Wednesday, Mar. 27th, Poster Presentation

WE-01, A Versatile Variable Field Module for Asylum Cypher Scanning Probe System
Hongxue Liu[1], Ryan Comes[1], Jiwei Lu[1], Stuart Wolf[1], Jim Hodgson[2], and Maarten Rutgers[2]
[1]Department of Materials Science and Engineering, University of Virginia, Charlottesville, VA 22904
[2]Asylum Research, Santa Barbara, CA 93117

WE-02, Metrology for Organic Monolayers on Cobalt Surfaces
S. Pookpanratana[1], L. K. Lydecker[1,2], H.- J. Jang[1], C. A. Richter[1], and C. A. Hacker[1]
[1]Semiconductor and Dimensional Metrology Division, National Institute of Standards and Technology
[2]College of Nanoscale Science and Engineering, University at Albany

WE-03, Evaluation of Possible Standards for X-Ray Reflectometry
P. DeHaven[1], E. Nolot[2], A. Madan[1], A. Michallet[3], S. Favier[3], D. Le Cunff[3], and R. Duru[3]
[1]IBM Corporation, 2070 Route 1 52, Hopewell Junction, NY USA
2CEA, LETI, MINATEC Campus, 17 rue des Martyrs, 38054 Grenoble Cedex 9, France.
[3]ST Microelectronics - 850, Rue Jean Monnet, 38926 Crolles Cedex, France.

WE-04, Metrology Studies with NEMO, a Multimillion Atom Simulation Tool
G. Klimeck[1], J. E. Fonseca[1], R. Rahman[1], N. Kharche[2,3], G. P. Lansbergen[4], and S. Rogge[5]
[1]Network for Computational Nanotechnology, Purdue University, West Lafayette, IN USA
[2]Department of Physics, Rensselaer Polytechnic Institute, Troy, NY, USA
[3]Brookhaven National Laboratory, Upton, NY, USA
[4]Kavli Institute of Nanoscience, Delft University of Technology, The Netherlands
[5]Centre for Quantum Computation & Communication Technology, School of Physics, The University of New South Wales Sydney, Australia

WE-05, Impact of X-Ray Synchrotron Studies on Nanoelectronics
Jonathan Lang, David Keavney, Volker Rose, Ross Harder, Yuxin Wang, Jon Tischler, Wenjun Liu, Jin Wang, Tao Sun, Steve Heald, Albert Macrander, Lahsen Assoufid, and Jyotsana Lal
X-Ray Science Division, Advanced Photon Source, Argonne National Laboratory, Argonne, IL-60439, USA

WE-06, The MEMS 5-in-1 Test Chips (Reference Materials 8096 and 8097)
Janet Cassard[1], Jon Geist[1], Craig McGray[2], Richard A. Allen[1], Muhammad Afridi[3], Brian Nablo[1], Michael Gaitan[1], and David G. Seiler[1]
[1]Semiconductor and Dimensional Metrology Division, Physical Measurement Laboratory, National Institute of Standards and Technology, Gaithersburg, MD 20899-8120
[2]Modern Microsystems, Inc., 11522 Soward Dr., Silver Spring, MD 20902
[3]Potomac Networks, 1301 Delaware Avenue SW #N716, Washington DC 20024

WE-07, Contact Resonance AFM on TiN-Low-κ Dielectric Films and Patterns
Gheorghe Stan[1,2], Lawrence Friedman[1], Robert Cook[1], Sean King[3], Alan Myers[4], Marc van Veenhuizen[4], and Chris Jezewski[4]
[1]Material Measurement Laboratory, NIST, Gaithersburg, MD
[2]Department of Mechanical Engineering, University of Maryland, College Park, MD

[3]Logic Technology Development, Intel Corporation, Hillsboro, OR
[4]Components Research, Intel Coporation, Hillsboro

WE-08, Adhesion Characterization of SiCN/SiO_2 in BEOL and Thin Si/Passivation For TSV Integration Using Nanoscratch Technique
Guohua Wei, Sam Ireland, Junting Liu-Norrod, Jaspreet Gandhi, Irina Vasilyeva, Anurag Jindal, Rita Klein, Tom Mendiola, Harold Krasinski, David Fillmore, and Shifeng Lu
Micron Technology, Inc., 8000 S. Federal Way, Boise, ID, USA

WE-09, Analysis of Local Stress Distribution in a Metal Gate MOSFET with a New Raman Simulation Method
Tetsuya Tada[1], Vladimir Poborchii[1], Hiroshi Arimoto[1], Akira Satoh[1], Koichi Fukuda[1], Kazuhisa Fujita[2], and Toshihiko Kanayama[1]
[1]National Institute of Advanced Industrial Science and Technology (AIST), 1-1-1 Higashi, Tsukuba, Ibaraki 305-8562, Japan
[2]ASTOM R&D, 2-3-13 Minami, Wako-shi, Saitama 351-0104 Japan

WE-10, Automated Strain Measurement Using Nanobeam Diffraction Coupled with Precession
A. Darbal[1], R. Narayan[1], C. Vartuli[2], G. Lian[2], S. Nicolopoulos[3], and J. K. Weiss[1]
[1]AppFive, LLC, 1095 W. Rio Salado Pkwy, Suite 110, Tempe, AZ 85281, USA
[2]Texas Instruments, 13121 TI Boulevard, Dallas, TX 75243, USA
[3]NanoMEGAS SPRL, Blvd Edmond Machtens 79, B-1080 Brussels, Belgium

WE-11, Optical Dynamic Picocalorimeter for Fast Thermodynamic Measurements
Brian G. Burke and David A. LaVan
Materials Measurement Science Division, National Institute of Standards and Technology, Gaithersburg, Maryland, USA

WE-12, Accuracy and Resolution of Nanoscale Strain Measurement Techniques
Will Osborn[1], Lawrence Freidman[1], Mark Vaudin[1], Steve Stranick[1], Michael Gaither[1], Justin M. Gorham[1], Victor Vartanian[2], and Robert Cook[1]
[1]Materials Measurement Science Division, National Institute of Standards and Technology, Gaithersburg, MD
[2]3D enablement Center Metrology, Sematech, Albany, NY

WE-13, Full Wafer Spatially Resolved Adhesion Testing of ULK-Films Without Sample Preparation
Ude D. Hangen, Andy Romano, and David Vodnick
Hysitron, Inc., 9625 West 76th Street, Minneapolis, MN 55344

WE-14, Design of Test Structure for 3D-Stacked Integrated Circuits (3D-SiCs) Metrology
Lin You, Jung-Joon Ahn, and Joseph J. Kopanski
Semiconductor and Dimensional Metrology Division, National Institute of Standards and Technology, Gaithersburg, MD 20899, USA

WE-15, A New Prognostic Tool for TSV Reliability Assessment Using RF Signals
Chukwudi Okoro[1], Pavel Kabos[1], June W. Lau[1], Jan Obrzut[1], Klaus Hummler[2], and Yaw S. Obeng[1]
[1]National Institute of Standards and Technology, 100 Bureau Drive, Gaithersburg, MD 20899
[2]SEMATECH, 257 Fuller Road, Albany, NY 12203

WE-16, TSV Reveal Height and Bump Dimension Metrology by the TSOM Method: from Nanometer to Micrometer Scale

Victor Vartanian[1], Ravikiran Attota[2], Steve Olson[3], Robert Edgeworth[4], Iqbal Ali[1], Craig Huffman[1], Pete Moschak[3], Harry Lazier[3], and Elizabeth Lorenzini[3]
[1]SEMATECH, Albany, NY, USA
[2]Semiconductor and Dimensional Metrology Division, National Institute of Standards and Technology, Gaithersburg, MD, USA
[3]College of Nanoscale Science and Engineering (CNSE), SUNY Albany, assignee to SEMATECH
[4]Intel assignee to SEMATECH

WE-17, Defect Metrology of Epitaxial Ge on Patterned Si Wafers Using an Inline HRXRD Tool

M. Wormington[1], P.Y. Hung[2], M.-H. Wong[2], C.T. Schamp[3], A. Giladi[4], M. Klinov[4], , W.-E Wang[2], G. Bersuker[2], P. D. Kirsch[2], and R. Jammy[2]
[1]Jordan Valley Semiconductors, Austin, TX 78744, USA
[2]SEMATECH, Albany, NY 12203, USA
[3]Novati Technologies, Austin, TX 78741
[4]Jordan Valley Semiconductors, Migdal Ha'Emek 23100, Israel

WE-18, XPS Tool Matching and Optimization for EUV Optics Contamination Studies

Yudhishthir Kandel[1], Mihir Upadhyaya[1], Gregory Denbeaux[1], and Cecilia Montgomery[2]
[1]College of Nanoscale Science and Engineering, University at Albany, SUNY, 257 Fuller Rd, Albany, NY 12203
[2]SEMATECH, 255 FullerRd, Albany, NY 12203

WE-19, Cross Spectrum Noise Spectroscopy for Deep Level Trap Detection in Nano-Scale Semiconductor Devices

Deepak Sharma[1,2], Sergiy Krylyuk[1,3], Abhishek Motayed[1,3], Qiliang Li[1,2], and Albert V. Davydov[1]
[1]National Institute of Standards and Technology, Gaithersburg,
MD 20899 USA
[2]Department of Electrical and Computer Engineering, George Mason University, Fairfax, VA 22030 USA
[3]IREAP, University of Maryland, College Park, MD 20742 USA

WE-20, Development of High Resolution Topographic Characterization at Die Scale by Interferometry

F. Dettoni[1], C. Beitia[2], S. Gaillard[1], O. Hinsinger[1], F. Bertin[2], and M. Rivoire[1]
[1]STMicroelectronics, 850 rue Jean Monnet, 38926 Crolles, France
[2]CEA, Leti, campus MINATEC, 17, rue des Martyrs, 38054 Grenoble Cedex 9, France

WE-21, Development of Three-Dimensional Raman Spectra Analysis System for TCAD Stress Simulation in FinFET Structures

Hiroshi Arimoto[1], Akira Satoh[1], Vladimir Poborchii[1], Tetsuya Tada[1], Koichi Fukuda[1], Koji Usuda[2], Kazuhisa Fujita[3], and Toshihiko Kanayama[1]
[1]National Institute of Advanced Industrial Science and Technology (AIST), 1-1-1 Higashi, Tsukuba, Ibaraki, Japan
[2]Green Nanoelectronics Center (GNC), AIST West, 16-1 Onogawa, Tsukuba, Ibaraki, Japan
[3]ASTOM R&D, 2-3-13 Minami, Wako-shi, Saitama, Japan

WE-22, Characterization of SiO_2/Si Interface Quality by Photoluminescence

Shiu-Ko Jang Jian[1], Chih-Cherng Jeng[1], Ting-Chun Wang[1], Chih-Mu Huang[1], Ying-Lang Wang[1], and Woo

Sik Yoo[2]
[1]Taiwan Semiconductor Manufacturing Company, Ltd.,
No. 1-1, Nan-Ke Rd., Science-Based Industrial Park, Tainan, 741-44, Taiwan
[2]WaferMasters, Inc., 254 East Gish Road, San Jose, CA 95112, USA