	Monday, December 19, 2011			
09:00-10:00	Registration			
10:00-11:15	Inauguration (Venue-Auditorium)			
11:15-11:45	HIGH TEA			
11:45-13:00	FIRST Dr. S. C. JAIN MEMORIAL LECTURE Plenary 1 (Venue: Auditorium) Chair: *Vikram Kumar* — **Subramanian S. Iyer** — Scaling in the Third Dimension-Prospects for Silicon-based Interposer and 3D Integration			
13:00-14:00	LUNCH			
Time	**VENUE 1 (L-16)**	**VENUE 2 (L-13)**	**VENUE 3 (L-15)**	**VENUE 4 (L-17)**
	NT-1	***OP-1***	***OE-1***	***HF-1***
Session Chair	*Vinod Tewary*	*Utpal Das*	*C. Daniel Frisbie*	*Ichiro Omura*
14:00	**Ranjit Pati** Molecular Switch Exhibiting Negative Differential Resistance Behavior: Understanding the Underlying Physics	**Sanjay Krishna** The Infrared Retina: Bioinspired Sensing Using Nanoscale Superlattices and Quantum Dots	**Christian Kloc** Control of Defects and Dopants in Single Crystals of Organic Semiconductors	**Shinichi Nishizawa** Wafer Requirement for Future Power Electronics
14:30	**Manfred Reiche** Characterization of Dislocation-Based Nanotransistors	**P. Chakrabarti** Ultraviolet Photodetectors based on Metal/ZnO thin-film Contacts	**Amlan J. Pal** Materials to Devices: From Organic Semiconductors to Organic Electronics	**Merlyne De Souza** RF Power Amplifier: Pushing the Boundaries of Performance Versus Cost
15:00	**Navkanta Bhat** Graphene Transistors for CMOS Applications: Opportunities and Challenges	**Siddhartha Ghosh** Impact Ionization Engineered Type-II Strain Layer Superlattice Avalanche Photodiodes for Linear Mode Photon Counting Applications	**Ioannis Kymissis** Photocurrent and Noise Analysis as Alternative Approaches to Understanding OFET Behavior	**Praveen Shenoy** High Voltage Superjunction Technology Development Trends
15:30	**R. G. Vaidya** (NT-O.01)	**Pallabi Pramanik** (OP-O.01)	**Lay-Lay Chua** Structure and Transport Properties of π-Stackable Semi-crystalline Polythiophene Semiconductor	**K. C. Praveen** (HF-O.01)
15:45	**N. S. Sankeshwar** (NT-O.02)	**Tania Das** (OP-O.02)		**Nayan Patel** (HF-O.02)
16:00-16:20	TEA-COFFEE			
16:20-17:05	Plenary 2 (Venue: L-17) Chair: *Philip Klipstein* — **C. Jagadish** — III-V Semiconductor Nanowires for Optoelectronic Device Applications			
Time	**VENUE 1 (L-16)**	**VENUE 2 (L-13)**	**VENUE 3 (L-15)**	**VENUE 4 (L-17)**
	NT-2	***OP-2***	***OE-2***	***HF-2***
Session Chair	*G. Mathad*	*P. Chakrabarti*	*Lay-Lay Chua*	*Shankar Madathil*
17:10	**Chacko Jacob** Growth of Multiwall Carbon Nanotubes – Role of the Catalyst	**S. B. Krupanidhi** Carrier Transport in InN Based Heterojunctions Grown by Plasma Assisted Molecular Beam Epitaxy	**Subhasis Ghosh** Unification of Charge Carrier Transport in Small Organic Molecule Based Diode and Field Effect Transistors	**Ichiro Omura** IGBT: History, Principle and the Future
17:40	**R. Prajesh** (NT-O.03)	**Sunanda Dhar** Melt Growth of $GaAs_{1-x}N_x$ ($x \leq 0.01$) Epitaxial Layers for Photoconductive Devices	**Th. Birendra Singh** Charge Transport and Recombination in Small Molecule Solar Cells	**Gourab Majumdar** Power Device Technologies Catering for Efficient Energy Conversion
17:55	**A. Rathi** (NT-O.04)			
18:10	**Mukesh Singh** (NT-O.05)	**Akshay Agarwal** (OP-O.03)	**Ramesh Navan** (OE-O.01)	**Prashant Singhal** (HF-O.03)
18:30-19:15	Plenary 3: (Venue: L-17) Panel Discussion: Semiconductors 2021-Shape of the Future			
19:30	DINNER			

	Tuesday, December 20, 2011			
09:00	**Plenary 4 (Venue: L-17)** **Chair: *Christian Kloc***	**Ananth Dodbalapur**	Charge Transport in Polymer and Amorphous Oxide Transistors	
09:45	**Plenary 5 (Venue: L-17)** **Chair: *Ritu Sodhi***	**H. Ohashi**	Advanced Power Devices for Next Generation Power Electronics	
10:30-11:00	**TEA-COFFEE**			
Time	**VENUE 1 (L-16)**	**VENUE 2 (L-13)**	**VENUE 3 (L-15)**	**VENUE 4 (L-17)**
	NT-3	***OP-3***	***OE-3***	***HF-3***
Session Chair	***M. Husain***	***B. M. Arora***	***Ananth Dodbalapur***	***Ritu Sodhi***
11:00	**Vinod Tewary** Multiscale Modeling of Thermoelastic Characteristics of Graphene	**Devki N. Talwar** Physics and Applications of Novel Dilute III-V Nitrides	**David Cahen** Are Proteins Biomolecular Wires?	**Tirthajyoti Sarkar** Optimized Shielded-gate Trench MOSFET Technology for High-frequency, High-efficiency Power Supplies
11:30	**Prabhakar Misra** Numerical Modeling and Simulation of Nanobubble Formation on Nanomaterial Substrates and Adsorption of Rare Gas Atoms in Carbon Nanotubes	**Philip Klipstein** MWIR Photodetectors at SCD with High Operating Temperatures	**K. L. Narasimhan** Can We Get Information Regarding Disorder Broadening in Organic Semiconductors from Capacitance Spectroscopy?	**Sukhendu Deb Roy** New Generation MOSFET Design for Battery Powered Portable Applications
12:00	**Priya Vashishta** Multimillion Atom Simulations of Reactive Nanosystems	**Ramesh K. Sonkar** (OP-O.04) **Jai Verma** (OP-O.05)	**Dinesh Kabra** Recent Advancement in Hybrid Optoelectronics	**Philip Mawby** 3C-Silicon Carbide Epitaxy a Novel Approach to Epitaxial Growth for Power Devices
12:30	**B. N. Chowdhury** (NT-O.06)	**Ashish Arora** (OP-O.06)	**K. Sudheendra Rao** (OE-O.02)	**Dipankar Saha** GaN/AlGaN Based High Electron Mobility Transistors
12:45	**Digbijoy Nath** (NT-O.07)	**S. Munawar Basha** (OP-O.07)	**Farman Ali** (OE-O.03)	
13:00-14:00	**LUNCH**			
14:00-16:00	**Poster Session-I (Convocation Ground)** **Chair: *B. M. Arora***	**Nanotechnology; Optoelectronics; and High Frequency/ Power Device**		
15:30-16:00	**TEA-COFFEE**			
16:00-16:45	**Plenary 6 (Venue: L-17)** **Chair: *C. Wolden***	**Paul Berger**	Quantum Tunneling Electronics for Ultra-low Power Scaled CMOS	
Time	**VENUE 1 (L-16)**	**VENUE 2 (L-13)**	**VENUE 3 (L-15)**	**VENUE 4 (L-17)**
	NT-4	***OP-4***	***OE-4***	***HF-4***
Session Chair	***Priya Vashishta***	***Samit K. Ray***	***Ioannis Kymissis***	***Praveen Shenoy***
16:50	**Dhananjay Kumar** Pulsed Laser Deposition Assisted Fabrication of Nano-Dimensional Metallic Particles and Wires for Magnetic and Biological Applications	**Anirban Bhattacharya** AlGaN based Quantum Wells and Quantum Dots for Ultraviolet Emission	**Ali Moazzam** Printed Paper Photovoltaics	**Dhrubesh Biswas** Fabrication and Integration of III-V Hetero-Devices on Silicon Substrate
17:20	**S. Maikap** Germanium Based Materials for Low Power Nanoscale Resistive Switching Memory Applications	**R. Singh** Multiphonon Resonant Raman Scattering in Nonpolar GaN Epitaxial Layers	**C. Daniel Frisbie** New Materials for Printed Polymer Electronics	**Ranbir Singh** Ultra-Fast/High Voltage SiC Thyristor-based Devices
17:50	**G. Mathad** Advances in Patterning Technologies for Nano-IC's	**Rupak Bhattacharya** (OP-O.08)	**S. P. Singh** Device Physics of High Performing Organic Field Effect Transistor and Organic Photovoltaic Devices Based on PDPP-TNT Polymer	**D. S. Rawal** (HF-O.04)
18:05		**Sumi Bhuyan** (OP-O.09)		**Souvik Kundu** (HF-O.05)
18:20	**O. S. Panwar** (NT-O.08)		**Aarti Mehta** (OE-O.04)	**Satyaki Ganguly** (HF-O.06)
19:30	**BANQUET**			

	Wednesday, December 21, 2011			
09:00	**Plenary 7 (Venue: L-17)** **Chair: *K. L. Narasimhan***	**David Cahen**	Assessing Possibilities for Solar Cells by Identifying Basic Limitations to PV Performance	
09:45	**Plenary 8 (Venue: L-17)** **Chair: *P. Kathirgamanathan***	**G. Rajeswaran**	Advances in Solid State Lighting	
10:30-11:00	**TEA-COFFEE**			
Time	**VENUE 1 (L-16)**	**VENUE 2 (L-13)**	**VENUE 3 (L-15)**	**VENUE 4 (L-17)**
	MS-1	***OP-5***	***DL-1***	***PV-1***
Session Chair	***Aloke K. Dutta***	***Sunanda Dhar***	***G. Rajeswaran***	***David Cahen***
11:00	**Ken Uchida** Thermal-Aware Device Design of Nanoscale MOS Transistors	**Samit K. Ray** Light Emission Characteristics of Undoped and Rare Earth Doped Germanium Nanocrystals	**P. Kathirgamanathan** OLEDs for Displays and Lighting: Materials, Processing and Production	**Hari Upadhyaya** Dye-Sensitised Solar Cells: An Approach towards Low Cost, Energy Generation
11:30	**M. B. Patil** Modeling and Parameter Extraction of MOSFETs at 77K	**S. Chakrabarti** Molecular Beam Epitaxy of Quaternary (InAlGaAs) Capped In(Ga)As/GaAs Quantum Dot heterostructure and devices	**Tukaram Hatwar** Advances in White OLED Technology for Full-color AMOLED Displays and Solid-state Lighting Applications	**B. M. Arora** III-V Multi-junction Solar Cells: Materials, Devices and Characterization
12:00	**Ashwin Seshia** The Design of high-Q Silicon MEMS Oscillators	**Shivaparasd** Epitaxial Growth and Nanostructure Formation on c-Sapphire and Silicon Surfaces	**Madhusudan Singh** Organic Light Emitting Diodes – Promise, Past Results and Future Trends	**J. Woolridge** (PV-O.01) **P. K. Basu** (PV-O.02)
12:30	**Kanishka Majumder** (MS-O.01)		**Deepak Loomba** Manufacturing Fab for Solid State Lighting in India	
12:45	**Pujarini Ghosh** (MS-O.02)			
13:00-14:00	**LUNCH**			
14:00-16:00	**Poster Session-II (Convocation Ground)** **Chair: *Paul Berger***	**MEMS & Sensors; Modeling & Simulation; Organic Electronics; Displays & Lighting; Photovoltaics and VLSI & ULSI Technology**		
15:30-16:00	**TEA-COFFEE**			
Time	**VENUE 1 (L-16)**	**VENUE 2 (L-13)**	**VENUE 3 (L-15)**	**VENUE 4 (L-17)**
	MS-2	***ME-1***	***DL-2***	***PV-2***
Session Chair	***Ken Uchida***	***Harsh Harsh***	***R. K. Jain***	***Monica Katiyar***
16:00	**S. Karmalkar** Current-voltage Characteristics of Nanowire Junctions	**Ajay Agarwal** Highly Reproducible Nanowires & Nano-Gap based Sensors	**T. N. Ruckmongathan** Bit Slice Addressing of Fast Switching Bi-stable Displays and Multi-bit Slice Addressing of State of the Art Active Matrix LCDs	**Lars Müller-Meskamp** Alternative Transparent Electrodes for Organic Photovoltaics: PEDOT:PSS, Ag Nanowires, and Carbon Nanotubes
16:30	**Kaustav Banerjee** Graphene Based Green Electronics	**Ashwin Seshia** Microfabricated Electro-Acoustic Biosensors	**Pani Kumar** Backlight Dimming Techniques for Large Area LCD TVs	**Christine Luscombe** Creating Polymer Nanostructures in Organic Photovoltaic Devices
17:00	**Ninad Sathaye** (MS-O.03)	**V. K. Jain** Detection of Explosives Using MEMS and Nanotechnology	**Pankaj Kr. Uttwani** (DL-O.01)	**Achintya Dhar** Organic Photovoltaics: Paths to Achieve Higher Efficiency
17:15	**Monika Bhattacharya** (MS-O.04)			
17:30-17:45	**TEA-COFFEE**			
Time	**VENUE 1 (L-16)**	**VENUE 2 (L-13)**	**VENUE 3 (L-15)**	**VENUE 4 (L-17)**
	MS-3	***ME-2***		***PV-3***
Session Chair	***M. B. Patil***	***Ashwin Seshia***		***Lars Müller-Meskamp***
17:45	**Roberto Suaya** Some Results Pertaining Electromagnetic Characterization and Model Building for Passive Systems Including TSVs, for 3-D IC's Applications	**Amit Agarwal** Flow Boiling in Microchannel with Application to Electronic Cooling		**Suresh Chand** Polymer Photovoltaics- For Bright Future
18:15	**R. S. Gupta** TCAD Based Performance Assessment of Dual Material Gate AlGaN/GaN HEMT	**Rudra Pratap** Design of High-Q Dynamic MEMS Sensors		**Ashish Bhatia** (PV-O.03)
18:30				**Sumita Mukhopadhyay** (PV-O.04)
18:45	**Arvind Ajoy** (MS-O.05)			**Asha Yadav** (PV-O.05)
19:30	**CULTURAL EVENING FOLLOWED BY DINNER**			

	Thursday, December 22, 2011			
09:45	**Plenary 9 (Venue: L-17)** **Chair: *S. Ashok***	**C. Wolden**	Photovoltaic Manufacturing: Present Status, Future Prospects and Research Needs	
10:30-11:00	**TEA-COFFEE**			
Time	**VENUE 1 (L-16)**	**VENUE 2 (L-13)**	**VENUE 3 (L-15)**	**VENUE 4 (L-17)**
	MS-4	***ME-3***	***VT-1***	***PV-4***
Session Chair	***S. Karmalkar***	***V. K. Jain***	***S. Qureshi***	***S. Ashok***
11:00	**Sayeef Salahuddin** Negative Capacitance in a Ferroelectric-Dielectric Heterostructure for Ultra Low Power Computing	**Sudhir Chandra** Integration of MEMS with Nanostructured Metal-oxide Materials for Improved Sensors for Volatile Organic Compounds	**Ashok Srivastava** Carbon-Based Electronics - Transistors and Interconnects for Nano Scale Integration	**Satyendra Kumar** Technological Challenges in PV: From Materials to Systems
11:30	**W. H. A. Schilders** Numerical Simulation of Organic and Inorganic Semiconductor Devices	**Amita Gupta** Recent Developments in Deformable Mirrors based on MEMS Technology	**Abhishek Dixit** Measurement and Analysis of Source/Drain Contact Resistance in FinFETs	**Rajeev Jindal** CIGS Solar Cells – An Industrial Perspective
12:00	**M. P. Ananthram** Electrical Transport in Biomolecules	**Sarul Malik** (ME-O.01)	**Anil Kottantharayil** Junctionless Field Effect Transistor: Challenges and Prospects in the Deca Nanometer Regime	**S. Bhattacharya** Temperature Effects on Electrical Parameters of Large Area, Silicon Hetero Junction Solar Cells
12:15		**Saakshi Dhanekar** (ME-O.02)		
12:30	**Ramakrishna Rao** Design and Modeling of High Voltage (>1kV) SiC MOSFETs		**Anindita Das** (VT-O.01)	
12:45			**Ankur Arya** (VT-O.02)	
13:00-14:00	**LUNCH**			
Time	**VENUE 1 (L-16)**	**VENUE 2 (L-13)**	**VENUE 3 (L-15)**	**VENUE 4 (L-17)**
	MS-5	***ME-4***	***VT-2***	***PV-5***
Session Chair	***T. N. Ruckmongathan***	***S. C. Agarwal***	***Ashok Srivastava***	***S. S. K. Iyer***
14:00	**Mohit Bajaj** Challenges in Modeling 22nm and Beyond Devices	**Vasuda Bhatia** Decorating Multi Walled Carbon Nano Tubes with Palladium and Nickel Nanoparticles and Their Applications in Chemical, Gas and Bio-Sensing	**S. Barai** Optical Lithography Process Development and Process Variability Effects on Printability	**Ashish Garg** Lifetime and Reliability Issues in Organic Solar Cells
14:30	**M. Govindrajan** Compact Modeling of SOI Technologies for RF Front-End Module Applications	**M. Manivannan** MEMS Challenges in Haptics	**R. K. Nahar** (VT-O.03)	**Gangadhar Rao** Manufacturing Ecosystem for Photovotaics and Microelectronics in India
14:45			**Sandipan Mallik** (VT-O.04)	
15:00		**M. Prasad** (ME-O.03)	**Abhishek Misra** (VT-O.05)	**Chandan Banerjee** (PV-O.06)
15:30	**CLOSING SESSION: Poster Awards and Feedback (Venue: L-17)**			
16:00	**HIGH TEA**			