and CVD XVII, Vienna, Austria, Oct. 4-9, 2009.
68. "ALD Based Metal-Insulator-Metal Nanocapacitors for Energy Storage", P. Banerjee, I. Perez, L. Henn-Lecordier, S. Lee, and G. W. Rubloff, 216th ECS Meeting, Vienna, Austria, Oct. 4-9, 2009.
69. "Chitosan to electroaddress biological components in lab-on-a-chip devices", Y. Liu, X.-W. Shi, E. Kim, L. M. Robinson, C. K. Nye, R. Ghodssi, G. W. Rubloff, W. E. Bentley, G. F. Payne, 11th Int'l. Conf. on Chitin and Chitosan & 8th Asia-Pacific Chitin and Chitosan Symposium, Taipei, Taiwan, June 6-9, 2009.
70. "Scaling Down to Nano: Revolutions in Science and Applications", Gary W. Rubloff, 2010 KAIST-UMD Symposium, Korea Advanced Institute for Science and Technology, Daejeon, Korea, Jan. 18-20, 2010.

71. “Bringing It All Together: a Central Role for the Maryland NanoCenter”, Gary W. Rubloff, First University of Maryland – Hanyang University International Symposium on Advanced Functional Materials, Fusion Technology Center, Hanyang University, Seoul, Korea, Jan. 21, 2010.
72. “Designing Nanostructures for Energy”, Gary W. Rubloff, Center for Integrated Nanotechnologies (CINT) Users Conference, Albuquerque, NM, Aug. 9-11, 2010.
73. “Nanostructures for Energy Storage: What Can We Learn from Imaging and Spectroscopy?”, Gary W. Rubloff, DOE-BES Electron and Scanning Probe Microscopies Contractors Meeting 2010, Warrenton, VA, Oct. 3-6, 2010.