ASMC 2002 - CALL FOR PAPERS
The 13th Annual IEEE/SEMI Advanced Semiconductor Manufacturing Conference and Workshop
April 30 - May 2, 2002 - Seaport Hotel - Boston, Massachusetts, USA

Semiconductor Equipment and Materials International (SEMI), IEEE Electron Devices Society (EDS), and IEEE Components, Packaging, and Manufacturing Technology Society (CPMT) invite semiconductor manufacturing professionals at all levels of experience from around the world to submit abstracts to ASMC 2002. ASMC continues to be one of the leading technical conferences for discussing solutions that improve the semiconductor manufacturing process. For equipment and materials suppliers, and device manufacturers, ASMC provides unparalleled opportunities for semiconductor professionals to network and learn the latest in manufacturing strategies and methodologies to achieve manufacturing excellence. Abstracts are peer-reviewed and are selected based on a clear outline of problem, analysis, solution/results and conclusion. Presentations on original, non-commercial and non-published works are being solicited in the following areas:

ADVANCED METROLOGY:
New technology techniques and methods; Who will pay; In-situ metrology; Metrology in process control; Measuring critical dimensions; Advances in metrology; Measuring overlay; Metrology of new materials (high-k, gate stacks, copper, low-k, 157nm lithography).

ADVANCED PROCESSES:
Device isolation techniques; Process integration problems and solutions; Process chemistry; Process characterization; Process monitoring; Advanced etch processing; BEOL interconnect advances; Copper damascene interconnect; Chemical mechanical polishing (CMP); Automation advancements; Process control techniques through process monitoring; Low-K dielectrics; High-K and advanced gate and capacitor materials; SOI; Silicon germanium.

CONTAMINATION FREE MANUFACTURING (CFM):
Ultraclean technologies; Clean materials; Mini environments; Environmental factors; Carrier influence.

COST REDUCTION:
Cost management; Cost of ownership; Benefit of ownership; Justification/ROI for capital expenditures; Supplier/Customer continuous improvement programs.

EQUIPMENT RELIABILITY & PRODUCTIVITY:
Cost of ownership; Total productive manufacturing; Equipment SPC; Advanced process control techniques (In-situ sensors, feed-forward and feed-back Run-to run control, FDC - 0 fault detection); Efficiency/productivity measurements.

FACTORY AUTOMATION:
WIP (work in progress) management; Information management; Distribution; Automation; Logistics; Factory modeling (capacity, throughput, utilization, costing ABM); Equipment modeling; Data extraction and integration.

FACTORY DYNAMICS:
Continuous improvement processes; Qualification strategies; Extending current capabilities; Manufacturing line performance; Methods to determine capacity components and magnitudes; Capacity detractors and analyses of causes for detractors and cycle time losses (tool, operator, WIP, etc); Cycle time and fabricator load/capacity relationships; Activities undertaken to reduce capacity detractors; Deployment and implementation of work method changes into manufacturing.

300 MM MANUFACTURING:
300 mm start ups -- advantages, challenges and gains; 300 mm fab conversions; Fab design; Equipment, processes and materials.

MEMSTECHNOLOGY:
New Applications for MEMS (Inertial, Optical, Biomedical); Novel materials and their uses; Unique etch techniques (Deep Si, Anisotropic Si, dielectrics); Deposition for MEMS applications.

PHOTOLITHOGRAPHY CHALLENGES AND ADVANCES:
0.25 to 0.10 micron manufacturing issues/actions; 193 nm manufacturing introduction; Improved productivity in lithography; Advanced photomask technology; Deployment strategies; Phase shift and optical proximity correction advances in manufacturing.

TIME-TO-MARKET:
Design for manufacturability (DFM); Technology transfer; Quality functional Deployment (QFD); Early manufacturing involvement; Theory of constraints (TOC).

WORKFORCE ISSUES:
Educating tomorrow's work force; Self Directed Work Teams; Training strategies; Cross-training; Work schedules; Next generation fab requirements; Multiculturalism in the work place; Management of daily/weekly engineering meetings in a global environment.

YIELD ENHANCEMENT:
Yield modeling; Process defect reduction; Defect inspection methodologies; Defect reduction in materials; Design for manufacturability; Product Yield Risk Assessment (PYRA); Wafer inspection tools and techniques; Wafer level reliability (WLR); Defect-to-yield correlations; Failure analysis; In-line inspection; Intelligent data analysis; Systematic Yield Problems.
Papers co-authored by a user and a supplier and/or academia, that address practical solutions to real problems are highly encouraged. Abstracts are welcome from all those involved in semiconductor manufacturing including: merchant and captive IC manufacturers, equipment and materials suppliers, academia and research institutions. Prospective authors are requested to submit a 1-2 page abstract, with supporting figures and tables, including title, author(s), company affiliation(s), contact information and five key words describing the work. Abstracts must be sent electronically as a pdf or MS Word file. A 25-word biography of the principal author is requested. Due date for abstracts is September 3, 2001. Authors selected to present at the conference will be notified in late October. Final camera-ready manuscripts and copyright forms must be sent electronically by January 31, 2002 to be published in the ASMC 2002 proceedings (materials not received by this date will not be published).

WORKSHOP
An interactive workshop will be organized in conjunction with the conference. Suggested topics include:

- 193 nm photolithography integration issues and outlook
- Customer requirements/ supplier capabilities
- Workforce issues

Send abstracts and workshop proposals to:

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Please provide the information below, including abstract and biography. Reference area of interest addressed in abstract. One confirmation letter will be sent to the contact person only:

Contact Name:_______________________________________________________________________________________________

Company:___________________________________________________________________________________________________

Address (including mail stop): ___________________________________________________________________________________

City/ State/ Province:__________________________________________________________________________________________

Country and Postal Code:_______________________________________________________________________________________

Telephone/ Fax/ E-mail:________________________________________________________________________________________