M. Saif Islam

Department of Electrical and Computer Engineering
University of California, Davis
Davis, CA 95616

Phone: (530) 754-6732
sislam@ucdavis.edu
https://faculty.engineering.ucdavis.edu/islam/

EDUCATION

2001 **Ph.D. in Electrical Engineering**, University of California, Los Angeles, CA
1999 **M.S. in Electrical Engineering,** University of California, Los Angeles, CA
1996 **M.Sc. in Physics**, Bilkent University, Ankara, Turkey
1994 **B.Sc. in Physics** with High Honors**,** Middle East Technical University, Turkey

APPOINTMENTS

2017-2020: Professor and Chair, Department of ECE, University of California, Davis, CA
2011-Present: Professor, Department of ECE, University of California, Davis, CA
2012-2015: Director, Center for Nano and Micro Manufacturing (CNMM)
2011-2013: Professor and Vice Chair, Department of ECE, University of California, Davis, CA
2008-2011: Associate Professor, Department of ECE, University of California, Davis, CA
2004-2008: Assistant Professor, Department of ECE, University of California, Davis, CA
2005- Present: Affiliate Faculty, Berkeley Sensors & Actuator Center (BSAC), UC Berkeley
2002-2003: Adjunct Assistant Professor, Department of EE San Jose State University, CA
2002-2004: Post-doctoral Research Fellow, Quantum Science Research, Hewlett-Packard Labs
2001-2002: Senior Scientist, Advanced Optical Devices, Gazilllion Bits, Inc., San Jose, CA
2000-2001: Staff Scientist, Optical Network Research, JDS Uniphase Corporation/SDL Inc.

AFFILIATIONS

2016- present: Graduate Group Member, Material Science and Engineering, UC Davis
20011-Present: Member, Davis Microwave and Millimeter Wave Research Center, UC Davis
2005- 2017: Member Faculty, The California Solar Energy Collaborative (CSEC), UC Davis
2008- 2012: Member, National Institute for Nano Engineering, Sandia National Laboratories
2005- 2009: Graduate Group Member, Chemical Engineering and Material Science, UC Davis
2004- Present: Member, Nanomaterials in the Environment, Agriculture and Technology, (NEAT)
2004- Present: Faculty Researcher, The Center for Information Technology Research in the Interest of Society (CITRIS), University of California

HONORS AND AWARDS

- **Elected Fellow** of Professional Societies:
    a. Institute of Electrical and Electronics Engineers (**IEEE**)
    b. American Association for the Advancement of Science (**AAAS**)
    c. Optical Society of America (**OSA**)
    d. National Academy of Inventors (**NAI**)
    e. Society of Photo-Optical Instrumentation Engineers (**SPIE**)
- **Best Ph.D. Dissertation Mentor:** Nano-bridges for the Fabrication of 3D Gate-All-Around Field Effect Transistors, 2014

- **Outstanding Mid-Career Research Faculty Award,** College of Engineering, University of California Davis, 2012
- **Academic Senate Distinguished Teaching Award:** Highest Teaching Honor University of California Davis Bestows on its Faculties, 2010
- **IEEE Best Paper Award**, IEEE ICECE, Dhaka, Bangladesh, 2010
- **IEEE Outstanding Instructor of the Year**, Electrical & Computer Engineering, 2009 & 2005
- **Outstanding Junior Faculty Award**, College of Engineering, UC Davis, 2006
- **NSF Faculty Early Career (CAREER) Development Award** (2006)
- **Best Poster Award:** University of California Conference on Nanowires, Nanotubes and Nanocables Array and Their Applications, May 5, 2006
- **IEEE-LEOS Graduate Fellowship 2000:** IEEE Laser and Electro-Optic Society: (12 fellowships offered worldwide)
- **Chancellor's Dissertation Year Fellowship:** University of California, **2000-01**

RESEARCH INTEREST: Material Growth and Integration, Device Design, Fabrication and System Integration

- **Ultra-fast Photonics** for detection**,** communication, silicon opto-electronic integrated circuits for Datacom, LIDER, inter-chip and intra-chip communication systems.
- **Nanosensors and Detectors** enabled by electrons, photons and charged particles for chem-biological, radiation, gas, pressure, temperature, acceleration and motion sensing.
- **Nanoengineering for** high-throughput incorporation of low-dimensional nanostructured materials and devices with conventional circuit elements, employing processes compatible with mass-manufacturing.
- **Nanomanufacturing:** The development of massively parallel synthesis and integration processes for 0D and 1D nano-structures (such as semiconductors, metals, oxides, molecules etc.) for potential applications in nanoscale electronics, photonics, energy conversion, high density energy storage, bio-chemical sensors, memory, logic, MEMS/NEMS devices, 3D device/chip integration, substrate-less devices and circuit fabrication.
- **Nanomaterials for** sensing, computing, energy harvesting and storage (synthesized via homo and heterogeneous synthesis).

CONFERENCE CHAIRING/CO-CHAIRING & JOURNAL EDITORIAL BOARDS

Journal Editorial Board: Current Editorial Services

- **Senior Editor:**
  - IEEE Access, 2020-present
- **Associate Editor:**
  - IEEE Photonic Journal, 2015-present
  - Nano Communications, 2011-present
- **Past Journal Editorial Services**
  - **IEEE Access** (Associate Editor), 2016-2020

- **IEEE Transaction on Nanotechnology** (Associate Editor) 2014-17
- **Science of Advanced Materials** (Editorial Board) 2010-15
- **Nano Communications** (Editorial Board) 2011-15
- **Nanoscience and Nanotechnology Letters** (Editorial Board) 2008-12
- **J of Nanophotonics:** Special Issue Nanophotonics for Comm. (Guest Editor) 2007-08.
- **Applied Physics A**. Special Issue Dedicated to Metamaterials (Guest Editor) 2006-07
- **Int. J. of Nanotechnology**. Special issue on Nanosensors (Guest Editor), 2006-07

- **Conference Chair/Co-Chair:** (Current and Past):
  - **Micro-Nanotechnology Sensors, Systems, and Applications, SPIE** 2009-19
  - "Low-Dimensional Materials and Devices, SPIE 2014-2020
  - **Nanoepitaxy: Homo and Heterogeneous Synthesis, Characterization and Device Integration of Nanomaterials, SPIE** 2009-2014.
  - **Nanosensing Materials, Devices and Systems, SPIE** 2004, 2005, 2006, 2007.
  - **Nanomaterial Synthesis and Integration for Sensors, Electronics, Photonics, and Electro- Optics, SPIE** 2005, 2006, 2007.
  - **Nanophotonics for Communication: Materials, Devices and Systems, SPIE** 2006-07.
- **Symposium Co-organizer: Material Research Society (MRS):**
  - Nanocontacts–Emerging Materials and Processing for Ohmicity and Rectification, 2012
  - Workshop on Nanocontacts and Nanointerconnects, 2010.
  - Negative Index Materials: From Microwave to Optical, 2006.
- **Conference Co-organizer:** University of California Conference on Nanowire, Nanotube and Nanocable Arrays and Their Applications, Davis, CA May 5 and 6, 2006.

SIGNIFICANT TECHNICAL ACHIEVEMENTS

- First demonstration of CMOS compatible **silicon photodiodes with integrated photon-trapping in micro and nanostructures**. More that 50Gb/s transmission speed and >85% quantum efficiency demonstrated. PDF
- **3D Transistors enabled by nano-bridges**: Transistors and logics built with nanowires grown by using bottom-up synthesis suspended between electrodes. PDF
- Novel Li-ion battery anode and separator for high density storage batteries. PDF
- **Ultra-low voltage field ionization** of gases using Si nano-whiskers (*3 orders of magnitude voltage reduction*). PDF
- Heterogeneous **3D integration** of highly oriented micro/nano-pillars of multiple single crystal semiconductor materials and devices. PDF
- Synthesis of Zinc Oxide nanostructures on a number of substrates at ambient condition.
- Demonstrated the smoothest metal (Ag) surfaces and a superlens based on the smooth film PDF1 PDF2
- Demonstrated the **Fastest Nanowire Based Photodetectors** PDF
- Developed a technique for **dynamically switching between positive and negative permeability of metamaterials** by photoconductive coupling for modulation of electromagnetic radiation PDF

- **First demonstration of an Atomic Switching Junctions** based on solid electrolytes and an organic monolayer of Molecules.
- **First demonstration of ultrahigh-density semiconductor nano-bridges** formed between two semiconductor surfaces (Si, ZnO and InP nano-bridges on Si) PDF1, PDF2, PDF3
- Demonstrated **techniques for generating the smoothest metal surface with atomic scale flatness** for molecular electronics and showed 100% device yields in molecular junctions with a Langmuir-Blodgett monolayer PDF1, PDF2
- Achieved **world record in high linear photocurrents in photodetectors** and demonstrated record 43dB noise suppression with distributed balanced photodetectors PDF
- Demonstrated the **first Resonant Cavity Enhanced Schottky Photodiode** PDF

JOURNAL PUBLICATIONS

1. Elif Peksu, Ozge Guller, Mehmet Parlak, M. Saif Islam and Hakan Karaagac, Towards the fabrication of third generation solar cells on amorphous, flexible and transparent substrates with well-ordered and disordered Si-nanowires/pillars, Physica E: Low-dimensional Systems and Nanostructures, 2020 (accepted).
2. Dryden, Daniel M., Rebecca J. Nikolic, and M. Saif Islam. "Photogalvanic Etching of n-GaN for Three-Dimensional Electronics." *Journal of Electronic Materials* 48, no. 5, p3345, 2019.
3. Alhalaili, B., Bunk, R., Vidu, R., & Islam, M. Saif, "Dynamics Contributions to the Growth Mechanism of Ga_2O_3 Thin Film and NWs Enabled by Ag Catalyst" *Nanomaterials*, 9(9), p1272, 2019.
4. Alhalaili, Badriyah, Ruxandra Vidu, and M. Saif Islam, "The Growth of Ga2O3 Nanowires on Silicon for Ultraviolet Photodetector" *Sensors* 19, no. 23, p5301, 2019.
5. Gou, J., Cansizoglu, H., Bartolo-Perez, C., Ghandiparsi, S., Mayet, A.S., Rabiee-Golgir, H., Gao, Y., Wang, J., Yamada, T., Devine, E.P. Elrefaie, A.F., Shih-Yuan Wang and M. Saif Islam, "Rigorous coupled-wave analysis of absorption enhancement in vertically illuminated silicon photodiodes with photon-trapping hole arrays. Nanophotonics, 8(10), pp.1747-1756, 2019.
6. Cansizoglu, H., Mayet, A.S., Ghandiparsi, S., Gao, Y., Bartolo-Perez, C., Mamtaz, H. H., Devine, E.P., Yamada, T., Elrefaie, A.F., Wang, S.Y. and Islam, M.S. "Dramatically Enhanced Efficiency in Ultra-Fast Silicon MSM Photodiodes Via Light Trapping Structures." *IEEE Photonics Technology Letters* 31.20 p1619, 2019.
7. Ghandiparsi, S., Elrefaie, A.F., Mayet, A.S., Landolsi, T., Bartolo-Perez, C., Cansizoglu, H., Gao, Y., Mamtaz, H.H., Golgir, H.R., Devine, E.P. and Yamada, T., Shih-Yuan Wang and M. Saif Islam , "High-Speed High-Efficiency Photon-Trapping Broadband Silicon PIN Photodiodes for Short-Reach Optical Interconnects in Data Centers", "*Journal of Lightwave Technology*", 37(23), pp.5748-5755, 2019.
8. Badriyah Alhalaili, Daniel Dryden, Matthew Ombaba, Soroush GhandiParsi, Hilal Cansizoglu, Yang Gao, Ruxandra Vidu and M. Saif Islam, High aspect ratio micro and nanostructures enabled by photo-electrochemical etching for sensing and energy harvesting applications, *Applied Nanoscience*, 8, p1171, 2018.
9. Hilal Cansizoglu, Cesar Bartolo-Perez, Yang Gao, E. P. Devine, Soroush Ghandiparsi, Kazim G. Polat, Hasina H. Mamtaz, Toshishige Yamada, Aly F. Elrefaie, Shih-Yuan Wang, M. Saif

Islam, Surface-illuminated photon-trapping ultra-fast Ge-on-Si photodiodes with broadband high efficiency up to 1700nm, *Photonics Research*, 6 (7), p734 2018.

10. Cansizoglu, Hilal, Ekaterina Ponizovskaya Devine, Yang Gao, Soroush Ghandiparsi, Toshishige Yamada, Aly F. Elrefaie, Shih-Yuan Wang, and M. Saif Islam. "A New Paradigm in High-Speed and High-Efficiency Silicon Photodiodes for Communication—Part I: Enhancing Photon–Material Interactions via Low-Dimensional Structures." *IEEE Transactions on Electron Devices* 65, no. 2 372-381, 2018 (**Invited paper**).
11. Cansizoglu, Hilal, Aly F. Elrefaie, Cesar Bartolo-Perez, Toshishige Yamada, Yang Gao, Ahmed S. Mayet, Mehmet F. Cansizoglu, Ekaterina Ponizovskaya Devine, Shih-Yuan Wang, and M. Saif Islam. "A New Paradigm in High-Speed and High-Efficiency Silicon Photodiodes for Communication—Part II: Device and VLSI Integration Challenges for Low-Dimensional Structures." *IEEE Transactions on Electron Devices* 65, no. 2, 382-391, 2018 (**Invited paper**).
12. Mayet, A.S., Cansizoglu, H., Gao, Y., Ghandiparsi, S., Kaya, A., Bartolo-Perez, C., AlHalaili, B., Yamada, T., Devine, E.P., Elrefaie, A.F. and Wang, S.Y., Islam, M. S. Surface passivation of silicon photonic devices with high surface-to-volume-ratio nanostructures. *JOSA B*, 35(5), p1059, 2018.
13. S Sivasubramani, V Mattela, C Pal, MS Islam, A Acharyya, Shape and Positional Anisotropy Based Area Efficient Magnetic Quantum-Dot Cellular Automata Design Methodology for Full Adder Implementation *IEEE Transactions on Nanotechnology* 17 (6), p1303, 2018.
14. Jianyi Gao, Ahmet Kaya, Rajesh V Chopdekar, Zheng Xu, Yayoi Takamura, M Saif Islam, Srabanti Chowdhury, "A study of temperature dependent current-voltage (I-V-T) characteristics in Ni/sol-gel Ga2O3/n-GaN structure" *Journal of Materials Science: Materials in Electronics* 29 (13), p11265, 2018.
15. Badriyah Alhalaili, Daniel M. Dryden, Ruxandra Vidu, Soroush Ghandiparsi, Hilal Cansizoglu, Yang Gao, M. Saif Islam, High-aspect ratio micro-and nanostructures enabled by photo-electrochemical etching for sensing and energy harvesting applications, *Applied Nanoscience*, 1-7, 2018.
16. Ahmet Kaya, K. Gurkan Polat, Ahmed S. Mayet, Howard Mao, Şemsettin Altındal, M. Saif Islam, "Manufacturing and Electrical Characterization of Al-doped ZnO-Coated Silicon Nanowires", *Materials Science in Semiconductor Processing*, **75**, p124, 2018.
17. Ikhyeon Kwon, M. Saif Islam, and Il Hwan Cho, "Investigation of Non Volatile AlGaN/GaN Flash Memory for High Temperature Operation", *Journal of Semiconductor Technology and Science*, 18 (1), p100, 2018.
18. Mustafa Coskun, Ombaba, Matthew; Dumludag, Fatih; Altf±ndal, Ahmet; M. Saif Islam "Bridged Oxide Nanowire Device Fabrication Using Single Step Metal Catalyst Free Thermal Evaporation" *RSC Advances* 8 (19), 10294-10301, 2017.
19. Gao, Yang, Hilal Cansizoglu, Soroush Ghandiparsi, Cesar Bartolo-Perez, Ekaterina Ponizovskaya Devine, Toshishige Yamada, Aly F. Elrefaie, Shih-yuan Wang, and M. Saif Islam. "A High Speed Surface Illuminated Si Photodiode using Microstructured Holes for Absorption Enhancements at 900-1000 nm Wavelength." *ACS Photonics* 4 (8), p2053, 2017.
20. Gao, Y., Cansizoglu, H., Polat, K.G., Ghandiparsi, S., Kaya, A., Mamtaz, H.H., Mayet, A.S., Wang, Y., Zhang, X., Yamada, T. and Devine, E.P., Photon-trapping microstructures enable high-speed high-efficiency silicon photodiodes. *Nature Photonics*, 11(5), p301, 2017

21. Yengel, E., Karaagac, H., Logeeswaran, V. J., & Saif Islam, M. Incident light angle dependence of microwalled silicon solar cell efficiency for fracture transfer printing applications. *physica status solidi* (a), 214(3), 2017.
22. J.Y. Tsao, S. Chowdhury, M.A. Hollis, D. Jena, N.M. Johnson, K.A. Jones, R.J. Kaplar, S. Rajan, C.G. Van de Walle, E. Bellotti, C.L. Chua, R. Collazo, M.E. Coltrin, J.A. Cooper, K.R. Evans, S. Graham, T.A. Grotjohn, E.R. Heller, M. Higashiwaki, M.S. Islam, P.W. Juodawlkis, M.A. Khan, A.D. Koehler, J.H. Leach, U.K. Mishra, R.J. Nemanich, R.C.N. Pilawa-Podgurski, J.B. Shealy, Z. Sitar, M.J. Tadjer, A.F.Witulski, M. Wraback, J.A. Simmons, "Ultrawide-Bandgap Semiconductors: Research Opportunities and Challenges," *Advanced Electronic Materials*, 4, 1600501, 2018.
23. A Kaya, D. M. Dryden, J. M. Woodall, and M. S Islam. "Spontaneous delamination via compressive buckling facilitates large-scale β-Ga2O3 thin film transfer from reusable GaAs subs." *physica status solidi – a*, 214 (10), 1770158 2017.
24. Inayat, S.B., Ombaba, M. and Islam, M.S., Pattern induced convex corner undercutting of oriented silicon microridges in potassium hydroxide. Microsystem Technologies, 23(1), pp.75-80, 2017.
25. Patil-Chaudhari, D., Ombaba, M., Oh, J.Y., Mao, H., Montgomery, K.H., Lange, A., Mahajan, S., Woodall, J.M. and Islam, M.S., Solar Blind Photodetectors Enabled by Nanotextured β-Ga_2O_3 Films Grown via Oxidation of GaAs Substrates. IEEE Photon. Jour, 9(2), pp.1-7, 2017.
26. Kaya, A., Mao, H., Gao, J., Chopdekar, R.V., Takamura, Y., Chowdhury, S. and Islam, M.S. An Investigation of Electrical and Dielectric Parameters of Sol–Gel Process Enabled $\beta $-Ga2O3 as a Gate Dielectric Material. *IEEE Transactions on Electron Devices*, 64(5), pp.2047-2053, 2017.
27. Demir, A., Atahan, A., Bağcı, S., Aslan, M. and Saif Islam, M., Organic/inorganic interfaced field-effect transistor properties with a novel organic semiconducting material. *Philosophical Magazine*, 96(3), pp.274-285, 2016.
28. M. Triplett, Y. Yang, F. Léonard, A. Alec Talin, M. Saif Islam, and D. Yu, "Long Minority Carrier Diffusion Lengths in Bridged Silicon Nanowires" *Nano Lett.* 2015, 15, 523−529
29. Pavel Kolchin, Nitipat Pholchai, Maiken H. Mikkelsen, Jinyong Oh, Sadao Ota, M. Saif Islam, Xiaobo Yin, and Xiang Zhang, "High Purcell Factor Due To Coupling of a Single Emitter to a Dielectric Slot Waveguide", *Nano Lett.*, 15, 464−468, 2015.
30. Junce Zhang, David M. Fryauf, Matthew Garrett, VJ Logeeswaran, Atsuhito Sawabe, M. Saif Islam and Nobuhiko P. Kobayashi, "Phenomenological Model of the Growth of Ultrasmooth Silver Thin Films Deposited with a Germanium Nucleation Layer", *Langmuir*, 31 (28), pp 7852–7859, 2015.
31. Ahmad Umar, M.S. Akhtar, A. Al-Hajry, M.S. Al-Assiri, G.N. Dar, M. Saif Islam, "Enhanced photocatalytic degradation of harmful dye and phenyl hydrazine chemical sensing using ZnO nanourchins", Chemical Engineering Journal v262, p588–596, 2015.
32. M. M. Ombaba, L. V. Jayaraman, and M. S. Islam, "Precision stress localization during mechanical harvesting of vertically oriented semiconductor micro- and nanostructure arrays", *Applied Physics Letters* 104, 243109, 2014.
33. Jin Y. Oh and M. Saif Islam, Nanobridge gate-all-around phototransistors for electro-optical OR gate circuit and frequency doubler applications, *Appl Phys Letts* 104, 022110, 2014.

34. M M Ombaba, VJ Logeeswaran, A Ionescu, M Saif Islam, Integrating Ormosil films onto microstructured semiconductor substrates, *Acta Materialia* 72, 159-166, 2014
35. Mark Triplett, Hideki Nishimura, Matthew Ombaba, VJ Logeeswarren, Matthew Yee, Kazim G Polat, Jin Y Oh, Takashi Fuyuki, François Léonard, M Saif Islam, High-Precision Transfer-Printing and Integration of Vertically Oriented Semiconductor Arrays for Flexible Device Fabrication, *Nano Research*, 7(7) p998 2014.
36. Yavuz Bayam, Logeeswaran VJ, Aaron M. Katzenmeyer, Ramin Banan Sadeghian, Rebecca J. Chacon, Michael C. Wong, Charles E. Hunt, Kenichi Motomiya, Balachandran Jeyadevan and M. Saif Islam, "Synthesis of Ga2O3 Nanorods with Ultra-Sharp Tips for High-Performance Field Emission Devices", Science of Advanced Materials; vol7 p211, 2015.
37. H. Karaagac, M. Saif Islam, "Enhanced Field Ionization Enabled by Metal Induced Surface States on Semiconductor Nanotips", *Advanced Functional Materials*, vol 24, p2224, 2014.
38. Jin Yong Oh, Jong-Tae Park, Hyun-June Jang, Won-Ju Cho, and M. Saif Islam, "3D-Transistor Array Based on Horizontally Suspended Silicon Nano-bridges Grown via a Bottom-up Technique", *Advanced Materials*, vol 26, p1929, 2014.
39. Jin Yong Oh and M. Saif. Islam, "Silicon nanowire bridge arrays with dramatically improved yields enabled by gold colloids functionalized with HF acid and poly-L-lysine," *IEEE Transactions on Nanotechnology*, vol 12, no 6, 2013.
40. Ombaba, Matthew M.; Hasegawa, T; Lu, Li; Yasuda, Yusuke; Nishida, Mutsumi K; Koh, Shinji; Uraoka, Yukihara; Islam, M. Saif, "Hierarchical Silver Nanoparticle Micro-Clustering in Poly(methyl methacrylate) Matrix in Spin-Coatable Electrically Conductive Thermoplastics", *Science of Advanced Materials*, vol 5, no11, p1546, 2013.
41. Matt Ombaba, Ruxandra Vidu, Logeeswaran Veerayah Jayaraman, Mark Triplett, Jonathan Hsu, M. Saif Islam, "Seamless integration of an elastomer with electrode matrix and its in-situ conversion into a solid state electrolyte for robust Li-Ion batteries", *Advanced Functional Materials*, vol 23, issue 47, p5941, 2013.
42. Hakan Karaagac, Mehmet Parlak, Emre Yengel, M. Saif Islam, "Heterojunction solar cells with integrated Si and ZnO nanowires and a chalcopyrite thin film", *Materials Chem. & Physics*, vol 140, p382, 2013.
43. Hakan Karaagac, V. J. Logeeswaran, and M. Saif Islam, Fabrication of 3D-silicon micropillars walls decorated with aluminum-ZnO/ZnO nanowires for optoelectric devices, *Phys. Status Solidi A*, vol 210, Issue 7, p1377, 2013.
44. Matthew Ombaba, V. J Logeeswaran, M. Saif Islam, "Electrically Conducting Film of Silver Nanoparticles as Mechanical and Electrical Interfaces for Transfer Printed Micro-and Nano devices", *Applied Physics A*, vol 111, p251, 2013.
45. Jin Yong Oh, Hyun-June Jang and Won-Ju Cho, M. Saif. Islam, "Highly Sensitive Electrolyte-Ion-Semiconductor pH Sensors Enabled by Silicon Nanowires with Al_2O_3/SiO_2 Sensing Membrane", *Sensors & Actuators: B. Chemical,* B 171– 172, 238– 243, 2012.
46. Ja-Yeon Kim, Min-Ki Kwon, Logeeswaran VJ, Sonia Grego and M. Saif Islam," Post-growth in-situ chlorine passivation for suppressing surface-dominant transport in silicon nanowire devices" *IEEE Transaction on Nanotechnology*, vol 11, issue 4, p782, 2012.
47. Ramin Banan Sadeghian and M. Saif Islam, " Ultralow-voltage field-ionization discharge on whiskered silicon nanowires for gas-sensing applications", *Nature Materials*, **10**, 135, 2011.

48. Logeeswaran VJ, Jinyong Oh, Avinash P. Nayak, Aaron M. Katzenmeyer, Sonia Grego and Kristin H. Gilchrist, A. Alec Talin, Nibir K. Dhar, Nobuhiko P. Kobayashi, Shih-Yuan Wang and M. Saif Islam, "A Perspective on Nanowire Photodetectors: Current Status, Future Challenges and Opportunities", *IEEE Journal of Selected Topics in Quantum Electronics*, **17**, no 4, p1002, 2011 (*invited*).
49. A. P. Nayak, Aaron M. Katzenmeyer, Yasuhiro Gosho, Bayram Tekin, M. Saif Islam, "Sonochemical Approach for Rapid Growth of Zinc Oxide Nanowalls", *Applied Physics* A, Volume 107, Number 3, Pages 661-667 2012.
50. Hakan Karaagac, Emre Yengel, and M. Saif Islam, "Physical properties and heterojunction device demonstration of aluminum-doped ZnO thin films synthesized at room ambient via sol-gel method", *Journal of Alloys and Compounds*, **521**, p155, 2012.
51. Avinash P. Nayak, Ta-Chun Lin, Daniel Lam, Savas Kaya, M. Saif Islam "UV and Oxygen Sensing Properties and Space Charge Limited Transport of Sonochemically Grown ZnO Nanowires", *Nanoscience and Nanotechnology Letters*, 2012.
52. Syamanta K. Goswami, Byoung Woo Lee and Eunsoon Oh and M. Saif Islam, " Effect of Precursors on Optical and Structural Properties of ZnO Nanorods Synthesized by Sonochemical Method", *Jour. of Korean Physical Society*, **59**, No. 3, pp. 2313-2317, 2011.
53. Jong-Tae Park, Jin Yong KIm and M. Saif Islam, Extraction of Doping Concentration and Interface State Density in Silicon Nanowires", *IEEE Transaction on Nanotechnology*, vol. 10, no 5, p1004, 2011.
54. Sonia Grego, Kristin H. Gilchrist, Ja-Yeon Kim, Min-Ki Kwon and M. Saif Islam, " Nanowire-based devices combining light guiding and photodetection", *Applied Physics A*, **105**, Issue 2, pp.311-316 2011 (*invited*).
55. Logeeswaran VJ, Aaron M. Katzenmeyer, Min-Ki Kwon, Ja-Yeon Kim, Jacob Goodwin and M. Saif Islam, "Harvesting and Transferring Vertical Device Arrays of Single Crystal Semiconductor Micro/Nanopillars to Arbitrary Substrates", *IEEE Trans on Electron. Devices*, Vol. 57, No. 8, p1856, 2010.
56. M. Saif Islam and Logeeswaran VJ, "Nanoscale Materials and Devices for Future Communication Networks", *IEEE Communications Magazine*, p112, June 2010.
57. P. Chaturvedi, W. Wu, VJ Logeeswaran, Z. Yu, M. Saif Islam, S. Y. Wang, R. S. Williams, and Nicholas X. Fang, "A smooth optical superlens", *Appl. Phys. Lett*. **96**, p043102, 2010.
58. Logeeswaran VJ, A. M. Katzenmeyer & M. Saif Islam, *"*Printing semiconductor arrays onto arbitrary substrates*"*, SPIE Newsroom, DOI: 10.1117/2.1201010.003353, (2010).
59. Yong Woo Jeona, Dae Hyun Kaa, Chong Gun Yua, Won-Ju Chob, M. Saif Islamc and Jong Tae Park, "NBTI and hot carrier effect of SOI p-MOSFETs fabricated in strained Si SOI wafer", *Microelectronics Reliability*, **49**, (9-11), p994-997, 2009.
60. Logeeswaran VJ, Nobuhiko P. Kobayashi, M. Saif Islam, Wei Wu, Pratik Chaturvedi, Nicholas X. Fang, Shih Yuan Wang & R. Stanley Williams, "Ultra-Smooth Silver Thin Films Deposited with a Germanium Nucleation Layer" *Nano Letters,* **9** (1), p178, 2009.
61. Feiyang Wu, Logeeswaran VJ and M. Saif Islam, David A. Horsley, Robert G. Walmsley, S. Mathai, D. Houng, M. R.T. Tan and Shih-Yuan Wang, "Integrated Receiver Architectures for Board-to-Board Free-Space Optical Interconnects", *Appl. Phys. A*, **95**, 1079, 2009.
62. Logeeswaran VJ and M. Saif Islam, "Electronics and Photonics Integration on Non-Crystalline Substrates via Nanoheteroepitaxy", *ECS Trans*. **16** (41), p49, 2009.

63. Nobuhiko P. Kobayashi, Sagi Mathai, Xuema Li, V.J. Logeeswaran, M. Saif Islam, Andrew Lohn, Takehiro Onishi, Joseph Straznicky, Shih-Yuan Wang & R. Stanley Williams, "Ensembles of indium phosphide nanowires: physical properties and functional devices integrated on non-single crystal platforms", *Applied Physics A*, **95**, p1005, 2009.
64. Mark Allen, Erwin M. Sabio, Xiubin Qi, Bokuba Nwengela, M. Saif Islam, and Frank E. Osterloh, "Metallic LiMo3Se3 Nanowire Film Sensors for Electrical Detection of Metal Ions in Water", *Langmuir*, **24**, pp7031-7037, 2008.
65. A. M. Katzenmeyer, Y. Bayam, L. VJ, Michael W. Pitcher, Y. Nur, S. Seyyidoglu, L. K. Toppare, A. A. Talin, H. Han, C. E. Davis and M. Saif Islam "Poly(Hydridocarbyne) as Highly Processable Insulating Polymer Precursor to Micro-Nanostructures and Graphite Conductors," *Journal of Nanomaterials*, v 2009, ID 832327, 2009.
66. Logeeswaran VJ, Ataur Sarkar, M. Saif Islam, Nobuhiko P. Kobayashi, Joseph Straznicky, Xuema Li, Wei Wu, Sagi Mathai, Michael R.T. Tan, Shih-Yuan Wang and R. Stanley Williams, "A 14 ps full width at half maximum high-speed photoconductor fabricated with intersecting InP nanowires on an amorphous surface", *Appl. Phys A*, **91**, 1–5 (2008) (*Invited*).
67. A. Choudhry and M. Saif Islam, "Examining the anomalous resistance observed for InN nanowires", *Journal of Nanoscience and Nanotechnology*, 8, 222–227, 2008.
68. M. Saif Islam and Shih-Yuan Wang, "Guest Editorial: Nanophotonics for Communications", *J of Nanophotonics*, **2**, 021799, 2008.
69. A. Sarkar, I. Kimukin, Christopher W. Edgar, Sungsoo Yi and M. Saif Islam, Heteroepitaxial growth dynamics of InP nanowires on silicon, *J. of Nanophotonics*, 2, 021799 (2008).
70. M. Saif Islam, "The all pervading nanosensors", *International J. of Nanotechnology* Special issue on Nanosensors, *5, No. 4/5, 2008*.
71. Nobuhiko P. Kobayashi, Xuema Li, Logeeswaran VJ, Joseph Straznicky, M. Saif Islam, Shih-Yuan Wang, and R. Stanley Williams, "Hydrogenated microcrystalline silicon electrodes connected by indium phosphide nanowires," *Appl. Phys. Lett*. v 91, 113116, 2007.
72. A. Choudhry, Vishwanath Ramamurthi, Erin Fong and M. Saif Islam, "Ultra-low contact resistance of epitaxially interfaced Si nanowires, *Nano Letters*, **7**, pp. 1536-1541, 2007.
73. Logeeswaran VJ, Mei-Lin Chan, Y. Bayam, M. Saif Islam David A. Horsley, Wei Wu, Shih-Yuan Wang and R. Stanley Williams "Ultra-smooth metal surfaces generated by pressure induced surface deformation of thin metal films", *Appl. Phys. A* **87,** 187–192 2007.
74. M. Saif Islam and V. J. Logeeswaran, "Microfabrication of self-assembling elements for 3D negative-index materials" SPIE Newsroom, DOI: 10.1117/2.1200612.0515, 2006.
75. J. S. Lee, M. Saif Islam, and S. Kim, "Direct formation of catalyst-free ZnO nano-bridges on an etched Si substrate using a thermal evaporation method", *Nano Letters,* **6**, 1487, 2006.
76. Logeeswaran VJ, Alexander N. Stameroff and M. Saif Islam, Aloyse Degiron, David R. Smith, Wei Wu, Alexander M. Bratkovsky, Philip J. Kuekes, Shih-Yuan Wang & R. Stanley Williams "Switching Between Positive and Negative Permeability by Photoconductive Coupling for Modulation of Electromagnetic Radiation", *Appl. Phys. A* **87,** pp209–216, 2007.
77. Jong Soo Lee, M. Saif Islam, and Sangtae Kim "Photoresponses of ZnO nanobridge devices fabricated using a single–step thermal evaporation method", *Sensors & Actuators: B. Chemical*, v126, p 73–77, 2007.

78. Sung Soo Yi, G. Girolami, Jun Amano and S. Sharma, T. I. Kamins, I. Kimukin, M. Saif Islam, "InP nanobridges epitaxially formed between two vertical Si surfaces by metal-catalyzed chemical vapor deposition", *Applied Phys. Letters,* **89***, 133121,* 2006.
79. S. Reza, G. Bosman, M. Saif Islam, T. I. Kamins, S. Sharma and R. Stanley Williams, "Noise in Si Nanowires", *IEEE Trans. on Nanotechnology*, **5**, No. 5, p523 2006.
80. C. Johns, M. Saif Islam and Joanna Groza, "Physical and Chemical Vapor Deposition Processes", CRC Materials Processing Handbook, Joanna R. Groza, Enrique J. Lavernia, James F. Shackelford (Eds), 2006.
81. I. Kimukin, M. Saif Islam and R. Stanley Williams, "Surface depletion thickness of p-doped Si nanowires grown using metal-catalysed chemical vapour deposition", *Nanotechnology* **17** S1–S6, 2006.
82. G-Y Jung, W. Wu, S. Ganapathiappan, D. A. A Ohlberg, M. Saif Islam, X. Li, D.L. Olynick, H. Lee, Y. Chen, S.Y. Wang, W. M. Tong, R. S. Williams, " Issues on nano-imprint lithography with a single-layer resist structure" *Appl. Phys. A* **81**, 1331–1335 (2005) **(Invited).**
83. S. Sharma, T.I. Kamins, M.S. Islam, R. Stanley Williams, A.F. Marshall, "Structural characteristics and connection mechanism of gold-catalyzed bridging silicon nanowires", *Journal of Crystal Growth* **280** p562, 2005.
84. Massood Tabib-Azar, Maissarath Nassirou, Run Wang, S. Sharma, T. I. Kamins, M. Saif Islam, and R. Stanley Williams, "Mechanical properties of self-welded silicon nanobridges", *Applied Phys. Letters*, **87**, 113102, 2005.
85. M. Saif Islam, S. Sharma, T. I. Kamins, and R. Stanley Williams, "A Novel Interconnection Technique for Manufacturing Nanowire Devices," *Applied Physics A*, **80**, (6), p1133, 2005.
86. M. Saif Islam, G.Y. Jung, T. Ha, D. R. Stewart, Y. Chen, SY Wang and R. Stanley Williams, "Ultra-smooth Platinum Surfaces for Nanoscale Devices Fabricated Using Chemical Mechanical Polishing," *Applied Physics A*, **80**, (6), pp1385-1389, 2005.
87. T. I. Kamins, S. Sharma, and M. S. Islam, "Self-assembled semiconductor nanowires on silicon and insulating substrates: experimental behavior" Science and Technology of Semiconductor-On-Insulator Structures and Devices Operating in a Harsh Environment, D. Flandre, et al. (Eds), Springer Netherlands pp. 327-332, 2006.
88. M. Saif Islam, S. Sharma, T. I. Kamins, and R. Stanley Williams, "Ultrahigh-Density Semiconductor Nano-bridges Formed Between two Semiconductor Surfaces," *Nanotechnology*, **15** L5–L8, 2004.
89. M. Saif Islam, T. Jung, T. Itoh, M.C. Wu, D.L. Sivco, and A.Y. Cho, "High Power and Highly Linear Monolithically Integrated Distributed Balanced Photodetectors," *IEEE/OSA J. Lightwave Technology,* **20** (2) p285, 2002.
90. M. Saif Islam, S. Murthy, T. Itoh, M.C. Wu, D. Novak, R. Waterhouse, D.L. Sivco, and A.Y. Cho, "Velocity-matched distributed Photodetectors and Balanced Photodetectors with p-i-n Photodiodes," *IEEE Transactions on Microwave Theory and Tech,* **49** (10), p1914, 2001.
91. M. S. Islam, T. Chau, T. Itoh, M.C. Wu, D.L. Sivco, and A. Y. Cho, Distributed Balanced Photodetectors for RF photonic Links", *International. Journal of High-Speed Electronics and Systems*, World Scientific **10 (**1), pp 281-297, (2000) (**Invited**)
92. M. Saif Islam, T. Chau, S. Mathai, T. Itoh, M.C. Wu, D.L. Sivco, and A.Y. Cho, "Distributed Balanced Photodetectors for Broad-band Noise Suppression," *IEEE Transaction on Microwave Theory and Technique*, **47** (7), p1282, 1999.

93. M. Saif Islam, T. Chau, S. Mathai, A. Rollinger, A. Nespola, T. Itoh, M.C. Wu D.L. Sivco, and A.Y. Cho, "Distributed balanced photodetectors for high performance RF photonic links," *IEEE Photonic Technology Letters*, **11** (4), p454, 1999.
94. E. Özbay, M. Saif Islam, B. Onat, O. Aytur, G. Tuttle, E. Towe, R.H. Henderson, and M.S. Unlu, "Fabrication of high-speed resonant cavity enhanced Schottky photodiodes," *IEEE Photon. Technology Letters*, **9** (5), p672, 1997.

BOOK CHAPTERS

1. Hilal Cansizoglu, Cesar Bartolo Perez, Jun Gou, M Saif Islam, Nanostructure-Enabled High-Performance Silicon-Based Photodiodes for Future Data-Communication Networks, Nanoscale Networking and Communications Handbook, p349, CRC Press, 2019.
2. Badriyah Alhalaili, Howard Mao and . Saif Islam, "Ga2O3 Nanowires Synthesis & Their Device Applications," Nanomaterials, ISBN 978-953-51-5896-7, 2017.
3. Karaağaç, H., Peksu, E., Arici, E.U. and Islam, M.S., One-Dimensional Nano-structured Solar Cells. In Low-Dimensional and Nanostructured Materials and Devices (pp. 351-400). Springer International Publishing, 2016.
4. Ombaba, Matthew & Karaagac, Hakan & G. Polat, Kazim & Islam, M. Saif. (2015). Nanowire enabled photodetection. 810.10.1016/B978-1-78242-445-1.00004-X, Nabet, B. (Ed). Photodetectors: Materials, Devices & Applications. Woodhead Publishing, 2015.
5. Ombaba, Mathew, Salman B. Inayat, and M. Saif Islam. "Wet Chemical and Electrochemical Etching Processes." Encyclopedia of Nanotechnology (2016): 1-9.
6. Inayat, Salman B., Avinash P. Nayak, V. J. Logeeswaran, and M. Saif Islam. "Dry Etching Processes." Encyclopedia of Nanotechnology (2016): 1-6.
7. Avinash Nayak, Logeeswaran V.J, M. Saif Islam, "Wet Etch" Encyclopedia of Nanotechnology, 2011.
8. Ataur Sarkar, M. Saif Islam, "Mass-manufacturable Nanowire Integration: Challenges and Recent Developments", Ceramic Integration Technology: From Macro to Nanoscale Editors: Mrityunjay Singh Tatsuki Ohji Rajiv Asthana Sanjay Mathur 2011.
9. Avinash Nayak, Logeeswaran V.J, M. Saif Islam, "Dry Etch" Encyclopedia of Nanotech, 2011.
10. A. Choudhry and M. Saif Islam, "Massively Parallel and Manufacturable Fabrications Process for Nanowire Based Devices and Circuits, Nanomanufacturing, Shaochen Chen (Ed), American Scientific Publisher, p63, 2009.
11. C. Johns, M. Saif Islam and Joanna Groza, "Physical and Chemical Vapor Deposition Processes", CRC Materials Processing Handbook, Joanna R. Groza, Enrique J. Lavernia, James F. Shackelford (Eds), CRC Taylor & Francis, 2007.
12. T. I. Kamins, S. Sharma, and M. S. Islam, "Self-assembled semiconductor nanowires on silicon and insulating substrates: experimental behavior" Science and Technology of Semiconductor-On-Insulator Structures and Devices Operating in a Harsh Environment, D. Flandre, et al. (Eds), Kluwer Academic Publisher: Netherlands, pp. 327-332, 2005.

BOOKS/PROCEEDINGS EDITED

1. M. Saif Islam and Achyut K. Dutta (Eds.) **Nanosensing: Materials and Devices I**, Proceedings of SPIE vol. 5593, 2004.
2. M. Saif Islam and Achyut K. Dutta (Eds.) **Nanosensing: Materials and Devices II**, Proceedings of SPIE vol. 6008, 2005.
3. Minoru M. Freund, M. Saif Islam and Achyut K. Dutta (Eds.) **Nanostructure Integration Techniques for Manufacturable Devices, Circuits, and Systems: Interfaces, Interconnects, and Nanosystems**, Proceedings of SPIE vol. 6003, 2005.
4. Shih-Yuan (SY) Wang, Lars Thylen, Nicholas X. Fang and M. Saif Islam (Eds), **Negative Index materials: From Microwave to Optical**, MRS Proc. vol. 919E, 2006.
5. N. K. Dhar, A. K. Dutta & M. Saif Islam (Eds.) **Nanomaterial Synthesis & Integration for Sensors, Electronics, Photonics & Electro-optics**, Proc. of SPIE v. 6370, 2006.
6. Martina Gerken, Nibir K. Dhar, Achyut K. Dutta and M. Saif Islam (Eds.), **Nanophotonics for Communication: Materials, Devices, and Systems III**, Proc. of SPIE vol. 6393, 2006.
7. Nibir K. Dhar, Achyut Kumar Dutta, M. Saif Islam, **Nanomaterials Synthesis, Interfacing, and Integrating in Devices, Circuits, and Systems II**, Proc. of SPIE Volume 6768, 2007.
8. M. Saif Islam and Achyut K. Dutta (Eds.) **Nanosensing: Materials and Devices III**, Proceedings of SPIE Volume 6769, 2007.
9. Nibir K. Dhar, Achyut K. Dutta and M. Saif Islam (Eds.), N**anophotonics for Communication: Materials, Devices, and Systems III**, Proc. of SPIE vol. 6779, 2007.
10. Thomas George, M. Saif Islam and Achyut Kumar Dutta (Eds.), "**Micro- and Nanotechnology Sensors, Systems, and Applications**", Proc. SPIE, Vol. 7318, 2009.
11. M. Saif Islam, A. Alec Talin, Stephen D. Hersee (Eds.), "**Nanoepitaxy: Homo- and Heterogeneous Synthesis, Characterization, and Device Integration of Nanomaterials**", Proc. SPIE Vol. 7406, 2009.
12. Thomas George, M. Saif Islam and Achyut Kumar Dutta (Eds.), "**Micro- and Nanotechnology Sensors, Systems, and Applications II**", Proc. SPIE, Vol. 7679, 2010.
13. M. Saif Islam, Nobuhiko P. Kobayashi and A. Alec Talin (Eds.), "**Nanoepitaxy: Homo- and Heterogeneous Synthesis, Characterization, and Device Integration of Nanomaterials II**", Proc. SPIE Vol. 7768, 2010.
14. Nobuhiko P. Kobayashi, A. Alec Talin and M. Saif Islam (Eds.), " **Nanoepitaxy: Materials and Devices III** ", Proc. SPIE Vol. 8106, 2011.
15. Thomas George, M. Saif Islam and Achyut K Dutta (Eds.), "**Micro- and Nanotechnology Sensors, Systems, and Applications III**", Proc. SPIE, V 8031, 2011.
16. Thomas George, M. Saif Islam and Achyut K Dutta (Eds.), "**Micro- and Nanotechnology Sensors, Systems, and Applications IV**", Proc. SPIE, v 8373, 2012.
17. Nobuhiko P. Kobayashi, A. Alec Talin and M. Saif Islam (Eds.), " **Nanoepitaxy: Materials and Devices IV** ", Proc. SPIE Vol. 8467, 2012.
18. A. A. Talin, M. Saif Islam, C. Lavoie, King-Ning Tu (Ed.), Proc. of MRS **"Nanocontacts - Emerging Materials and Processing for Ohmicity and Rectification"** 2012.
19. Thomas George, M. Saif Islam and Achyut K Dutta (Eds.), "**Micro- and Nanotechnology Sensors, Systems, and Applications V**", Proc. SPIE, v 8725, 2013.
20. Nobuhiko P. Kobayashi, A. Alec Talin, Albert V. Davydov and M. Saif Islam (Eds.), " **Nanoepitaxy: Materials and Devices V** ", Proc. SPIE Vol. 8820, 2013.

21. Thomas George, M. Saif Islam and Achyut K Dutta (Eds.), "**Micro- and Nanotechnology Sensors, Systems, and Applications VI**", Proc. SPIE, Vol 9083, 2014.
22. Nobuhiko P. Kobayashi, A. Alec Talin, Albert V. Davydov and M. Saif Islam (Eds.), " **Nanoepitaxy: Materials and Devices V** ", Proc. SPIE Vol.9174, 2014.
23. NP Kobayashi, AA Talin, MS Islam, AV Davydov, "Low-Dimensional Materials and Devices" SPIE Vol. 9553 2015.
24. George, T., Islam, M.S. and Dutta, A. Micro-and Nanotechnology Sensors, Systems, and Applications VII. SPIE Press Vol 9467, 2015.
25. George, T., Islam, M.S. and Dutta, A. Micro-and Nanotechnology Sensors, Systems, and Applications VIII. SPIE Vol 9836, 2016.
26. NP Kobayashi, AA Talin, MS Islam, AV Davydov, "Low-Dimensional Materials and Devices" SPIE Vol. 9924 2016.
27. George, T., Islam, M.S. and Dutta, A. Micro-and Nanotechnology Sensors, Systems, and Applications IX. SPIE Vol 10194, 2017.
28. NP Kobayashi, AA Talin, MS Islam, AV Davydov, "Low-Dimensional Materials and Devices" SPIE Vol. 10349 2017.
29. George, T., Islam, M.S. and Dutta, A. Micro-and Nanotechnology Sensors, Systems, and Applications X. SPIE Vol 10639, 2018.
30. NP Kobayashi, AA Talin, MS Islam, AV Davydov, "Low-Dimensional Materials and Devices" SPIE Vol. 10725 2018.
31. George, T., and Islam, M.S., Micro-and Nanotechnology Sensors, Systems, and Applications XI. SPIE Vol 10982, 2019.

PEER REVIEWED CONFERENCE PROCEEDINGS _____

1. Ahasan Ahamad, Soroush Ghandiparsi, Cesar Bartolo-Perez, Ahmed S. Mayet, Hilal Cansizoglu, Ekaterina P. Devine, Aly F. Elrefaie, Nibir K. Dhar, Shih-Yuan Wang, Weijian Yang and M. Saif Islam, Smart nanophotonics silicon spectrometer array for hyperspectral imaging, Conference on Laser and Electro-Optics (CLEO) , 11-15 May STh3M.2, 2020
2. Cesar Bartolo Perez, Soroush Ghandiparsi, Ahmed Surrati Mayet, Hilal Cansizoglu, Yang Gao, Ekaterina Ponizovskaya-Devine, Nibir Dhar, Shih-Yuan Wang, M Saif Islam, "Photodetectors with Photon-trapping Surface Nanostructures for Short Range LIDAR Systems," 2019 IEEE Photonics Society Summer Topical Meeting Series (SUM), Ft. Lauderdale, FL, USA, p1, 2019.
3. Ekaterina Ponizovskaya Devine, Soroush Ghandiparsi, Cesar Perez, Aly F Elrefaie, Toshishige Yamada, M Saif Islam, Shih-Yuan Wang, "Ultra-Thin MSM Photodetectors with Nano-Structured Surface," 2019 IEEE Research and Applications of Photonics in Defense Conference (RAPID), Miramar Beach, FL, USA, p 1, 2019.
4. S. Ghandiparsi, A. F. Elrefaie, A. S. Mayet, C. Bartolo-Perez, H. Cansizoglu, Y. Gao, E. P. Devine, T. Landolsi, H. H. Mamtaz, H. Rabiee-Golgir, T. Yamada, S. Wang, and M. S. Islam, "Up to 1700nm broadband high-efficiency surface-illuminated Ge/Si photodiode with microhole array," in OSA Advanced Photonics Congress (AP) 2019 (IPR, Networks, NOMA, SPPCom, PVLED), OSA Technical Digest (Optical Society of America, 2019),
5. E. Ponizovskaya-Devine, H. Rabiee Godir, S. Ghandiparsi, H. H. Mamtaz, C. Perez and M. S. Islam, "Si-compatible Mid-infrared Photodetectors Based on 2D Materials," 2019 IEEE

Photonics Society Summer Topical Meeting Series (SUM), Ft. Lauderdale, FL, USA, pp. 1-2, 2019.

6. Hossein Rabiee-Golgir, Soroush Ghandiparsi, Ekaterina Ponizovskaya Devine, Ahmed S. Mayet, Cesar Bartolo-Perez, Priyalal S. Wijewarnasuriya, Nibir K. Dhar, M. Saif Islam, Ultra-thin super absorbing photon trapping materials for high-performance infrared detection, Infrared Technology and Applications XLV 11002, 110020T, 2019.
7. Hakan Karaagac, Ozge Guller, Elif Peksu, Eray Humali, Makbule Terlemezoglu, Mehmet Parlak, Saif Islam, "Transfer of ordered and disordered Si nanowires onto alien substrates for the fabrication of third-generation solar cells" Micro-and Nanotechnology Sensors, Systems, and Applications XI 10982, 1098205, 2019 **(Invited)**.
8. S. Ghandiparsi, Aly F Elrefaie, Hilal Consizoglu, Y. Gao, C. Bartolo-Perez, Hasina H Mamtaz, Ahmed Mayet, Toshishige Yamada, Ekaterina Ponizovskaya Devine, Shih-Yuan Wang, M Saif Islam, High-Speed High-Efficiency Broadband Silicon Photodiodes for Short-Reach Optical Interconnects in Data Centers, Optical Fiber Communication Conference, W1I. 7, 2018.
9. Hilal Cansizoglu, Yang Gao, Cesar Bartolo Perez, Soroush Ghandiparsi, Kazim G. Polat, Hasina H. Mamtaz, Ekaterina Ponizovskaya Devine, Toshishige Yamada, Aly Elrefaie, Shih-Yuan Wang, Saif Islam, Toward all-silicon optical receivers: photon trapping and manipulation using nanostructures, Proceedings Volume 10725, Low-Dimensional Materials and Devices, 107250B, 2018
10. Hilal Cansizoglu, Yang Gao, Cesar Bartolo Perez, Soroush Ghandiparsi, Ekaterina Ponizovskaya, Toshishige Yamada, Aly ElRefaie, Shih-Yuan Wang, M Saif Islam, High efficiency flexible silicon photodetectors and photovoltaics, Low-Dimensional Materials and Devices vol 10725, p107250F, 2018,
11. Ekaterina Ponizovskaya Devine, Toshishige Yamada, Hilal Cansizoglu, Aly F Elrefaie, Yan Gao, M Saif Islam, Cesar Perez, Shih-Yuan Wang Enhanced quantum efficiency and reduction of reflection for MSM photodetectors with nano-structured surface, IEEE Research and Applications of Photonics In Defense Conference (RAPID) p1, 2018.
12. Cesar Bartolo-Perez, Hilal Cansizoglu, Yang Gao, Soroush Ghandiparsi, Ahmed S Mayet, Ekaterina Ponizovskaya Devine, Aly F Elrefaie, Shih-Yuan Wang, M Saif Islam, Enhanced Photon Detection Efficiency of Silicon Single Photon Avalanche Photodetectors Enabled by Photon Trapping Structures, 2018 IEEE Photonics Society Summer Topical Meeting Series (SUM) p143, 2018.
13. Ekaterina Ponizovskaya Devine, Hilal Cansizoglu, Yang Gao, Soroush Ghandiparsi, Cesar Perez, Hasina H Mamtaz, H Raniee, M Saif Islam, Quantum efficiency enhancement of mid infrared photodetectors with photon trapping micro-structures, IEEE Photonics Society Summer Topical Meeting Series (SUM) p97, 2018.
14. Hilal Cansizoglu, Yang Gao, Soroush Ghandiparsi, Cesar Bartolo Perez, Hasina H Mamtaz, Mehmet F Cansizoglu, Toshishige Yamada, Ekaterina Ponizovskaya Devine, Aly F Elrefaie, Shih-Yuan Wang, M Saif Islam, Black holes enabled light bending and trapping in ultrafast silicon photodetectors, Micro-and Nanotechnology Sensors, Systems, and Applications X, vol 10639, p106390I, 2018.
15. Mao, Howard, Badriyah Alhalaili, Ahmet Kaya, Daniel M. Dryden, Jerry M. Woodall, and M. Saif Islam. "Oxidation of GaAs substrates to enable β-Ga 2 O 3 films for sensors and

optoelectronic devices." In Wide Bandgap Power Devices and Applications II, vol. 10381, p. 103810B. International Society for Optics and Photonics, 2017.
16. Devine EP, Cansizoglu H, Gao Y, Polat KG, Ghandiparsi S, Kaya A, Mamtaz HH, Mayet AS, Wang Y, Zhang X, Yamada T. Optimization of light trapping micro-hole structure for high-speed high-efficiency silicon photodiodes. In IEEE Photonics Conference (IPC), p587, 2017.
17. Cansizoglu, Hilal, Yang Gao, Cesar Bartolo-Perez, Soroush Ghandiparsi, Ekaterina Ponizovskaya Devine, Mehmet F. Cansizoglu, Toshishige Yamada, Aly F. Elrefaie, Shih-Yuan Wang, and M. Saif Islam. "Photon-trapping micro/nanostructures for high linearity in ultra-fast photodiodes." In *Low-Dimensional Materials and Devices 2017*, vol. 10349, p. 103491C. International Society for Optics and Photonics, 2017.
18. Cansizoglu, Hilal, Yang Gao, Soroush Ghandiparsi, Ahmet Kaya, Cesar Bartolo Perez, Ahmed Mayet, Ekaterina Ponizovskaya Devine et al. "Improved bandwidth and quantum efficiency in silicon photodiodes using photon-manipulating micro/nanostructures operating in the range of 700-1060 nm." In *Low-Dimensional Materials and Devices 2017*, vol. 10349, p. 103490U. International Society for Optics and Photonics, 2017.
19. Yang Gao; Hilal Cansizoglu; Soroush Ghandiparsi; Cesar Bartolo-Perez; Ekaterina Ponizovskaya Devine; Aly Elrefaie; Shih-yuan Wang; M. Saif Islam, “Fabrication of effective photon trapping and light manipulating micro/nano structures”, In *Low-Dimensional Materials and Devices 2017*, vol. 10349, p. 103490U. International Society for Optics and Photonics, 103490T (2017/08/25); doi: 10.1117/12.2276503 2017.
20. Bartolo-Perez, Cesar, Yang Gao, Hilal Cansizoglu, Soroush Ghandiparsi, Ahmet Kaya, Ahmed Mayet, Ekaterina Ponizovskaya Devine et al. "Highly efficient silicon solar cells designed with photon trapping micro/nano structures." In *Low-Dimensional Materials and Devices 2017*, vol. 10349, p. 103491D. International Society for Optics and Photonics, 2017.
21. Ahmet Kaya, Daniel M. Dryden, Howard Mao, Dewyani Patil-Chaudhuri, Andrew Philip Lange, Subhash Mahajan, Jerry M. Woodall, M. Saif Islam, “β-Ga2O3 films grown via oxidation of GaAs substrates and their device demonstrations” Paper 10381-11, Wide Bandgap Power Devices and Applications II SPIE, Conference proceeding # 10381, 2017.
22. Gao, Jianyi, Ahmet Kaya, Rajesh V. Chopdekar, Daniel M. Dryden, Yayoi Takamura, M. Saif Islam, and Srabanti Chowdhury. "Characterization of β-Ga 2 O 3 interface and conduction band offset with GaN using a Sol-gel process of deposition." In *Device Research Conference (DRC), 2017 75th Annual*, pp. 1-2. IEEE, 2017.
23. Mayet, A.S., Cansizoglu, H., Gao, Y., Kaya, A., Ghandiparsi, S., Yamada, T., Wang, S.Y. and Islam, M.S., September. Inhibiting device degradation induced by surface damages during top-down fabrication of semiconductor devices with micro/nano-scale pillars and holes. In SPIE Nanoscience+ Engineering (p99240C). Int. Society for Optics and Photonics, 2016.
24. Kaya, A., Gao, J., Cansızoglu, H., Mayet, A.S., Mamtaz, H.H., Ghandiparsi, S., Chowdhury, S. and Islam, M.S., Ga2O3 as both gate dielectric and surface passivation via sol-gel method at room ambient. In SPIE Optical Engineering+ Applications (pp. 995709-995709). International Society for Optics and Photonics SPIE, 2016.
25. Kaya, A., Cansizoglu, H., Mamtaz, H.H., Mayet, A.S. and Islam, M.S., Comparison of heterojunction device parameters for pure and doped ZnO thin films with IIIA (Al or In) elements grown on silicon at room ambient. In SPIE Nanoscience+ Engineering (pp. 99240U-99240U). International Society for Optics and Photonics SPIE, 2016.

26. Cansizoglu, H., Gao, Y., Kaya, A., Ghandiparsi, S., Polat, K.G., Wang, Y., Zhang, R., Reggad, H., Mayet, A., Ponizovskaya Devine, E. and Islam, M.S., 2016, September. Efficient Si photovoltaic devices with integrated micro/nano holes. In Society of Photo-Optical Instrumentation Engineers (SPIE) Conference Series (Vol. 9924) SPIE, 2016.
27. Shrestha, A., Mizuno, G., Oduor, P., Islam, S., Dutta, A.K. and Dhar, N.K., Development of FDTD simulation tool for designing micro-nanostructured based optical devices. In *SPIE Commercial+ Scientific Sensing and Imaging* (pp. 986506-986506). International Society for Optics and Photonics SPIE, 2016.
28. Yengel, E., Karaagac, H., Logeeswaran, V.J. and Islam, M.S., 2015, September. Theoretical limits of the multistacked 1-D and 2-D microstructured inorganic solar cells. In *SPIE Optics+ Photonics for Sustainable Energy* (p956103). Int. Society for Optics and Photonics **(Invited)**.
29. Karaagac, Hakan, Elif Peksu, and M. Saif Islam. "Synthesis of one-dimentional nanostructures for gas sensing and photovoltaic applications." In *SPIE Nanoscience+ Engineering*, pp. 95530S-95530S. International Society for Optics and Photonics, SPIE 2015.
30. Shrestha, Anil, Genki Mizuno, Patrick Oduor, Robert Olah, Saif Islam, Achyut K. Dutta, and Nibir K. Dhar. "High efficiency c-Si solar cells utilizing light-trapping phenomenon." In *Proc. SPIE*, vol. 9493, p. 94930E. 2015.
31. Polat, Kazim Gurkan, Chen Zhou, Ahmad Umar, and M. Saif Islam. "Optimized Ultrasharp Silicon Nanowire Geometries for Enhanced Field Ionization Properties." *MRS Online Proceedings Library Archive* 1785 (2015): 7-11.
32. Zhang J, Fryauf DM, Leon JJ, Garrett M, Logeeswaran VJ, Islam MS, Kobayashi NP. Deposition and characterizations of ultrasmooth silver thin films assisted with a germanium wetting layer. In SPIE Nanoscience+ Engineering 2015 Sep 9 (pp. 955314-955314). International Society for Optics and Photonics.
33. Oh, Jin Yong, Hyun-June Jang, Won-Ju Cho, Jong-Tae Park, and M. Saif Islam. "Nano-bridge enabled three-dimensional gate-all-around field effect transistors." In *Electrical and Computer Engineering (ICECE), 2014 International Conference on*, p675 IEEE, 2014 **(Invited)**.
34. Oh, Jin Yong, Jong-Tae Park, and M. Saif Islam. "Fabrication of ambipolar gate-all-around field-effect transistors using silicon nanobridge arrays." In *SPIE NanoScience+ Engineering*, pp. 882002-882002. International Society for Optics and Photonics, 2013.
35. Oh, Jin Yong, Seung-Min Lee, Jong-Tae Park, Mark Triplett, Dong Yu, and M. Saif Islam. "Demonstration of gate-all-around FETs based on suspended CVD-grown silicon nanowires." In *SOI-3D-Subthreshold Microelectronics Technology Unified Conference (S3S), 2013 IEEE*, pp. 1-2. IEEE, 2013.
36. Pavel Kolchin, N. Pholchai, M. Mikkelsen, Jinyong Oh, Sadao Ota, M Saif Islam, Xiaobo Yin, Xiang Zhang, Single-emitter quantum electrodynamics in a one-dimensional dielectric continuum far beyond the diffraction limit, CLEO:QELS_Fundamental Science, 2013.
37. M Triplett, M Saif Islam, D Yu, Scanning Photocurrent Microscopy of as-Grown Silicon Nanowire Metallurgical Junctions, MRS Online Pro. Library 1551, mrss13-1551-r06-21, 2013.
38. J Y Oh, MS Islam, Improving yields in bridging silicon nanowires with rational control of the bridge characteristics, MRS Online Proceedings Library 1551, mrss13-1551-r06-07
39. M Triplett, H Nishimura, M Ombaba, MS Islam, Electrical Contacts to Vertically Oriented Silicon Nano and Microdevices for Applications in Flexible Systems, MRS Proceedings 1553, mrss13-1553-t04-06, 2013.

40. M Ombaba, T Hasegawa, L Lu, Y Yasuda, M Kimura, T Nishida, S Koh, Highly Flexible, Transparent and Electrically Conducting Silver Nanoparticles Films Enabled by Controlled Sedimentation, MRS Proceedings 1436, mrss12-1436-k08-35 2013.
41. H Karaagac, VJ Logeeswaran, MS Islam, 3D silicon micro-pillars/-walls decorated with aluminum-ZnO/ZnO nanowires for opto-electronic device applications, SPIE NanoScience+ Engineering, 84670Y-84670Y-8, 2012.
42. H Karaagac, VJ Logeeswaran, MS Islam, 3D silicon micro-pillars/-walls decorated with aluminum-ZnO/ZnO nanowires for opto-electronic device applications, SPIE NanoScience+ Engineering, 84670Y-84670Y-8, 2012.
43. H Karaagac, MS Islam, Enhanced field ionization current enabled by gold induced surface states to silicon nanowires, SPIE NanoScience+ Engineering, 84670J-84670J-9, 2012.
44. Logeeswaran VJ, Daniel Lam, Emre Yengel, Heim K. Grewal, Matthew Ombaba, M. Saif Islam, "*Electrical Contact Characteristics between Silicon Micropillars and Ag Nanoparticles with Controlled Mechanical Load*", Nanocontacts–Emerging Materials and Processing for Ohmicity and Rectification, MRS Spring proceeding 2012.
45. Logeeswaran VJ, Aaron M. Katzenmeyer, Matthew Ombaba & M. Saif Islam, "*Interfacing Ag Nanoparticles with 1D Semiconductor Micro/Nanostructures via Joule Heating for Transfer Printing Nanodevices at Room Ambient*", MRS Symposium D: Nanocontacts–Emerging Materials and Processing for Ohmicity and Rectification, (2012).
46. Jin Yong Oh, Hyun-June Jang and Won-Ju Cho, M. Saif. Islam, "*Silicon Nanowire Integrated Electrolyte-Insulator-Semiconductor Sensor with an Above-Nernstian Sensitivity for Bio-Sensing Applications*", MRS Spring proceeding, 2012.
47. H. Karaagac, M. Parlak and M. Saif Islam, "*Synthesis of Si Nanowires by Electroless Etching Technique and Their Integration into I-III-VI2 Thin Films for Solar Cells"*, Mater. Res. Symposium Proc., vol.1408, 2012.
48. H. Karaagac, M. Parlak and M. Saif Islam, "*Synthesis of ZnO Nanowires by Hydrothermal Technique for Integration Into Chalcopyrite Thin Films*", MRS Proc., v.1406, 2012.
49. Emre Yengel and M. Saif Islam, "*Effect of Cathode Metal Evaporation Rate on the Deep Trapped Hole Formation in Bulk Heterojunction Organic Solar Cells*", Mater. Res. Soc. Symp. Proc. Vol. 1390, 2012.
50. Phani K. Vabbina, Prashant Nayyar, Avinash P. Nayak, Aaron M. Katzenmeyer, Logeeswaran VJ, Nezih Pala, M. Saif Islam & A. Alec Talin, "*Synthesis of Crystalline ZnO Nanostructures on Arbitrary Substrates at Ambient Conditions"*, Proc. of SPIE Vol. 8106, 81060H, 2011.
51. Matthew Ombaba, Logeeswaran VJ, M. Saif Islam, "*Anisotropic Conducting Film (ACF) of Ag Nanoparticles as Transfer Polymer and Electrical Interface for Silicon Micro- and Nano-Pillars*", MRS Proceedings Library, Vol.1303, 2011.
52. Matthew M. Ombaba Li Lu, Yusuke Yasuda1, Takayuki Hasegawa, Yukiharu Uraoka, Mutsumi Kimura, Shinji Koh, Saif Islam, *Highly Flexible, Transparent and Electrically Conducting Silver Nanoparticles Films Enabled by Controlled Sedimentation*; Symposium K, MRS spring Proceedings 2012.
53. M. Saif Islam, Chad Johns, Long Do, Doug Ohlberg, Shih-Yuan Wang, R. Stanley Williams, *Memristors based on an Organic Monolayer of Molecules and a Thin Film of Solid Electrolytes*, IEEE ICECE, 2010 (**Best paper prize**).

54. Min-Ki Kwon, Ja-Yeon Kim, Logeeswaran V. Jayaraman, Nezih Pala, M. Saif Islam, "*Temperature-dependent structural characterization of silicon <110> nanowire*", SPIE Optics and Photonics, Proceeding vol 7768, p77680H, 2010.
55. Ja-Yeon Kim, Min-Ki Kwon, Logeeswaran V. Jayaraman, Sonia Grego, M. Saif Islam, "*In-situ chlorine passivation to suppress surface-dominant transport in silicon nanowire devices*", SPIE Optics and Photonics, Proceeding vol 7768, p77680R, 2010.
56. Logeeswaran VJ, Matthew Ombaba & M. Saif Islam, "*Micro/Nano Pillar Based Single Crystal Semiconductor Devices on Amorphous Substrates for Efficient and Low-cost Energy Conversion*", The X International Conference on "Nanostructured Materials" (NANO 2010) Rome, Italy, Sept 13-17 (2010). Invited Talk.
57. Matthew Ombaba, Logeeswaran VJ & M. Saif Islam, "*Anisotropic Conducting Film (ACF) of Ag Nanoparticles as Transfer Polymer and Electrical Interface for Silicon Micro- and Nano-Pillars*", MRS Workshop on Nanocontacts and Nanointerconnects, (2010).
58. Logeeswaran VJ, Matthew Ombaba & M. Saif Islam, "*Contact Interface Challenges on Transfer Printed Silicon Micro- and Nano- Pillars in Conducting Polymers*", MRS Workshop on Nanocontacts and Nanointerconnects, (2010).
59. Avinash Nayak, Aaron M. Katzenmeyer, Min-Ki Kwon, Ja-Yeon Kim and .M. Saif Islam, "Purely sonochemical route for oriented zinc oxide nanowire growth on arbitrary substrate", Proceedings Vol. 7683, 2010.
60. Logeeswaran V. Jayaraman; Matthew Ombaba; Aaron M. Katzenmeyer; M. Saif Islam, "Transfer of micro/nano-scale pillars and wires on conducting thermoplastic composite coated arbitrary substrates", SPIE Proceedings Vol. 7683, 2010.
61. Logeeswaran VJ, Matthew Ombaba & M. Saif Islam, "*Micro/Nano Pillar Based Single Crystal Semiconductor Devices on Amorphous Substrates for Efficient and Low-cost Energy Conversion*", Invited Talk, The X International Conference on "Nanostructured Materials" (NANO 2010) Rome, Italy, Sept 13-17 (2010).
62. Matthew Ombaba, Logeeswaran VJ & M. Saif Islam, "*Anisotropic Conducting Film (ACF) of Ag Nanoparticles as Transfer Polymer and Electrical Interface for Silicon Micro- and Nano-Pillars*", MRS Workshop on Nanocontacts and Nanointerconnects, (2010).
63. Logeeswaran VJ, Matthew Ombaba & M. Saif Islam, "*Contact Interface Challenges on Transfer Printed Silicon Micro- and Nano- Pillars in Conducting Polymers*", MRS Workshop on Nanocontacts and Nanointerconnects, (2010).
64. R. Banan-Sadeghian, M. Saif Islam, "*Enhanced field ionization/desorption on branched silicon nanowires: applications in gas ionization detection*", SPIE Proc. Vol. 7679, 2010.
65. Logeeswaran VJ; Aaron M. Katzenmeyer; Min-Ki Kwon; Ja-Yeon Kim; M. Saif Islam, "Single crystal semiconductor micropillar and nanowire on amorphous substrates for low cost solar hydrogen generation", Proc. of the SPIE, Volume 7408, p74080U, (2009).
66. Sonia Grego, Kristin H. Gilchrist, Ja-Yeon Kim, Min-Ki Kwon, and M. Saif Islam, "Waveguide-integrated nanowire photoconductors on a non-single crystal surface", Proc. SPIE Vol. 7406, 74060B, 2009.
67. Logeeswaran VJ, Jacob Goodwin, Aaron M. Katzenmeyer and M. Saif Islam, "Heterogeneous 3D Integration of Multi-spectral Photonic Sensor with Highly Oriented Micro/Nano-pillars of

Semiconductors", Conference on Micro- and Nanotechnology Sensors, Systems, and Applications, Proc. of SPIE Vol. 7318, 731805, 2009 **(Invited)**.

68. M. S. Islam, Logeeswaran VJ, A Sarkar, N. P. Kobayashi, J. Straznicky, X. Li, W.Wu, S. Mathai, M. R. T. Tan, S.-Y. Wang and R. S. Williams. An ultrafast Nanowire Photodetector with a 14ps impulse response fabricated on an amorphous surface" Proc. of the 20th Annual Meeting of the IEEE Lasers and Electro-Optics Society (LEOS), 4pp. (post-deadline paper).
69. Logeeswaran VJ, A. Katzenmeyer, M. S. Islam, N. P. Kobayashi, W. Wu, P. Chaturvedi, N. X. Fang, S. Y. Wang, and R. S. Williams, "Electrical Resistivity & Thermal Stability of Smooth Silver Thin Film for Nanoscale Optoelectronic Devices," in Nanotechnology, NANO '08. 8th IEEE Conference on Nanotechnology, pp. 92-94, 2008.
70. Y. Bayam, V. J. Logeeswaran, A. M. Katzenmeyer, R. J. Chacon, M. C. Wong, C. E. Hunt, and M. S. Islam, "Synthesis and Field Emission Characteristics of Ga2O3 Nanorods with Ultra-Sharp Tips,", NANO '08. 8th IEEE Conf on Nanotechnology on, pp. 573-575, 2008.
71. M. Saif Islam, "Novel Nanowire Integration Schemes for Massively. Parallel and Manufacturable Nanoscale Electronics and Photonics", *Proceeding of 2nd IEEE International Nanoelectronics Conference (INEC)*, p1009 2008 (**Invited**)
72. Aaron Katzenmeyer, Logeeswaran VJ, Bayram Tekin and M. Saif Islam, "Impact of Casimir Force in Molecular Electronic Switching Junctions", Proceeding of 2nd IEEE International Nanoelectronics Conference (INEC), p166 2008 (**Invited**).
73. Jeff Wurz, Logeeswaran VJ, Ataur Sarkar, and M. Saif Islam, "High current density and failure mechanism in epitaxially bridged silicon nanowires," Proceedings of the IEEE International Conference on Nanotechnology (NANO), pp, 595-597, 2008.
74. Ataur Sarkar, Sungsoo Yi, M. Saif Islam and A. A. Talin, "Raman spectroscopic analysis of p-doped bridged InP nanowire," Materials Research Society Spring Meeting, San Francisco, CA, Mater. Res. Soc. Symp. Proc. Vol. 1080, p1080-O07-08, 2008.
75. Ataur Sarkar, Sungsoo Yi, M. Saif Islam and A. A. Talin, "Persistent photocurrent in InP nanowires heteroepitaxially bridged between single crystal Si surfaces," Materials Research Society Spring Meeting, San Francisco, CA, 2008.
76. Aaron M. Katzenmeyer, Yavuz Bayam, Logeeswaran VJ, Michael W. Pitcher, Yusuf Nur, Semih Seyyidoğlu, Levent K. Toppare, A. Alec Talin and M. Saif Islam, "Poly(Hydridocarbyne) as Highly Processable Insulating Polymer Precursor to Micro/Nanostructures and Graphite Conductors", Proceedings of the IEEE International Conference on Nanotechnology (NANO), pp. 297-299, 2008.
77. Yavuz Bayam, Logeeswaran VJ, Aaron M. Katzenmeyer, Rebecca J. Chacon, Michael C. Wong, Charles E. Hunt, and M. Saif Islam, "Synthesis and Field Emission Characteristics of Ga2O3 Nanorods with Ultra-Sharp Tips", Proceedings of the IEEE International Conference on Nanotechnology (NANO), pp. 573-575, 2008.
78. M. Saif Islam, "Mass-manufacturable integration schemes for 1D nanostructure in devices and circuits", IEEE International Nanoelectronics Conference (INEC) 2008, Shanghai, 24th – 27th March 2008 (**Invited**)
79. M. Saif Islam, "Epitaxially Integrated Semiconductor Nanowires for Nanoscale Electronics, Photonics and NEMS", IEEE-LEOS Annual Meeting, 21-25 October, FL, 2007 (**Invited**).

80. M. Saif Islam, “Heteroepitaxial growth dynamics and device applications of bridging InP nanowires between Si surfaces” Workshop on Nanoscale Epitaxial Semiconductor Structures (NESS), Albuquerque, NM, Sept. 26-27, 2007 (**Invited**).
81. Logeeswaran VJ, and M. Saif Islam, “Photomodulation of Metamaterials”, SPIE Symposium on Terahertz Physics, Devices, and Systems II, Sept 9-12, Boston MA, 2007.
82. Ataur Sarkar, Anurag Chaudhry, Christopher Edger, Sungsoo Yi and M. Saif Islam, “Growth kinematics of InP nanowires heteroepitaxially grown on a silicon surface”, SPIE Symposium on Nanomaterials Synthesis, Interfacing, and Integrating in Devices, Circuits, and Systems II, Sept 9-12, Boston MA, 2007.
83. Ataur Sarkar, Anurag Chaudhry, Logeeswaran VJ, Sungsoo Yi and M. Saif Islam, “InP nanowire photodetector heteroepitaxially grown between silicon electrodes,” SPIE Conference on Nanophotonics for Communication: Materials, Devices, and Systems IV, Sept 9-12, Boston MA, 2007.
84. Ataur Sarkar, Logeeswaran VJ, M. Saif Islam, Nobuhiko P. Kobayashi, Joseph Straznicky, Shih-Yuan Wang, R. Stanley Williams, “Persistent photoconductivity of InP nanowire photoconductors bridged between amorphous silicon electrodes,” SPIE Conference on Nanomaterials Synthesis, Interfacing, and Integrating in Devices, Circuits, and Systems II, Sept 9-12, Boston MA, 2007.
85. M. Saif Islam, Anurag Chaudhry, Ataur Sarkar, Yavuz Bayam, and Logeeswaran VJ, “Principles and practical techniques for massively parallel integration of 1D nanowires in devices and circuits: a tutorial,” SPIE Conference on Nanomaterials Synthesis, Interfacing, and Integrating in Devices, Circuits, and Systems II, Sept 9-12, Boston MA, 2007 (**Tutorial**).
86. Anurag Chaudhry and M. Saif Islam, “Understanding the Unusual Conduction Mechanism in InN Nanowires”, SPIE Symposium on Nanomaterials Synthesis, Interfacing, and Integrating in Devices, Circuits, and Systems II, Sept 9-12, Boston MA, 2007.
87. Anurag Chaudhry, Ataur Sarkar, Logeeswaran VJ and M. Saif Islam, “Integrating 1D Nanostructures in Devices and Circuits for Massively Parallel and Manufacturable Nanoscale Electronics and Photonics”, NSTI-Nanotech, vol. 1, pp. 111-114, 2007.
88. Chad Johns, Doug A. A. Ohlberg, Shih-Yuan Wang, R. Stanley Williams, and M. Saif Islam, “Nanoscale Switching Junctions Based on an Organic Monolayer of Molecules and Solid Electrolytes” *IEEE Nano*, Hong Kong, 2007.
89. Nobuhiko P. Kobayashi, Xuema Li, Logeeswaran VJ, Joseph Straznicky, M. Saif Islam, Shih-Yuan Wang and R. Stanley Williams, “Indium Phosphide Nanoneedle Photoconductors”, *IEEE Nano*, Hong Kong, 2007.
90. Logeeswaran VJ, N. P. Kobayashi, M. Saif Islam, W. Wu, P. Chaturvedi, N.Fang, S.Y.Wang, & R. Stanley Williams, “Smooth Silver Thin Film Deposited Using Ge as a Wetting Layer for Nanoscale Electronics and Photonics”, *IEEE Nano*, Hong Kong, 2007.
91. Anurag Chaudhry and M. Saif Islam, “Contact Resistance of Epitaxially Interfaced Bridged Si Nanowires”, *IEEE Nano*, Hong Kong, 2007.
92. M. Saif Islam, "A mass-manufacturable nanowire interfacing technique for ultra-low contact resistance", Multiphysics of Small Scale Materials, ASME Applied Mechanics and Materials Conference, Austin, Texas, June 3-7, 2007 (**Invited**).
93. M. Saif Islam, “Massively Parallel Interfacing of Nanostructures for Nanoscale Electronics, Photonics and Sensors” International Workshop LASERION® 2007, Microfabrication,

nanostructured materials and biotechnology, July 1-6, 2007 Schloss Ringberg/Tegernsee, Germany (**Invited**).

94. Suvaluk Asavasanti, Ataur Sarkar, Diane M. Barrett, Pieter Stroeve, Saif Islam, Pieter Stroeve, "Electrical characteristics of plant tissue exposed to moderate electric fields" The Institute of Food Tech. Annual Meeting & Food Expo, July 28-Aug 1, Chicago, IL, 2007.
95. Logeeswaran VJ, Mei-Lin Chan, M.Saif Islam, David A Horsley, Wei Wu, Shih Yuan Wang and R. Stanley Williams; "Surface Deformation of Metal Films Under Controlled Pressure for Generating Ultra-flat Metal Surfaces" MRS Spring Meeting, (B8.22) 2007.
96. Logeeswaran VJ, Nobuhiko K. Kobayashi, Wei Wu, M.Saif Islam, Nicholas Xuanlai Fang, Shih Yuan Wang and R. Stanley Williams, "Ultra-smooth Ag Film Fabricated Using e-beam Evaporated Ge as an Intermediate Wetting Layer for Applications in Nanoscale Devices and Superlens" MRS Spring Meeting, (B8.18) 2007.
97. M. Saif Islam, I. Kimukin, AFM. Anwar, "A physics based model for transport in semiconductor nanowires", SPIE Symposium on Nanomaterial Synthesis and Integration for Sensors, Electronics, Photonics, and Electro-Optics, Oct 1-4, Boston MA, 2006.
98. M. Saif Islam, "Integrating and Accurate Positioning of 1D Nanowires in Devices and Circuits: Recent Developments, Current Challenges and Future Opportunities", International Symposium on Frontiers in Nanoscale Science, Technology and Education, Cochin, India, August 16-19, 2006 (**Invited**).
99. Christopher W. Edgar, Chad D. Johns, Logeeswaran VJ and M. Saif Islam, "A Novel Technique for Precise Positioning of Metal-catalyzed Semiconductor Nanowires", SPIE Symposium on Nanomaterial Synthesis and Integration for Sensors, Electronics, Photonics, and Electro-Optics, Oct 1-4, Boston MA, 2006.
100. M. Saif Islam, Ibrahim Kimukin, Chad Johns, Sungsoo Yi, "Hetero-epitaxial Growth of InP Nanowires on Silicon Surfaces with Large Diameters", SPIE Symposium on Nanophotonics for Communication: Materials, Devices, and Systems III, Oct 1-4, Boston MA, 2006.
101. Logeeswaran VJ, M. Saif Islam, M.-L. Chan, D. A. Horsley, W. Wu, S.-Y. Wang and R. S. William, "Self-assembled microfabrication technology for 3D isotropic negative index material", Proceedings of SPIE, Vol 6393, Nanophotonics for Communication: Materials, Devices, and Systems III, Martina Gerken, N. K. Dhar, A. K. Dutta, M. Saif Islam, Editors, 639305
102. Logeeswaran VJ, M. Saif Islam, Ekaterina Ponizovskaya, Alexander Bratkovsky, Wei Wu, Shih-Yuan Wang, R. Stanley Williams, "Toward the modulation of negative index materials by photoconductive coupling", Proceedings of SPIE, vol 6373, Terahertz Physics, Devices, and Systems, Editors Mehdi Anwar, A, J. DeMaria, Michael S. Shur, 6373 0H, Oct. 12, 2006.
103. M. Saif Islam, Long Do, I. Kimukin and A. F. M. Anwar, "Determination of Surface Depletion Thickness of p-doped Silicon Nanowires Synthesized Using Metal Catalyzed CVD Process", 6th IEEE Conference on Nanotechnology, Cincinnati-Ohio, July 16-20, 2006.
104. Ibrahim Kimukin, Chad Johns, Christopher Edgar, S. S. Yi, G. Girolami, J. Amano, M. Saif Islam "Unusual Growth of InP Nanowires Grown on Silicon", 6th IEEE Conference on Nanotechnology, Cincinnati-Ohio, July 16-20, 2006.
105. Doug A. A. Ohlberg, Duncan R. Stewart, Shih-Yuan Wang and R. Stanley Williams, Chad Johns, Long Do, Ibrahim Kimukin and M. Saif Islam, "Solid electrolyte based switching

junctions fabricated using an organic monolayer for nanoscale separation between electrodes", MRS Spring Meeting, April 17-21, 2006.

106. I Kimukin, M. Saif Islam, S. Sharma, T. I Kamins and R. S. Williams, "Surface depletion thickness and charge density of CVD grown p-doped silicon nanowires", MRS Spring Meeting, April 17-21, 2006.
107. Jong-Soo Lee, Sangtae Kim and M. Saif Islam, "Selective Lateral Growth and Electrical Properties of ZnO Nanowires Between Two Isolated Electrodes; MRS Spring Meeting, April 17-21, 2006.
108. M. Saif Islam, I. Kimukin, T. I. Kamins, S. S. Yi, G. Girolami, and J. Amano, "Electrical characteristics of epitaxially integrated InP nano-bridges between silicon electrodes", MRS Spring Meeting, April 17-21, 2006.
109. V. J. Logeeswaran, M. Saif Islam, M.-L. Chan, D. A. Horsley, W. Wu, S.-Y. Wang and R. S. William, "Realization of 3D Isotropic Negative Index Materials using Massively Parallel and Manufacturable Microfabrication and Micromachining Technology", Mater. Res. Soc. Symp. Proc. Vol. 919 2006, (0919-J02-01).
110. C. Johns, I. Kimukin, M. Saif Islam, D. A. A. Ohlberg, D. R. Stewart, C. Donley, S.-Y. Wang and R. S. Williams, "A novel non-destructive interfacing technique for molecular scale switching junctions", Mater. Res. Soc. Symp. Proc. Vol. 938, 2006 (0938-N08-01).
111. C. Edgar, C. Johns and M. Saif Islam, "Novel Fabrication Technique for Metal Nanoparticle Arrays with uniform size, shape and periodicity for synthesizing metal-catalyzed semiconductor nanowires", Mater. Res. Soc. Symp. Proc. Vol. 940 2006 (0940-P13-12).
112. M. Saif Islam, I. Kimukin, Sung Soo Yi, G. Girolami, Jun Amano and T. I. Kamins, "Interface Characteristics of InP Nanowires Epitaxially Grown and Bridged Between Two Silicon Surfaces", 33rd Conference on the Physics and Chemistry of Semiconductor Interfaces (PCSI-33), Cocoa Beach, Florida, January 15-19, (2006) paper # Mo0905.
113. A. K. Dutta, S. Haranahalli and M. Saif Islam, "Novel Application of Nanometal Particles" International Symposium on Metal and Alloy Nanomaterial Based Applied Technologies in Japan-US, Jan. 12, 2006, Tohoku Univ, Japan, pp 59-70 (**Invited**).
114. Chris Edgar, Chad Johns and M. Saif Islam, "Synthesis and Positioning of Metal and Alloyed Nanoparticles with Uniform Size, Shape and periodicity Using Rayleigh Instabilities at Elevated Temperature" International Symposium on Metal and Alloy Nanomaterial Based Applied Technologies in Japan-US, Jan. 12, 2006, Tohoku Univ, Japan, pp 35-41 **(Invited).**
115. C. Edgar and M. S. Islam, "Recent Developments and Current Challenges in Interfacing and Integrating 1D Semiconductor Nanowires in Devices and Circuits", Proceedings of the SPIE Optics East Conference on Nanostructure Integration Techniques for Manufacturable Devices, Circuits, and Systems: Interfaces, Interconnects, and Nanosystems, Vol. 6003, pp. 1-11. (**Tutorial**)
116. A. K. Dutta and M. S. Islam, "Novel Broadband Photodetector for Optical Communication", The SPIE Conference on Active and Passive Optical Components for WDM Communications Vol. 6014, pp. C-1-10, 2005 (**Invited**).
117. C. Tam, C. Chiang, M. Cao, M. Chen, M. C. Wong, J. K. Poon, K. Aihara, A. C. Chen, A. Vazquez, C. D. Johns, J. M. Frei, I. Kimukin, A. K. Dutta, and M. S. Islam, "High Speed PIN

Photodetector with Ultrawide Spectral Responses", Proceedings of the SPIE Conference on Active and Passive Optical Components for WDM Communications v 6014, pp. Z1-6, 2005.

118. A. K. Dutta, N. K. Dhar, P. Wijewarnasuriya, and M. Saif Islam, "Novel Multi-color Image Sensors for Biochemical, Biomedical, and Security Applications", Proceedings of the SPIE Optics East Conference on Nanosensing Materials and Devices, V. 6008, p1, 2005 **(Invited)**.
119. T. I. Kamins, S. Sharma, M. S. Islam, and R. S. Williams, "Metal-catalyzed Silicon Nanowires: Control and Connections" Proceedings of the 5th IEEE Conference on Nanotechnology, 2005.
120. S. S. Yi, G. Girolami, J. Amano, M. Saif Islam, T. I. Kamins, and S. Sharma, "InP Nanobridges Epitaxially formed between two vertical Si surfaces", Proceedings of the 5th IEEE Conference on Nanotechnology, 2005.
121. S. Sharma, A. A. Yasseri, M. S. Islam, T. I. Kamins, R. S. Williams, Controlled Metal Catalyzed Growth of Silicon Nanowires for Device Integration, The AICHE Annual Meeting, 2005 (**Invited**).
122. M. Saif Islam, Z. Li, S-C Chang, D.A.A. Ohlberg, D.R. Stewart, S.Y. Wang and R.S. Williams, "Dramatically Improved Yields in Molecular Scale Electronic Devices Using Ultra-Smooth Platinum Electrodes Prepared By Chemical Mechanical Polishing" Proceedings of 5th IEEE Conference on Nanotechnology, Nagoya, Japan, July 2005.
123. S. S. Yi, Y.-L. Chang, J. Albuschies, E. Chow, G. Girolami, J. Amano, M. S. Islam, T. I. Kamins, S. Sharma, and H. Gamino, Formation of Highly Aligned, Metal Catalyzed Si and InP nanowires", The 342nd Wilhelm and Else Heraeus Seminar Science & Technology of Inorganic Nanowires, 2005. **(Invited)**.
124. M. S. Islam, D. R. Stewart, T. I. Kamins, S. Sharma, P. J. Kuekes, and R. S. Williams, "Nano-colonnades, A Novel Technique for Integration of Nanowire Devices", The MRS Spring Meeting, 2005.
125. S. S. Yi, G. Girolami, J. Amano, M. Saif Islam, T. I. Kamins, and S. Sharma, "Epitaxial Integration of InP nanowires on Silicon", Proceedings of the SPIE Optics East Conference on Nanostructure Integration Techniques for Manufacturable Devices, Circuits, and Systems: Interfaces, Interconnects, and Nanosystems, V 6003, 2005 **(Invited)**.
126. I. Kimukin and M. S. Islam, S. Sharma, T. I Kamins and R. S. Williams, "Surface Depletion Thickness of p-doped Si Nanowires Grown Using Metal Catalyzed Chemical Vapor Deposition", Late Breaking News Talk at SPIE Optics East Conference on Nanosensing Materials and Devices, 2005.
127. T. Kamins, S. Sharma, M. S. Islam, B. Rajendran, and R. S. Williams, "Metal Catalyzed, Self-assembled 'Bridging' Nanowires and Their Potential use as Sensors", The 13th International Congress on Thin Films 8th International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures 13/ACSIN 8, (**Invited**).
128. S. Sharma, M. S. Islam, T. I. Kamins and R. S. Williams, "Integrated Metal-Catalyzed Bridging Silicon Nanowires", The MRS Spring Meeting, 2005.
129. M. Saif Islam, T. I. Kamins, *M*. Saif Islam, S. Sharma, and R. S. Williams, "Nano-bridging: A massively paralle self-assembly technique for interfacing nanosensors," *SPIE Conference on Nano-Sensors: Material and Devices, Optics East.* October 24-28, 2004.

130. M. S. Islam, S. Sharma, T. I. Kamins, and R. S. Williams, "A Novel Massively parallel Manufacturable Technique for Interfacing Nanowire Devices", Late Breaking News Talk at SPIE Optics East Conference on Nanosensing Materials and Devices, October 24-28, 2004.
131. T. I. Kamins, M. Saif Islam, S. Sharma, and R. S. Williams. "Self-assembled nano-bridges as an enabler for nanosensors", *IEEE-NANO*, Aug 17-19, Munich, Germany 2004.
132. M. Saif Islam, S-C Chang, D. A. A. Ohlberg, D. R. Stewart, Y. Chen and R. Stanley Williams, "Chemical-Mechanically Polished Ultra-Smooth Platinum Surfaces for High Yield in Molecular Electronic Devices" Submitted to the Material Research Society Spring Meeting, San Francisco, CA April 12-16, 2004.
133. M. Saif Islam, S. Sharma, T. I. Kamins, and R. Stanley Williams, "Well-Ordered Silicon Nanowire-Bridge Arrays Formed by Metal-Catalyzed Chemical Vapor Deposition", Submitted to the Mat. Res. Society Spring Meeting, San Francisco, CA April 12-16, 2004.
134. T. I. Kamins, M. Islam, and S. Sharma, "Self-assembled semiconductor nanowires on Silicon on insulator substrates: Experimental behavior", NATO Advanced Research Workshop: Science and Technology of Semiconductor-on-insulator Structures Devices Operating in a Harsh Environment, Kiev, Ukraine 26–30 April 2004.
135. M. Saif Islam, Shun-Chi Chang, Gun-Young Jung, Yong Chen, and R. Stanley Williams "Ultra-smooth Platinum Surfaces for Self-Assembled Monolayers and Molecular Electronic Devices", Material Research Society Annual Meeting, Boston, MA December 05, 2003.
136. M. Saif Islam, "Recent Advances and Future Prospects in High-Speed and High-Saturation-Current Photodetectors" Proceedings of the SPIE Conference on Active and Passive Optical Components for WDM Comm. III (IT111), p448, (2003) **(Invited paper).**
137. M. Saif Islam, "Distributed balanced photodetectors" Proceedings of the 14th IEEE/LEOS Annual Meeting Conference, 2001, pp. 380-381 **(invited paper)**.
138. M. Saif Islam, A. Nespola, M. Yeahia, M.C. Wu, D.L. Sivco, and Alfred Y. Cho, "Correlation between the Failure Mechanism and Dark Currents of High Power Photodetectors," *13th IEEE/LEOS Annual Meet Conf. Proc,*, Puerto Rico, 2000, pp. 82-83.
139. M. Saif Islam, M.C. Wu, D.L. Sivco, and Alfred Y. Cho, "Distributed Balanced Photodetectors with *p-i-n* Photodiodes for Broadband Suppression of Laser Noise," OSA annual meeting, Rhode Island, USA, 2000.
140. S. Murthy, T. Jung, T. Chau, M. Saif Islam, M.C. Wu, D.L. Sivco, and Alfred Y. Cho, "Parallel feed distributed velocity matched photodetectors with monolithically integrated multimode interference couplers" The 2000 Annual Research Symposium, UCLA, Los Angeles, CA, Sep. 25-26, 2000.
141. M. Saif Islam, S. Murthy, T. Jung, S. Mathai, T. Itoh and M.C. Wu, "Velocity-matched Distributed Photodetectors and Balanced Photodetectors with p-i-n Photodiodes," Multi University Research Initiative on RF Photonics Annual Rev. Meeting, Univ of Colorado, Denver, CO, Oct 13-14, 2000.
142. M. Saif Islam, T. Jung, S. Murthy, T. Itoh, M.C. Wu, D.L. Sivco, and Alfred Y. Cho, "Velocity-matched distributed photodetectors with p-i-n photodiodes," Int. Top. Meeting on Microwave Photonics 2000, pp. 217-220, Oxford, UK, September 11-13, 2000.
143. M.C. Wu, M. Saif Islam, S. Murthy, T. Jung, and T. Chau, "High Power Millimeter-Wave Photodetectors," Int. Topical Meeting on Microwave Photonics, 2000, Oxford, UK, Sept. 11-13, 2000 **(Invited paper)**.

144. M. Saif Islam, T. Jung, S. Mathai, T. Chau, T. Itoh, M.C. Wu, D.L. Sivco, and Alfred Y. Cho, "High Power Distributed Balanced Photodetectors with High Linearity," Int. Topical Meeting on Microwave Photonics, Melbourne, Australia, Nov.16-19, 1999.
145. M.S. Islam, T. Chau, S. Mathai, T. Itoh, M.C. Wu, D.L. Sivco, and Alfred Y. Cho", Experimental Investigation of Power Distribution in Distributed Balanced Photodetectors," Proc. of the IEEE-LEOS Annual Meeting, pp. 806-807, San Francisco, CA, 1999.
146. M.C. Wu, T. Chau, M. Saif Islam, "High speed velocity matched distributed photodetector," LEOS '99 Annual Meeting Conf. Proceed., San Francisco, CA, Nov 8-11, 1999 **(Invited)**.
147. M. Saif Islam, T. Chau, T. Itoh, M.C. Wu, D.L. Sivco, and Alfred Y. Cho, "Distributed Balanced Photodetectors for RF Photonic links," Proceedings of the SPIE Conference on Terahertz and Gigahertz Photonics, pp. 26-39, July 19-23, 1999 **(Invited paper)**.
148. M.C. Wu, M. Saif Islam, and T. Chau, "Distributed Balanced Photodetectors for High Performance RF Photonoc Applications," 1999 Advanced Workshop on Frontiers in Electronics (WOFE) 1999 Lecce, Italy: May 31 - June 4, 1999 **(Invited paper)**.
149. M. Saif Islam, T. Chau, S. Mathai, T. Itoh and M.C. Wu, "Noise Suppression Properties of Distributed Balanced Photodetectors for High Performance RF Photonic Links," Proceedings of the Conference on Laser and Electro-optics (CLEO), Technical Digest, pp. 317-318, 1999.
150. M. Saif Islam, T. Chau, S. Mathai, A. Rollinger, X.J. Meng, T. Itoh and M.C. Wu, "Monolithic Integration of Distributed Balanced Photodetectors for High Performance RF Photonoc Links," Proceedings of the Optical Fiber Communication Conference and the International Conference on Integrated Optics and Optical Fiber Comm., **1**, p102, 1999.
151. M.C. Wu, T. Itoh, T. Chau, M. Saif Islam, S. Mathai, A. Rollinger, "High Power Photodetectors," International Topical Meeting on Microwave Photonics, Sarnoff Corporation, Princeton, New Jersey, Oct. 12-14, 1998.
152. M. Saif Islam, T. Chau, S. Mathai, A. Rollinger, A. Nespola, W.R. Deal, T. Itoh and M.C. Wu, "Distributed Balanced Photodetectors for RF Photonoc Links," Int.Topical Meeting on Microwave Photonics, Princeton, NJ, 12-14 Oct.1998.
153. E.P. Ata, M. Gökkavas, B.M. Onat, M. Saif Islam, G. Tuttle, R. Mirin, K.J. Knopp, K.A. Bertness, D.H. Christensen, M.S. Ünlü, and E. Özbay, "High Bandwidth-Efficiency GaAs Schottky Photodiodes for 840 nm Operation Wavelength," Proc. of Int'l Semiconductor Device Research Symposium, Charlottesvile, VA, December 1997.
154. M. Saif Islam, T. Chau, A. Nespola, S. Mathi, A.R. Rollinger, D.T.K. Tong, W.R. Deal, T. Itoh and M.C. Wu, "Distributed High Power Balanced Photodetectors for Shot-Noise Limited Performance," Multi University Research Initiative on RF Photonics Annual Review Meeting, UCLA, Los Angeles, CA, December 11-12, 1998.
155. M. Gokkavas, B.M. Onat, E. Özbay, M. Saif Islam, E.P. Ata, E. Towe, G. Tuttle, and M.S. Unlu, "Ultrafast Resonant Cavity Enhanced Schottky Photodiodes", Proceedings of the IEEE-LEOS Annual Meeting, pp. 160-161, 1997.
156. E. Özbay, E.P. Ata, M. Saif Islam, O. Aytür, M. Gökkavas, and M.S. Ünlü, "high-speed resonant cavity enhanced schottky Photodiodes," 5th Ankara Condensed Matter Conference, Middle East Technical University, Ankara, Turkey, Mar 1997.
157. M. Saif Islam, E. Özbay, O. Aytür, B.M. Onat, M. Gökkavas, and M.S. Ünlü, "Fabrication of High-Speed Resonant Cavity Enhanced Schottky Photodiodes," Proceedings of the OSA Ultra-fast Electronics and Optoelectronic, OSA Top. Meeting Tech. Dig. 14, pp.107, 1997.

US PATENTS GRANTED

1. M. Saif Islam and SY Wang, "**Reducing Output Noise in a Ballast Powered Semiconductor Optical Amplifier**", US Patent # **6,714,344**, 2004.
2. S. Y Wang, Miao Zhu, Zuhua Zhu, Haiging Wei, M. Saif Islam, "**Semiconductor Optical Amplifier using Laser Cavity Energy to Amplify Signal and Methods of Fabrication Thereof**", US Patent # 6,836,357, 2004.
3. S-Y Wang, Z. Li and M. Saif Islam, "**In situ excitation for Surface Enhanced Raman Spectroscopy**", US Patent # 7,102,747, 2006.
4. M. Saif Islam, Shih-Yuan Wang, GY Jung, Yong Chen and R. Stanley William, **"Apparatus for imprinting lithography and fabrication thereof",** US Patent # 7,141,866, 2006.
5. M. Saif Islam, Shih-Yuan Wang, Wei Wu, Zhiyong Li and R. Stanley William, **Monolithic system and method for enhanced Raman spectroscopy**, US Patent # 7,151,599, 2006.
6. M. Saif Islam, Theodore I Kamins and Shashank Sharma, **Methods of bridging lateral nanowires and device using same**, US Patent #7,208,094, 2007.
7. Shih-Yuan Wang, Philip J. Kuekes, Wei Wu, Joseph Straznicky and M. Saif Islam, **Composite material with powered resonant cells**, US Patent #7,205,941, 2007**.**
8. Shih-Yuan Wang, Zhiyong Li and M. Saif Islam, I**ntegrated radiation sources and amplifying structures, and methods of using the same,** #7,177,021, 2007.
9. A. Bratkovski, M. Saif Islam, T. I. Kamins, Zhiyong Li and Shih-Yuan Wang, **Nanowires for surface-enhanced Raman scattering molecular sensors**, #7,245,370, 2007.
10. Zhiyong Li, Raymond G. Beausoleil, Philip J. Kuekes, Shih-Yuan Wang, M. Saif Islam, **Photonic crystal device for fluid sensing**, United States Patent 7,289,690, 2007.
11. M. Saif Islam Philip J. Kuekes; Shih-Yuan Wang; Duncan R. Stewart; and Shashank Sharma, **Nanowire interconnection and nano-scale device applications**, US Patent 7,307,271, 2007.
12. Shih-Yuan Wang, M. Saif Islam and Zhiyong Li, **Wavelength-tunable excitation radiation amplifying structure and method**, US Patent # 7,307,719, 2007.
13. William Tong and M. Saif Islam, **Metallic quantum dots fabricated by a superlattice structure**, US Patent # 7,309,642, 2007.
14. S. Y Wang, Miao Zhu, Zuhua Zhu, Haiging Wei, M. Saif Islam, **Semiconductor optical amplifier using laser cavity energy to amplify signal and method of fabrication thereof**, US Patent # 7,265,898, 2007.
15. Shih-Yuan Wang, M. Saif Islam and Alexandre M. Bratkovski, **Mach Zehnder photonic crystal sensors and methods**, US Patent # 7,289,221, 2007.
16. Shih-Yuan Wang and M. Saif Islam, **Patterning nanoline arrays with spatially varying pitch,** US Patent # 7,329,115, 2008.
17. M. Saif Islam, Shih-Yuan Wang and R. Stanley Williams, **Dynamic random separation among nanoparticles for nano enhanced Raman spectroscopy (NERS) molecular sensing**, US Patent # 7,372,562, 2008.
18. Shih-Yuan Wang, Zhiyong Li and M. Saif Islam, **Light-amplifying structures and methods for surface-enhanced Raman spectroscopy**, US Patent # 7,339,666, 2008.
19. Shih-Yuan Wang, M. Saif Islam and Raymond Beausoleil, **Nano-VCSEL device and fabrication thereof using nano-colonnades,** US Patent # 7,400,665, 2008.

20. M. Saif Islam, Shih-Yuan Wang, W Wu, Z Li and R. Stanley William, **Integrated modular system and method for enhanced Raman spectroscopy,** US Patent #7,385,691, 2008.
21. M. Saif Islam, Shih-Yuan Wang, R. Stanley Williams, Philip J Kuekes, Wei Wu, Zhiyong Li, **Dynamically variable separation among nanoparticles for nano-enhanced Raman spectroscopy (NERS) molecular sensing,** US Patent # 7,342,656, 2008.
22. M. Saif Islam, Gun Young Jung, Yong Chen and R. Stanley William, **Method for fabricating a nano-imprinting mold**, US Patent # 7,368, 395, 2008.
23. Philip J Kuekes, Shih-Yuan Wang, Raymond G. Beausoleil, Alexandre M. Bratkovski, Wei Wu, and M. Saif Islam, **Composite material with controllable resonant cells,** US Patent # 7,405,866, 2008.
24. Shih-Yuan Wang, M. Saif Islam and Philip J. Kuekes, **Cooling devices that use nanowires**, US Patent #7,449,776, 2008.
25. Wang; Shih-Yuan and M. Saif Islam, "**Method and apparatus for pixel display and SERS analysis**" #7,609,376, 2009.
26. Philip J Kuekes; M. Saif Islam Shih-Yuan Wang, Alexandre M Bratkovski, **"Fabricating arrays of metallic nanostructures**", #7,592,255, 2009.
27. Shih-Yuan Wang, M. Saif Islam, Alexandre M. Bratkovski and Raymond G. Beausoleil, **"Photonic crystal laser sensors and methods"**, US Patent #7,492,979, 2009.
28. Zhiyong Li, R. Stanley Williams, M. Saif Islam and Philip J. Kuekes, **Photonic crystals with nanowire-based fabrication,** US patent #7,507,293, 2009.
29. Raymond G. Beausoleil, Sean Spillane, Philip J Kuekes, Duncan Stewart, and M. Saif Islam; "**Fiber-coupled single photon source**", US patent #7,492,803, 2009.
30. R Vidu, Brian Argo, John Argo, Pieter Stroeve, M. Saif Islam J-R Ku and Michael Chen, "**Nanostructure and Photovoltaic Cell Implementing Same**", US Patent # 0078055, 2010.
31. Philip J Kuekes, Shih-Yuan Wang, Raymond G. Beausoleil, Alexandre M. Bratkovski, Wei Wu, and M. Saif Islam; **Composite material with controllable resonant cells**, US patent #7,692,840, 2010.
32. M. Saif Islam, Yong Chen, Shih-Yuan Wang and R. Stanley William, **Nanowire device with (111) vertical sidewalls and method of fabrication**, US patent # 7,692,179, 2010.
33. B. Argo, R. Vidu, P. Stroeve, J. Argo, M. Saif Islam, Jie-Ren Ku and M. Chen; **Nanostructure and photovoltaic cell implementing same**, US patent # 7,847,180. 2010.
34. Kuekes; Philip J, Islam; M. Saif, Wang; Shih-Yuan, Bratkovski; Alexandre M., **Fabricating arrays of metallic nanostructures**, US Patent # 7,989,798, 2011.
35. Wang; Shih-Yuan; *Islam*; M. Saif; Kuekes; Philip J.; Kobayashi; Nobuhiko, **Nanowire-based opto-electronic device**, US Patent # 8,212,235, 2012.
36. Kobayashi; Nobuhiko, Wang; Shih-Yuan; Islam; M. Saif; Utilizing nanowire for generating white light, US Patent # 8,188,494, 2012.
37. Wang; Shih-Yuan; *Islam*, M. Saif; Kuekes, Philip J.; Kobayashi, Nobuhiko, **Gain-clamped semiconductor optical amplifiers**, US Patent # 8,357,926, 2013.
38. Ruxandra Vidu, Brian Argo, John Argo, Pieter Stroeve, M Saif Islam, Jie-Ren Ku, Michael Chen, **Methods for forming nanostructures and photovoltaic cells implementing same**, US Patent # 8,906,733, 2014
39. B Argo, R Vidu, P Stroeve, J Argo, S Islam, JR Ku, M Chen, **Methods for forming nanostructures and photovoltaic cells implementing same**, US Patent 8,895,350, 2014.

40. **Stroeve; Pieter, Farber; Ben Shand**, **Islam; M. Saif, Routhier; Edmond Edward**, Apparatus to manipulate colloidal particles in a bistable medium, US Patent # **9,235,102,** 2016.
41. SY Wang, SP Wang, MS Islam, Microstructure enhanced absorption photosensitive devices, US Patent 10,468,543, 2019.
42. SY Wang, SP Wang, MS Islam, Microstructure enhanced absorption photosensitive devices, US Patent 10,446,700, 2019.

PATENTS PENDING

1. Shih-Yuan Wang and M. Saif Islam, **Light sources that use diamond nanowires**, US patent patent application # 20060220163.
2. Zhiyong Li, Shih-Yuan Wang, Wei Wu and M. Saif Islam, **Method and apparatus for molecular analysis using nanowires**, US patent patent application # 20060275779.
3. Zhiyong Li, M. Saif Islam, and Shih-Yuan Wang, **Nanochannel apparatus and method of fabricating**, US patent patent application # 20070122313.
4. A. Bratkovski, S.-Y. Wang and M. Saif Islam, **Multi-emitter image formation with reduced speckle**, US patent patent application # 11/584,475.
5. M. Saif Islam and Logeeswaran V. Jayaraman, **Blade with a varying cutting angle,** Patent application PCT US2014/028831, WO 2014144424 A1, 2014.

CONSULTING AND BOARD MEMBERSHIP

- **Atocera, Inc. President and CTO, Davis, CA, (**2013-Present)
- **Colr Inc, Member, Board of Directors, San Jose CA** (2010-Present)
- **Flexstrata, Inc.,** Sacramento CA Founder and CTO, 2010-11
- **Banpil Photonics Inc**., Member, Technical Advisory Board, (2005-2012)
- **Hewlett-Packard Labs**, Palo Alto, CA, USA Independent Consultant, (2004-2012)
- **Qualcomm**, San Diego, CA USA, Technical Advisor, (2010-2013)
- **Abbott Cardiovascular**, Santa Clara, CA Technical Advisor and Consultant, (2012-13)
- **RTI International**, Technical Advisor, (2010-2013)
- **Bloo Solar** Inc., CA Technical Advisor, (2006-2008)

GOVERNMENT & NON-PROFIT COMMITTEES/PANELS/BOARDS

- **Chile, National Commission for Scientific and Technological Research** (CONICYT), Member of International Review Panels (2013-Present).
- **Turkey, Turkish Ministry of Science, Technology and Industry and TUBITAK,** Member of Advisory Panel (2013-16)
- **USA, Inspiring South Asian Youth (ISAY), NJ,** Member, Board of Directors (2013-17)
- **USA, National Science Foundation,** Member, Panel Review Team, Several Programs during the last 10 years.
- **Canada, NSERC,** Member of the Peer Review Committees: 2010-13

- **Saudi Arabia,** Member of International Advisory Committee in the "International Workshop on Advanced Materials for Sensors, Electronic Devices and Renewable Energy (IWASER-2012)", Najran, May 14-16, 2012.
- **USA, Nevada Institute for Renewable Energy Commercialization** (NIREC), Member of Advisory Panel, 2012
- **Qatar,** National Research Fund, Member of the Peer Review Committees: 2011-present.
- **Japan, Nara Institute of Science and Technology,** Member of International Advisory Committee in the "Joint international symposium and a students' research evaluation", 2009-2013.
- **USA**, Member, External Rev. Committee, College of Engineering, UC Irvine, May, 2010.
- **Italy,** University and Scientific Research Department, Provincia Autonoma di Trento, Member of the Peer Review Committees, Oct-Nov, 2011.
- **USA, Sandia National Labs**, Member and PI of National Institute for Nano Engineering (NINE), 2008-12.
- **USA, Northern California Nanotechnology Center, CA**: Member of the Advisory Committee (2007-2012)
- **Turkey, Gazikent University,** Consulting Professor and Advisor to the Rector, 2010-11.
- **USA, National Nano Initiative: Nanotech. Enabled Sensing,** Panel Member 05/2009
- **Singapore,** National Research Foundation, Member of the Peer Review Committees: 2009.
- **USA, Berkeley Nanoforum, CA, Reviewer and Judge**: April 15 2007 & April 26, 2009.
- **NATO International Technology Program Office,** Nanotechnology Research Forum Technical Advisor, October 16-20, 2006.
- **Malaysia, University Putra Malay,** Member of Ph.D. Dissertation Committees, 2012-14
- **Taiwan, Workshops at TSMC, HTC and Delta,** Invited Participant in Workshop on Frontiers in Nanoscale Science, Technology", March 30-April, 2008 Taipei, Taiwan.
- **USA, DARPA-ARL-AMRDEC, Dept of Defense,** Invited Participant, "Workshop on Nanoelectronics for RF and Electronics Applications", August 28-29, 2008, Adelphi, MD.
- **USA, DARPA, Department of Defense,** Invited Participant, "Workshop on Common Platform Composite Wafer Technology for Infrared Focal Plane Arrays", October 5-6, 2008, Chicago, IL USA.
- **India, Ministry of Science and Technology**, Invited Participant, "Workshop on Symposium on Frontiers in Nanoscale Science, Tech. and Education", Aug. 16-19, 2006 Cochin India.
- **Japan, New Energy and Industrial Technology Development Organization**, Organizer and Invited Participant, "The International Symposium on Metal and Alloy Nanomaterial Based Applied Technologies in Japan and the USA", January 12, 2006 Sendai Japan.

INVITED CONFERENCE PRESENTATIONS, LECTURES & SEMINARS_____

1. M. Saif Islam, Bending, trapping and slowing down light beams in thin films for ultrafast, highly sensitive detection and efficient energy conversion, Applied Materials Lab, December 16, 2019.
2. M. Saif Islam, Bending, trapping and slowing down light beams to enable ultra-fast photodetection and efficient energy conversion, Univ of California Santa Cruz, November 25, 2019.
3. M. Saif Islam, Charged Particles Enabled Nano Sensors for Extreme Conditions, National Chung Hsing University Taiwan, November 11, 2019.

4. Bending, trapping and slowing down light beams for ultra-fast photodetection and efficient energy conversion, National Chung Hsing University Larry N. Vanderhoef Distinguished Seminar, November 12, 2019.
5. M. Saif Islam, Advanced technologies for imaging and sensing of faint signals of light, chemicals and bio-agents, Jena-Davis (JEDIS) Alliance of Excellence in Biophotonics, Summer School, UC Davis, August 25, 2019
6. M. Saif Islam, Bending, Trapping and Slowing Down Light Beams to Enable Ultra-high Efficiency in Solar Energy Harvesting, 6th NANOENERGY 2019 conference to be held at Universiti Tenaga Nasional, Malaysia 27-29 July 2019 (Keynote Presentation).
7. M. Saif Islam, Bending, trapping and slowing down light beams Periodic Nanoholes for highly-efficient photovoltaics and ultra-fast photodetection, Dhaka University, July 31, 2019.
8. M. Saif Islam, Bending, trapping and slowing down light beams for highly-efficient and ultra-fast photodetection, OSA Webinar, August 19, 2019.
9. M. Saif Islam, Slowing down and trapping of light for highly-sensitive and ultra-fast silicon photonic receivers, Photonics and Sensor Workshop University of London, UK June 27-29, 2019.
10. M. Saif Islam, Charged Particles Enabled Nano Sensors for Extreme Conditions, International Nanotechnology and Nanoscience Conference, Sept 23-24, Chicago, IL 2019 (Keynote).
11. M. Saif Islam, Bending, trapping and slowing down light beams for highly-efficient and ultra-fast photodetection, International Nanotechnology and Nanoscience Conference, Sept 23-24, Chicago, IL 2019.
12. M. Saif Islam, Engineering nanostructures for highly efficient sensing, energy harvesting, storage and computing, TE Connectivity, August 28, 2018.
13. M Saif Islam, Single Photon Avalanche Photodetectors Enabled by Light Bending and Photon Trapping, Micro-and Nanotechnology Sensors, Systems, and Applications XI, April 14-18, Baltimore, MD, 2019
14. M Saif Islam, Black holes enabled light bending and trapping in ultrafast silicon photodetectors, Defense and Commercial Sensing, Micro-and Nanotechnology Sensors, Systems, and Applications X, April 15-19, 2018.
15. M. Saif Islam, Black holes enabled bending, slowing and trapping of photons for integrated silicon photonic communication systems, IEEE International Conference on Telecommunication and Photonics (ICTP), Dhaka, December 26-28, 2017 (Keynote).
16. M. Saif Islam, One-dimensional nanostructures for highly efficient solar energy harvesting, storage, sensing and computing, IEEE Region 10 Humanitarian Technology Conference BUET, Bangladesh, Dec 21-23, 2017
17. Hilal Cansizoglu, Yang Gao, Kazim G. Polat, Soroush Ghandiparsi, Cesar Bartolo Perez, Ahmet Kaya, Hasina H. Mamtaz, Ahmed S. Mayet, Ekaterina Ponizovskaya Devine, Toshishige Yamada, Aly F. Elrefaie, Shih-Yuan Wang and M. Saif Islam, "Ultra-Fast Silicon Photodiodes Achieve High Efficiency via the Integration of Light-trapping Micro-/nanoholes," AVS 64th International Symposium this fall in Tampa, FL 2017.
18. M. Saif Islam, Comparison of device fabrication challenges in high-aspect-ratio pillar-array and hole-array based semiconductor micro-power systems, Micro-Power Systems Meeting, Livermore National Laboratory (LLNL) August 17, 2017, Livermore, CA 94550 US
19. M. Saif Islam. Charged Particles Enabled Sensors for Extreme Conditions. DEFENSE & SECURITY Optics, Imaging, Sensing, and Laser Systems: Micro- and Nanotechnology Sensors, Systems, and Applications VIII April 12,-17 2016.
20. M. Saif Islam, Daniel Dryden, Matthew Ombaba, Hilal Cansizoglu, Yang Gao, Ahmet Kaya, Ahmed Mayet, Toshishige Yamada, Shih-Yuan Wang and Rebecca Nikolic. DRIE Induced surface damages, passivation methods & RIE alternatives. Nano-Power Systems Meeting, Lawrence Livemore National Laboratory, Thursday, April 21, 2016.
21. M. Saif Islam, "Nitride-Enabled Extreme Integrated Systems" Semitherm-31, Intel March 2015.
22. M. Saif Islam, "Peeling Atoms by Quantum Nanostructures with Controlled Surface Disorders: Highly Selective Bio-Chemical Sensing and Cost-effective Pollution Control", International Semiconductor Science and Technology Conference" (ISSTC-2014) Istanbul, January 1-15 2014 (**Keynote**).
23. M. Saif Islam, "Engineering and Transfer-Printing of 1D/2D Semiconductor/polymer Micro/nano-Composites for Energy Conversion, Storage and Sensing", HTCMC8, Sept 22-28, Xi'an, China, 2013 **(Keynote**).
24. M. Saif Islam, "High-throughput Transfer Printing of Micro and Nanosystems for Energy Conversion, Storage, Sensing and Pollution Control", International Workshop on Nanotechnology, Renewable Energy & Sustainability (NRES) Xi'an, China by Xi'an Jiaotong University, China, Sept 25, 2013 (**Keynote**)

25. M. Saif Islam, “Engineering and Transfer-Printing of Micro-Nanodevices for Energy Conversion, Storage, Sensing and Imaging: Heterogeneously Integrated Multi-functional Systems”, International Workshop n Nanofabrication, Bilkent, Ankara Turkey (**Keynote**).
26. M. Saif Islam, “Micro/Nanoscale Materials and Devices for Energy Conversion, Storage and Sensing: Heterogeneously Integrated Multi-functional Systems via Transfer-Printing” UPM, Kuala Lumpur, Malaysia, Oct 1, 2013.
27. M. Saif Islam, “Semiconductor surgical and shaving blades” Tech Transfer Forum organized by UC Office of the President, April 2, 2013.
28. M. Saif Islam, “Nanostructured Metal Oxides for Advanced Applications” MRS Spring Meeting, 2013.
29. M. Saif Islam, “Engineering Semiconductor Nanostructures for High Performance and Ultra selective Sensing”, International Workshop on Advanced Materials for Sensors, Electronic Devices and Renewable Energy (IWASER-2012), Collaborative Research Centre for Sensors and Electronic Devices, Najran University, Saudi Arabia from 14-16 May, 2012 (**Keynote**).
30. M. Saif Islam, Avinash P. Nayak, Hakan Karaagac, Logeeswaran VJ, and Aaron M. Katzenmeyer, “Ultrasound Assisted Synthesis of ZnO Nanowire and Devices at Room Ambient on Arbitrary Substrates”, MRS Fall Meeting, Boston, MA, Nov 28, 2011.
31. M. Saif Islam, “Transfer-Printing Semiconductor Nanodevices on Arbitrary Substrates”, IEEE San Francisco Bay Area Nanotechnology Council, September 20, 2011.
32. M. Saif Islam, “Micro- and Nano-structured Semiconductor Devices on Amorphous Substrates for Low-cost Energy Conversion, Sensing and Displays”, University of Washington, Seattle, October 15, 2010.
33. M. Saif Islam, “Micro- and Nano-structured Semiconductor Devices on Amorphous Substrates for Low-cost Energy Conversion, Sensing and Displays”, Caltech, Pasadena, CA October 26, 2010.
34. M. Saif Islam, Matthew Ombaba & Logeeswaran VJ, Micro/Nano Pillar Based Single Crystal Semiconductor Devices on Amorphous Substrates for Efficient and Low-cost Energy Conversion, Nano 2010, Sept 15, Italy.
35. M. Saif Islam, Nobuhiko P. Kobayashi, A. Alec Talin, “**Nanoepitaxy and nanoheteroepitaxy: opportunities, challenges, applications and recent developments**”, SPIE Optics and Photonics, San Diego, CA Aug 1, 2010.
36. M. Saif Islam, Matthew Ombaba & Logeeswaran VJ, “**Single Crystal Semiconductor Micro-Nanowires on Arbitrary Substrates for Efficient and Low-cost Energy Conversion, Sensing and Displays**” Laserion, Max-Plank Inst, Munich July 9, 2010.
37. M. Saif Islam, Matthew Ombaba & Logeeswaran VJ, “**Single Crystal Semiconductor Micro-Nanowires on Arbitrary Substrates for Efficient and Low-cost Energy Conversion, Sensing and Displays**” University of Cologne, Germany, July 5, 2010.
38. M. Saif Islam, **“Massively Parallel and Mass-Manufacturable Techniques for 1D Nano-material Synthesis, Device Fabrication and System Integration”,** International Workshop on Cleanroom Training, UNAM, Bilkent University, Ankara, June 24, 2010.
39. M. Saif Islam, Matthew Ombaba & Logeeswaran VJ, “**Single Crystal Semiconductor Devices on Amorphous Substrates for Efficient and Low-cost Energy Conversion, Sensing and Displays**”, Bilkent University, Ankara, June 25, 2010.
40. M. Saif Islam, “**Single Crystal Semiconductor Devices on Amorphous Substrates for Efficient and Low-cost Energy Conversion, Sensing and Displays**”, UC Merced, Jun 11, 2010.
41. M. Saif Islam, “**Recent Developments and Current Challenges in Interfacing and CMOS Compatible Integration of 1D Nanowires in Devices and Circuits**”, Qualcomm, San Diego, April 20, 2010.
42. M. Saif Islam, Matthew Ombaba & Logeeswaran VJ, “**Single Crystal Semiconductor Devices on Amorphous Substrates for Efficient and Low-cost Energy Conversion, Sensing and Displays**” Berkeley Sensors and Actuator Center, April 13, 2010.
43. M. Saif Islam and Logeeswaran VJ, "**A Business Case for Nanotechnology: Nanodevices for Energy Conversion**", MRS Fall Meeting, Boston, Nov 30-Dec 4, 2009 MA USA.
44. M. Saif Islam, "**Nanotechnology Revolutionary Opportunities for Changing Our World**" Pacific Technology School, Orangevale, CA Oct 29, 2009.
45. M. Saif Islam, “**Nuts & Bolts of Electrical and Computer Engineering: A First Year Student's Introduction**”, UC Davis, Nov 17, 2009.
46. M. Saif Islam, "**Integrating Semiconductor Nanowires in Devices and Circuits: Challenges in Mass-manufacturing**", NAIST: Nara Institute of Science & Tech, Japan, October 18-22, 2009.

47. M. Saif Islam, Logeeswaran VJ, Ramin Banan Sadeghian, Sonia Grego, Linjie Zhou and S. J. Ben Yoo, "**Semiconductor Nanowire Heteroepitaxy on Arbitrary Substrates for Optoelectronic Devices and Massively Parallel Interconnects**", 35th European Conference and Exhibition on Optical Communication Conference, Austria Centre, Vienna, Austria, 20th September 2009.
48. M. Saif Islam, "**Nanomaterial Synthesis, Characterization and Practical Techniques for Integration in Devices and Circuits**" and "**Grand Challenges in Global Energy Research & Low Cost Energy via Nanotechnology**", 11th International Symposium on Advanced Materials, Islamabad Pakistan, Aug 8-12, 2009 (**Keynote**).
49. M. Saif Islam, "**Nanodevices on Anything: Glass, Plastics, Metals, Textile and Even Human Hair**", Berkeley Nanoclub Forum, April 26th, 2009.
50. Logeeswaran VJ and M. Saif Islam, "**Multi-layered Stacks of Devices on Non-Crystalline Substrates with Highly Oriented Semiconductor Nanowires**", 8th Pacific Rim Conference on Ceramic and Glass Technology. PACRIM8, May 31 - June 5, 2009, Vancouver, Canada.
51. M. Saif Islam, "**Mass-manufacturable integration schemes for 1D nanostructure in devices and circuits**", IEEE International Nanoelectronics Conference (INEC) 2008, Shanghai, 24th – 27th March 2008.
52. M. Saif Islam, "**Heteroepitaxial growth dynamics and device applications of bridging InP nanowires between Si surfaces**" Workshop on Nanoscale Epitaxial Semiconductor Structures (NESS), Albuquerque, NM, Sept. 26-27, 2007.
53. M. Saif Islam, "**Epitaxially Integrated Semiconductor Nanowires for Nanoscale Electronics, Photonics and NEM**S", IEEE-LEOS Annual Meeting, 21-25 Oct., FL, 2007.
54. M. Saif Islam, "**Integration of 1D Nanostructures in Devices & Circuits: Massively Parallel and Manufacturable Methods**" The Institute of Materials Research and Engineering (IMRE), Aug 06, 2007.
55. M. Saif Islam "**Nanomanufacturing of Nanowire Devices**" National University of Singapore, Aug 07, 2007.
56. M. Saif Islam "**Nanotechnology: Revolutionary Opportunities for Future**" Dhaka University, Aug 17, 2007.
57. M. Saif Islam, "A mass-manufacturable nanowire interfacing technique for ultra-low contact resistance", **Multiphysics of Small Scale Materials, ASME Applied Mechanics and Materials Conference**, Austin, Texas, June 3-7, 2007.
58. M. Saif Islam, "Massively Parallel Interfacing of Nanostructures for Nanoscale Electronics, Photonics and Sensors" **International Workshop LASERION, Microfabrication, nanostructured materials and biotech**, Schloss Ringberg, Germany July 1-6, 2007.
59. M. Saif Islam, "Integrating and Accurate Positioning of 1D Nanowires in Devices and Circuits: Recent Developments, Current Challenges and Future Opportunities", **International Symposium on Frontiers in Nanoscale Science, Technology and Education, Cochin, India**, August 16-19, 2006.
60. M. Saif Islam, "Nanotech Research Collaboration, UC Davis & HP Lab 2004-2006, CITRIS Annual Review Meeting, November 16, 2006, **HP Labs Palo Alto, CA**.
61. M. Saif Islam, "Lectures on Molecular Electronics: Challenges in Interfacing Molecules", **NATO Nanotechnology Research Forum**, October 16-20, 2006, Middle East Tech University, Ankara, Turkey.
62. M. Saif Islam, "Semiconductor Nanowires for Nanoscale Electronics, Photonics and Sensors: Physics, Technology and Recent Advances", **NATO Nanotechnology Research Forum**, October 16-20, 2006, Middle East Tech University, Ankara, Turkey.
63. M. Saif Islam, "Nanotechnology: Revolutionary Opportunities for Electronics, Photonics and Biological Systems", **North South University**, Dhaka, Bangladesh, Aug 24, 2006.
64. M. Saif Islam, "Nanostructures for Devices and Circuits with Quantum Effects: Revolutionary Opportunities for Electronics, Photonics and Biological Systems, **Intel Corporation, Folsom**, CA, May 18, 2006.
65. M. Saif Islam, "Massively Parallel & Manufacturable Integration of Semiconductor Nanowires for Nano-Electronics and Photonics, **Bilkent University, Ankara, Turkey**, March 24, 2006.
66. M. Saif Islam, "Interfacing Nanostructures for Nano-Electronics and Photonics", **UCD-Middle East Tech University (METU) Agreement of Cooperation and Workshop**, **METU, Ankara, Turkey**, March 24, 2006.
67. M. Saif Islam, "Interfacing and Integrating 1D Nanowires for Massively Parallel Nano-Electronics and Photonics", Departmental seminar, Department of Physics, **Middle East Technical University, Ankara, Turkey**, March 24, 2006.
68. M. Saif Islam, **Agilent Technology Labs**, March 17, 2006.

69. M. Saif Islam, “Recent Developments and Current Challenges in Massively Parallel Integration and Precise Positioning of Nanowires in Devices and Circuits”, **DARPA Workshop Nanowires and Nanotubes for Defense Applications**, Napa, CA, Mar 1, 2006.
70. Christopher Edgar, Chad Johns and M. Saif Islam, “Synthesis and Positioning of Metal and Alloyed Nano-particles with Uniform Size, Shape and Periodicity Using Rayleigh Instabilities at Elevated Temperature”, International Symposium on "**Metal and Alloy Nanomaterial Based Applied Technologies in Japan and the USA**" (NEDO), January 12, 2006, Tohoku University, Sendai, Japan.
71. A. K. Dutta, S. Haranahalli and M. Saif Islam, “Novel Application of Nanometal Particles” **International Symposium on Metal and Alloy Nano-material Based Applied Technologies in Japan-US**, Jan. 12, 2006, Tohoku Univ, Japan.
72. M. Saif Islam, “Molecular Scale Switching Junctions with Self-assembled Monolayers (SAMs) of Molecules and Solid Electrolytes Fabricated with Ultra-smooth Metal Electrodes”, **UC Berkeley Solid State Technology and Devices** Seminar, Dec. 2, 2005.
73. M. Saif Islam, “Nanostructures for Devices and Circuits with Quantum Effects: Revolutionary Opportunities for Electronics, Photonics and Biological Systems”, **IEEE Davis Chapter,** November 16, 2005.
74. M. Saif Islam, “Interfacing & Integration of Semiconductor Nanowires in Devices & Circuits: Novel Massively Parallel & Manufacturable Self-Assembly Techniques”, **Dept of ECE, UC San Diego**, October 14, 2005.
75. A. K. Dutta and M. S. Islam, “Novel Broadband Photodetector for Optical Communication”, **The SPIE Conference on Active and Passive Optical Components for WDM Communications** Vol. 6014, 2005.
76. S. Sharma, A. A. Yasseri, M. S. Islam, T. I. Kamins, R. S. Williams, Controlled Metal Catalyzed Growth of Silicon Nanowires for Device Integration, **The AICHE Annual Meeting**, 2005.
77. S. S. Yi, Y.-L. Chang, J. Albuschies, E. Chow, G. Girolami, J. Amano, M. S. Islam, T. I. Kamins, S. Sharma, and H. Gamino, Formation of Highly Aligned, Metal Catalyzed Si and InP nanowires”, **The 342nd Wilhelm and Else Heraeus Seminar Science & Technology of Inorganic Nanowires**, 2005.
78. S. S. Yi, G. Girolami, J. Amano, Agilent Technologies, Inc.; M. Saif Islam, T. I. Kamins, and S. Sharma, “Epitaxial Integration of InP nanowires on Silicon”, **The SPIE Optics East Conference on Nanostructure Integration Techniques for Manufacturable Devices, Circuits, and Systems: Interfaces, Interconnects, and Nanosystems**, Vol. 6003, 2005.
79. T. Kamins, S. Sharma, M. S. Islam, B. Rajendran, and R. S. Williams, “Metal Catalyzed, Self-assembled ‘Bridging’ Nanowires and Their Potential use as Sensors”, The 13th International Congress on Thin Films 8th International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures 13/ACSIN 8.
80. A. K. Dutta, N. K. Dhar, P. Wijewarnasuriya, and M. Saif Islam, “Novel Multi-color Image Sensors for Biochemical, Biomedical, and Security Applications”, **The SPIE Optics East Conference on Nanosensing Materials and Devices**, Vol. 6008, 2005.
81. M. Saif Islam, “Integrated Nanowire Based Devices” and “Non-destructive Interfacing of Molecular Electronics” **Army Research Labs**, Aberdeen Probing Ground, October 27, 2005.
82. M. Saif Islam, “Nanowire Based Nanophotonic Devices” and Distributed Balanced Photodetectors”, **Intel Corporation, Santa Clara,** CA July 26, 2005.
83. M. Saif Islam, “**Modulation and Switching Behavior of Metamaterials**”, **UC Berkeley**, September 19, 2005.
84. M. Saif Islam, “**Novel Nanowire Integration Techniques for Massively Parallel and Manufacturable Nanoscale Electronic and Photonic Devices**”, UC Berkeley Optoelectronics Seminar Series, September 9, 2005.
85. M. Saif Islam, “Massively Parallel Nanowire Integration for Manufacturable Nanoelectronic Photonic Devices”, Tohoku University, Sendai, Japan**,** July 14, 2005.
86. M. Saif Islam, “Nanowire Integration for Photovoltaics” Banpil Photonics, June 15, 2005.
87. M. Saif Islam, “Nanowire Integration for Nanophotonics” **Agilent Technology Labs**, 2005.
88. M. Saif Islam, “Modulation and Switching Behavior Negative Index Materials”, **HP Labs, Palo Alto**, CA, May 20, 2005.
89. M. Saif Islam and SY Wang, “Modulation and Switching of E&M Waves with Negative Index Materials”, **DARPA Kick-off Meet on Negative Index Materials**, San Ant, TX, April 29, 2005.
90. M. Saif Islam, “Nanowire Integration Techniques for Massively Parallel and Manufacturable Nano-electronics, Nanophotonics and Biological Applications”, **Univ. of Connecticut, Dept of ECE**, May 26, 2005.
91. M. Saif Islam, “Nanowire Integration Techniques for Massively Parallel and Manufacturable Nano-electronics, Nanophotonics and Biological Applications”, **Air Force Research Lab, Hanscom, Boston**, May 31, 2005.

92. M. Saif Islam, “Massively Parallel and Manufacturable Nanowire Integration Techniques for Nanoscale Electronics, Photonics and Chem-bio Sensing”, Biophotonics Colloquium, **UC Davis Biophotonic Center**, March 18, 2005.
93. M. Saif Islam, “Massively Parallel and Manufacturable Nanowire Integration Techniques for Nanoscale Electronic and Photonic Devices”, **LLNL and UCD Mechanical Engineering Seminar on Nanotechnology**, UC Davis, March 03, 2005.
94. M. Saif Islam, “Exciting Advances in Molecular Electronics and Semiconductor Nanodevices”, **Bangladesh University of Engineering and Technology**, Dec. 24, 2004.
95. M. Saif Islam, “Nanotechnology: Prospects and Opportunities”, **American Association of Bangladeshi Engineers and Architects** (AABEA) Annual Meeting, November 20, 2004.
96. M. Saif Islam, S. Sharma, T. I. Kamins and R. Stanley William, Nano-bridging: Massively Parallel Self-Assembly Technique for Interconnecting Nanowire Sensors”, **SPIE Optics East Conference on Nanosensing Materials and Devices**, Philadelphia, PA, Oct 25, 2004.
97. M. Saif Islam, Interconnects for 1D Nanowires”, Advanced Lecture Series, **Hewlett-Packard Company, Corvallis OR**, May 12, 2004.
98. M. Saif Islam, “Interfaces for Nanostructures”, **UC Davis, Electrical Engineering** Faculty Position Interview presentation, April 26, 2004.
99. M. Saif Islam, **North Carolina State University**, Rayleigh, NC, Electrical Engineering Faculty Position Interview presentation, March 15, 2004.
100. “Distributed photodetectors”, HP Labs, Palo Alto, August 15, 2002.
101. **The Laboratory for Physical Science of the National Security Agency and University of Maryland College Park**, MD, Oct0ber 2, 2002.
102. **University of Connecticut, Storrs, CT**, Electrical Engineering Faculty Position Interview presentation, March 18, 2002.
103. M. Saif Islam, “Recent Advances and Future Prospects in High-Speed and High-Saturation-Current Photodetectors” The **SPIE Conference on Active and Passive Optical Components for WDM Communications** III (IT111), 2003.
104. M. Saif Islam, “Distributed photodetectors”, **Intel** (Light Logic), October 16, 2001.
105. M. Saif Islam, “High power and High Bandwidth Distributed photodetectors”, **StrataLight Communications**, October 18, 2001.
106. M. Saif Islam, “High power photodetectors”, **Calmar Optcom**, October 19, 2001.
107. M. Saif Islam, “High Power and High Bandwidth Distributed photodetectors”, **Gazillion Bits**, October 9, 2001.
108. M. Saif Islam, “Distributed balanced photodetectors”, The **14th IEEE/LEOS Annual Meeting**, 2001.
109. M. Saif Islam, “High Frequency distributed balanced photodetectors for RF links”, **SDL Inc**., Oct. 11 2000.
110. M. Saif Islam, “Distributed balanced photodetectors and Resonant Cavity Enhanced Photodetectors”, **Lucent Technologies, Bell Laboratories, Murray Hill**, NJ, Sept.15 2000.
111. M. Saif Islam, “Distributed balanced photodetectors”, **Lucent Technologies, Bell Laboratories, Allentown**, PA , September 19, 2000.
112. M. Saif Islam, “High Power Distributed balanced photodetectors”, **Lucent Technologies, Bell Laboratories**, Alhambra, CA, September 20, 2000.
113. M. Saif Islam, “High Power Photodetectors”, **Lucent Technologies, Bell Laboratories**, Orange County, CA, September 21, 2000.
114. M. Saif Islam, “Balanced photodetectors”, **Cenix Inc**., Irvine, CA, Sept 22, 2000.
115. M. Saif Islam, “Recent Advances in High Power Distributed balanced photodetectors” GTran, October 17, 2000.
116. M. Saif Islam, “High Power photodetectors”, **Agilent Technol**, San Jose, CA, Oct. 18, 2000.
117. M. C. Wu, M. Saif Islam, T. Jung, and T. Chau, “High Power Millimeter-Wave Photo-detectors,” **Int. Topic. Meeting Microwave Photonics**, Oxford, UK, Sept. 11-13, 2000.
118. M. C. Wu, M. Saif Islam, and T. Chau, “Distributed Balanced Photodetectors for High Performance RF Photonoc Applications,” 1999 Advanced **Workshop on Frontiers in Electronics** (WOFE) 1999 Lecce, Italy: May 31 - June 4, 1999
119. M. Saif Islam, T. Chau, T. Itoh, M.C. Wu, D.L. Sivco, and Alfred Y. Cho, “Distributed Balanced Photodetectors for RF Photonic links,” **The SPIE Conference on Terahertz and Gigahertz Photonics**, Denver, CO, July 19-23, 1999.