Monday, March 20

Reception and Registration
5:30 PM – 8:30 PM
Ferrante’s Bay View Room, 10th Floor, Monterey Marriott

Tuesday, March 21

Registration and Breakfast
7:30 AM – 8:45 AM

Conference Opening
9:00 AM – 9:15 AM
Welcome and Introduction
David Seiler, NIST, Conference Chair

Keynote Talks
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9:15 AM
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Dan Hutcheson, VLSI Research

10:00 AM
1-2, Beyond CMOS Technologies ................................................................. 27
Aaron Thean, VP, National University of Singapore

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Peter Zeitzoff, GlobalFoundries

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2:45 PM
3-4, Hybrid Metrology and Machine Learning to Make a Virtual Fab from a Lab .................. 41
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Colin Ritchie and Stuart Neches, Advantest

Poster Session (with Drinks and Hors d’oeuvres)
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Renjie Chen1, Katherine L. Jungjohann2, William M. Mook2, John Nogan2, and Shadi A. Dayeh1,3,4
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2Sandia National Laboratories, Albuquerque, NM
3Materials Science and Engineering Program, Univ. of CA San Diego, La Jolla, CA
4Dept of NanoEngineering, Univ. of CA San Diego, La Jolla, CA

002, Contribution of Luminescence Techniques for the Characterization of Materials and Devices at the Nanoscale
C. Licitra1, N. Rochat1, N. Gambacorti1, S. David2, G. R. Muthinti3, F. Olivier1, A. Faour4, and A. Chabli4
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2Univ. Grenoble Alpes \ CNRS, LTM, Grenoble, France
3IBM Research, Albany, NY
4Univ. Grenoble Alpes, INES, F-73375 Le Bourget du Lac, France

003, Seeing the Invisible: Metrology for Extended Defects in Beyond-Silicon Semiconductor Device Structures
Andreas Schulze1, Anna Prokhodtseva2, Tomas Vystavel2, David Gachet3, Jean Berney1, Roger Loo1,
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1Imec, Leuven, Belgium
2Mat. & Struct. Analysis, Thermo Fisher Scientific, Czech Republic
3Attolight AG, Lausanne, Switzerland
4KU Leuven, Dept. of Physics and Astronomy, Leuven, Belgium

004, High Brightness MetalJet X-Ray Technology for Semiconductor Process Metrology
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Excillum AB, Torshamngatan 35, 164 40 Kista, Sweden

005, Nanoelectronics Dimensional Metrology: Understanding the Differences Between Secondary and Backscattered Electron Imaging
Michael T. Postek, András E. Vladár, and John S. Villarrubia
National Institute of Standards and Technology (NIST), Gaithersburg, MD

006, High-Throughput X-ray CD Metrology
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Lyncean Technologies, Inc., Fremont, CA

007, Electrical Property Characterization of Vacuum-Channel Nanoelectronics Via Scanning Capacitance Microscopy
Jin Woo Han
NASA Ames Research Center, Moffett Field, CA

008, Assessing Scanning Electron Microscopy Stereophotogrammetry Algorithms with Virtual Test Samples
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009, Development of a Nanometer Probe Helium Ion Microscope with Time of Flight Element Identification
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1Rutgers University, Piscataway, NJ
2Ionwerks Inc., Houston, TX

010, Subsurface Nano-Imaging Using Torsional Scanning Probe Microscopy
Violeta Navarro, Maarten H. van Es, and Hamed Sadeghian
TNO, Stieltjesweg 1, 2628 CK Delft, The Netherlands

011, Engineering Ferroelectric Polymer Memories: Confounding Factors Which Obscure Polarization
Vasileia Georgiou, Dmitry Veksler, Jason P. Campbell, Dimitris E. Ioannou, and Kin P. Cheung
1National Institute of Standards and Technology (NIST), Gaithersburg, MD
2Department of Electrical and Computer Engineering, George Mason University, Fairfax, VA

012, Nanoscale Chemical Imaging with Infrared Photo-Induced Force Microscopy
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013, ALPro System: An Electrical Profiling Tool for Ultra-Thin Film Characterization
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Active Layer Parametrics, Inc., Los Angeles, CA

014, Precision of Micro Hall Effect Measurements in Scribe Line Test Pads
Maria-Louise Witthöft, Frederik W. Østerberg, Janusz Bogdanowicz, Andreas Schulze, Wilfried Vandervorst, Henrick H. Henrichsen, Peter F. Nielsen, Ole Hansen, and Dirch H. Petersen
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2IMEC, Leuven, Belgium
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4CAPRES A/S, Scion-DTU, Lyngby, Denmark

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1JILA and Department of Physics, University of Colorado, Boulder, CO
2Intel Corporation, Hillsboro, OR
3Center for X-Ray Optics, Lawrence Berkeley National Laboratory, Berkeley, CA

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California State Polytechnic University, Pomona, CA

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2Carl-Zeiss-Microscopy GmbH, D-73447 Oberkochen, Germany
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\textsuperscript{2}Georgia Institute of Technology, Atlanta, GA  
\textsuperscript{3}University of California, Los Angeles, CA

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Department of Electrical and Computer Engineering, Davis, CA

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\textsuperscript{2}Materials Science and Engineering, University of Texas at Dallas, Richardson, TX

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\textsuperscript{2}Korea Advanced Institute of Science and Technology, Daejeon, Korea
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TD Research, GLOBALFOUNDRIES USA, Albany, NY

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2Bruker Semi Division, Santa Barbara, CA
3Bruker JV UK Ltd., Durham, UK

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2Intel Corporation, Hillsboro, OR

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WaferMasters, Inc., San Jose, CA

050, Optical Critical Dimension Metrology for the 7 nm Node and Beyond Using a Near-Field Metalens
Jinlong Zhu1,2, Yating Shi2, Shiyuan Liu2, and Lynford L. Goddard1
1Photonic Systems Laboratory, University of Illinois at Urbana-Champaign, Urbana, IL
2State Key Laboratory of Digital Manufacturing Equipment and Technology, Huazhong University of Science and Technology, Wuhan, China

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Jinlong Zhu, Sanyogita Purandare, and Lynford L. Goddard
Photonic Systems Laboratory, Department of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, Urbana, IL

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1Carl Zeiss Microscopy, LLC, Ion Microscopy Innovation Center, Peabody, MA
2Advanced Instrumentation for Ion Nano-Analytics (AINA), MRT Department, Luxembourg Institute of Science and Technology (LIST), Belvaux, Luxembourg

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A.F. Bello, Jusang Lee, Shinichiro Kakita, and Nicholas Pieniazek
Advanced Module Engineering, GLOBALFOUNDRIES, Malta, NY

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M.J.P. Hopstaken1, M. Saccomanno1, M. Ebrish1, and O. Gluschenkov2
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2IBM Research Albany Nanotech Center, Albany, NY
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$^1$Department of Physics, New Mexico State University, Las Cruces, NM
$^2$Department of Electrical and Computer Engineering, University of Delaware, Newark DE

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$^2$Materials Science and Engineering Program, University of CA San Diego, La Jolla, CA
$^3$Dept of NanoEngineering, Univ. of CA San Diego, La Jolla, CA

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