

Publications :

International Journals

1. "Development of oxide based window and buffer layer for single junction amorphous solar cell: Reduction of light induced degradation.", Gourab Das, Sourav Mandal, M. Rajive Tomy, Chandan Banerjee, Sumita Mukhopadhyay, A.K. Barua, *Materials Science in Semiconductor Processing* 24 (2014) 50.
2. "Study of resonance energy transfer between MEH-PPV and CuFeS₂ nanoparticle and their application in energy harvesting device", Animesh Layek, Somnath Middya, Arka Dey, Mrinmay Das, Joydeep Datta, Chandan Banerjee, Partha Pratim Ray, *Journal of Alloys and Compounds*, 613 (2014) 364.
3. "Role of Zinc Oxide Nanomorphology on Schottky Diode Properties", Somnath Middya, Animesh Layek, Arka Dey, Mrinmay Das, Joydeep Datta, Chandan Banerjee, Partha Pratim Ray, *Chemical Physics Letters* 610 - 611 (2014) 39.
4. "Fabrication of single junction amorphous silicon solar cell using novel n type nanocrystalline SiO_x:F:H back reflector" Sourav Mandal, Gourab Das, Sukanta Dhar , M. Rajive Tomy, Sumita Mukhopadhyay, Chandan Banerjee, A.K. Barua, Accepted in *Journal of Materials Science: Materials in Electronics* (DOI 10.1007/s10854-014-2404-2).
5. "Tapered Silicon Nanopillars for enhanced performance thin film solar cells", Avra Kundu, Sonali Das, S. M. Hossain, Swapan K. Datta, Hiranmay Saha- *Energy Procedia* 54 (2014)389.
6. "Modelling and simulation-based performance study of a transformerless single-stage grid-connected photovoltaic system in Indian ambient conditions" A. Datta, G. Bhattacharya, D. Mukherjee, and H. Saha, *International journal of Ambient energy*, 2014, Taylor and Francis,(in press)
7. "Selection of islanding detection methods based on multi-criteria decision analysis for grid-connected photovoltaic system applications", A. Datta, G. Bhattacharya, D. Mukherjee, and H. Saha , *Sustainable Energy Technologies and Assessment*,2014, Elsevier,(in press)
8. "Indentation and scratch behavior of functionalized MWCNT-PMMA composites at the micro/nanoscale", H Chakraborty, A Sinha, N Mukherjee, D Ray, P Protim Chattopadhyay, *Polymer Composites* 35 (5) (2014) 948.
9. "Effect of annealing temperature on the morphology and sensitivity of the zinc oxide nanorods based methane sensor", B Mondal, C RoyChoudhury, H Saha, N Mukherjee, *Acta Metallurgica Sinica (English Letters)* 27 (4), (2014) 593.
10. "A Review on Amperometric Type Immunosensors Based on Screen-Printed Electrodes" , Kalyan Kumar Mistry, Keya Layek, Abhijit Mahapatra, Chirasree RoyChaudhuri and Hiranmay Saha-Analyst DOI:10.1039/C3AN02050A(accepted for publication), (2014).

11. "Zinc oxide nanorods based methane sensor: facile chemical synthesis and annealing optimization", Biplob Mondal, Lachit Dutta, Chiroree Roychaudhuri, Dambarudhar Mohanta, Nillohit Mukherjee, Hiranmay Saha- *Sensors & Actuators: B. Chemical* (Accepted for pub)(2014).
12. "Palladium-silver activated ZnO surface: highly selective methane sensor at reasonably low operating temperature", Sugato Ghosh, Chiroree RoyChaudhuri, Raghunath Bhattacharya, Hiranmay Saha, Nillohit Mukherjee, *ACS Applied Materials & Interfaces* *ACS applied materials & interfaces* 6 (6), (2014) 3879.
13. "An Efficient Technique for Controlling Power Flow in a Single-Stage Grid-Connected Photovoltaic System", A. Datta, G. Bhattacharya, D. Mukherjee and H. Saha, *Scientia Iranica Transactions D: Electrical Engineering* (Accepted, in-press).(2014).
14. "Large-Area Crystalline Silicon Solar Cell Using Novel Antireflective Nanoabsorber Texturing Surface Cathode Plasma System and Spin-On Doping", Multihollow- *ISRN Renewable Energy*, p1-6.
15. "Electrodeposited polymer encapsulated nickel sulphide thin films: frequency switching material", S Jana, N Mukherjee, B Chakraborty, BC Mitra, A Mondal- *Applied Surface Science* 300 (2014) 154.
16. "ZnO-SnO₂ based composite type gas sensor for selective hydrogen sensing", B Mondal, B Basumatary, J Das, C Roychaudhuri, H Saha, N Mukherjee-*Sensors and Actuators B: Chemical*, 194 (2014) 389.
17. "A comparative study on the cold field electron emission properties of cubic nanocrystalline lead chalcogenide thin films", N Mukherjee, H Chakraborty, SF Ahmed, *RSC Advances* 4 (2014) 5312.
18. Electrochemical synthesis of p-CuO thin films and development of a p-CuO/n-ZnO heterojunction and its application as a selective gas sensor, A Ghosh, BB Show, S Ghosh, N Mukherjee, G Bhattacharya, SK Datta,A.Mondal ,*RSC Advances* 4 (93) (2014) 51569.
19. "Electrochemical synthesis of p-CuO thin films and development of a p-CuO/n-ZnO thin film hetero-contact for gas sensing", A. Ghosh, B.B. Show, N. Mukherjee, S.K. Datta, G. Bhattacharya, A Mondal, *Physics of Semiconductor Devices*, (2014) 433.
20. "A comparative study on the cold field electron emission properties of cubic nanocrystalline lead chalcogenide thin films", N Mukherjee, H Chakraborty, SF Ahmed, *RSC Advances* 4 (11) (2014) 5312.

21. Renewables are no longer backbenchers: Guest editorial, Monthly Economic Review (Indian Chamber of Commerce) May 2014.
22. "Development of n- μ c-SiO:H as cost effective back reflector and its application to thin film amorphous silicon solar cells.", Chandan Banerjee, T Srikanth, U Basavaraju, R M Tomy, M G Sreenivasan, K Mohanchandran, S Mukhopadhyay, A K Barua, Solar Energy 97 (2013) 591.
23. "Silica nanoparticles on front glass for efficiency enhancement in superstrate type amorphous silicon solar cells", Sonali Das, Chandan Banerjee, Avra Kundu, Prasenjit Dey, Hiranmay Saha, Swapan K. Datta, Journal of Physics D: Applied Physics, 46 (2013).
24. "Application of supercapacitor to power small electronic appliances", M Das, I.Das, N.K.Bhattacharyya, D.Mukherjee, H.Saha, IOSR Journal of Electrical and Electronics Engineering (IOSR-JEEE) , 4 (2013) 28-32
25. "Cathodic and anodic deposition of FeS₂ thin films and their application in electrochemical reduction and amperometric sensing of H₂O₂", Biswajit Chakraborty, Bibhutibhushan Show, Sumanta Jana, Bibhas Chandra Mitra, Swarup Kumar Maji, Bibhutosha Adhikary, Nillohit Mukherjee, Anup Mondal-Electrochimica Acta. 7 (2013) 94.
26. "Photocatalytic degradation of organic dye on porous iron sulfide film surface", Sanjib Kumar Bhar, Sumanta Jana, Anup Mondal, Nillohit Mukherjee, Journal of Colloid and Interface Science 286 (2013) 393.
27. "A study on nanoindentation and tribological behaviour of multifunctional ZnO/PMMA nanocomposite", Himel Chakraborty, Arijit Sinha, Nillohit Mukherjee, Dipa Ray, Partha Protim Chattopadhyay, Materials Letters, 93 (2013) 137.
28. "Design of high efficiency solar cells with lossless nanoentities atop and embedded in silicon substrate", Sonali Das, Avra Kundu, Hiranmay Saha, Swapan K. Datta- Journal of Optics, 15 (2013) 105006.
29. "Effect of embedding silica nanoparticles and voids in the performance of c- Si solar cells", Sonali Das, Avra Kundu, Hiranmay Saha, Swapan K. Datta, Journal of Renewable and Sustainable Energy, 5 (2013) 031603-1-031603-11.
30. "Enhanced optical absorption and electrical performance of silicon solar cells due to embedding of dielectric nanoparticles and voids in the active absorber region", Sonali Das, Avra Kundu, Hiranmay Saha, Swapan K. Datta-Journal of Modern Optics. [http://dx.doi.org/10.1080/09500340.\(2013\).796015](http://dx.doi.org/10.1080/09500340.(2013).796015)
31. "An analytical study on daily solar radiation data", Indira Karakoti, Prasun Kumar Das and B. Bandyopadhyay, Current Science, 105, (2013) 215.

32. "Estimation of solar radiation using a combination of Hidden Markov Model and generalized Fuzzy model", Saurabh Bhardwaj, Vikrant Sharma, Smriti Srivastava, O.S. Sastry, J.R.P. Gupta, B. Bandyopadhyay, S.S. Chandel, *Solar Energy* 93 (2013) 43.
33. Sonali Das, Avra Kundu, Hiranmay Saha, Swapan K. Datta, Role of metal and dielectric nanoparticles in the performance enhancement of silicon solar cells, *Journal of Modern Optics* Volume 59, Issue 14, pp 1219-1231, 2012.
34. 7. "A tunable band-stop filter using a metamaterial structure and MEMS bridges on a silicon substrate", **A. Kundu**, S. Das, S. Maity, B. Gupta, S. K. Lahiri, H. Saha, *Journal of Micromechanics and Microengineering*, 22 (2012).
35. "Synthesis, characterization and photocatalytic activity of α -Fe₂O₃ nanoparticles," Swarup Kumar Maji, Nillohit Mukherjee, Anup Mondal, Bibhutoh Adhikary, *Polyhedron* 33 (2012) 145 (Elsevier).
36. "Towards constant load voltage in Indian grid connected PV system using dsPIC controlled power conditioning unit", A. Datta, G. Bhattacharya, D. Mukherjee and **H. Saha** *Elsevier Procedia Technology* 4 (2012) 661.
37. "A tunable band-stop filter using a metamaterial structure and MEMS bridges on a silicon substrate", A. Kundu, S. Das, S. Maity, B. Gupta, S. K. Lahiri, H. Saha, *Journal of Micromechanics and Microengineering*, 22 (2012).
38. "Design, Fabrication and simulation of coplanar microheater using Nickel alloy for low temperature gas sensor applications", Sunipa Roy, Tanusree Majhi, **Avra Kundu**, C. K. Sarkar and H. Saha *Sensor Letters*, 9 (2011) 1-8.
39. , "A study on the structural and mechanical properties of nanocrystalline CuS thin films grown by chemical bath deposition technique", Nillohit Mukherjee, Arijit Sinha, Gobinda Gopal Khan, Debraj Chandra, Asim Bhaumik and Anup Mondal *Materials Research Bulletin* 46 (2011) 6 (Elsevier).
40. , "Synthesis and characterization of nanocrystalline zinc sulphide via zinc thiobenzoate-lutidine single-source precursor", Swarup Kumar Maji, Nillohit Mukherjee, Anup Mondal, Bibhutoh Adhikary, Basudeb Karmakar and Supriya Dutta *Inorganica Chimica Acta* 371 (2011) 20 (Elsevier).
41. "Synthesis of nanocrystalline and mesoporous zinc sulphide from a single precursor Zn(SOCCH₃)₂Lut₂ complex", Swarup Kumar Maji, Nillohit Mukherjee, Anup Mondal,

Bibhutoh Adhikary and Basudeb Karmakar, Journal of Physics and Chemistry of Solids 72 (2011) 784 (Elsevier).

42. "Experimental study on electron field emission, Raman scattering, and low temperature electrical properties of nanocrystalline lead selenide thin films", Nillohit Mukherjee, Sk. F. Ahmed, Swarup Kumar Maji and Anup Mondal, Journal of Applied Physics 109 (2011) 104312 (American Institute of Physics).
43. "Deposition of nanocrystalline CuS thin film from a single precursor: Structural, optical and electrical properties", Swarup Kumar Maji, Nillohit Mukherjee, Anup Mondal, Bibhutoh Adhikary and Basudeb Karmakar, Materials Chemistry and Physics 130 (2011) 392 (Elsevier).
44. "CuO nano-whiskers: electrodeposition, Raman analysis, photoluminescence study and photocatalytic activity", Nillohit Mukherjee, Bibhutibhushan Show, Swarup Kumar Maji, Utpal Madhu, Sanjib Kumar Bhar, Bibhas Chandra Mitra, Gobinda Gopal Khan and Anup Mondal, Materials Letters 65 (2011) 3248 (Elsevier).
45. "Green Energy Selection Based on Multi-Criteria Analysis", A . Datta, A . Ray, G. Bhattacharya and **H. Saha**, Emerald International Journal of Energy Sector Management, 5 (2011) 271.
46. Photonic crystal slab waveguide-based infiltrated liquid sensors: design and analysis. Shruti, R.K Sinha, R. Bhattacharyya, Journal of Nanophotonics 5, 053505 (2011) (doi:10.1117/1.3574182).
47. Silicon rich silicon oxide films deposited by RF PECVD method: Optical and structural properties." Sumita Mukhopadhyay and Swati Ray, J. Cryst. Growth 257 (2011) 9717.
48. "Analysis and optimization of two movable plates RF MEMS switch for simultaneous improvement in actuation voltage and switching time", A. Kundu, S Sethi, N C Mondal, B Gupta, S K Lahiri, H Saha, Microelectronics J. Volume 41, Issue 5, May 2010, Pages 257-265, 2010.
49. "An Efficient Method for Maintaining Constant AC Voltage Using dsPIC30F2020 Controller", A. Datta, G. Bhattacharya and **H. Saha**, International Journal on Electrical & Electronics Engg.(JEEE)-Romania, 3 (1) (2010) 60.
50. Effect of high substrate bias and hydrogen & Nitrogen incorporation on density of states and field emission threshold of tetrahedral amorphous carbon films, Panwar O.S., Khan M.A,

Satyanrayana B.S.,Bhattacharyya R., Mehta B.R., Kumar S,& Isphal,Journal of Vacuum Science & Technology, B 28 (2010) 411.

51. "Effect of electrode separation on PECVD deposited nanocrystalline silicon thin film and solar cell properties", Amartya Chowdhury, Sumita Mukhopadhyay and Swati Ray, Solar Energy Materials and Solar Cells, 94 (2010) 1522.
52. "Macroporous Silicon Based Simple and Efficient Trapping Platform for Electrical Detection of Salmonella Typhimurium Pathogens", R. Dev Das, C. Roy Chaudhuri, S. Maji, S. Das and H. Saha, Biosensors and Bioelectronics, 24 (2009) 3215.
53. "CMOS ASIC Design of an ANN based on inverse delayed function model of self connectionless neuron for improved temperature drift compensation of piezoresistive micro-machined high resolution pressure sensor", N.P. Futane, S. RoyChowdhury, C. Roy Chaudhuri and **H. Saha**, Microelectronics Reliability, (2009).
54. "Thermal effects in design of integrated CMOS MEMS high resolution pressure sensor", C. Roy Chaudhuri ,S.K.Datta and H.Saha, International journal of Smart sensing and Intelligent Systems,2(2009)432.
55. "Role of solute and solvent on the deposition of ZnO thin films", Nillohit Mukherjee, Sk. Faruque Ahmed, Dipankar Mukherjee, Kalyan Kumar Chattopadhyay and Anup Mondal Electrochimica Acta, 54 (2009) 4015.
56. "Stable Aluminium Ohmic Contact to Surface Modified Porous Silicon", J. Kanungo, S. Maji, **H. Saha** and S. Basu, Solid-State Electronics, 53 (2009) 663.
57. "Room temperature Metal-Insulator -Semiconductor (MIS) Hydrogen Sensors Based On Chemically Surface Modified Porous Silicon", J. Kanungo, **H. Saha** and S. Basu, Sensors and Actuators B, 140 (2009) 65
58. "Porous Silicon Hydrogen Sensor at Room Temperature: The Effect of Surface Modification and Noble Metal Contacts", J.Kanungo, **H. Saha** and S. Basu, Sensors & Transducers Journal, 103 (2009) 102.
59. "Effect of non-catalytic and catalytic electrode contacts on Pd modified porous silicon for hydrogen sensing", J. Kanungo,H. Saha and S. Basu, Sensors Letters, 7 (2009) 185.
60. J. Kanungo, L. Selegård, C. Vahlberg, K. Uvdal, H. Saha and S. Basu, Bulletin of Materials Science, (2009).

61. "ASIC design of a digital fuzzy system on chip for medical diagnostic applications", S. Roy Chowdhury and H. Saha, Journal of Medical Systems, (2009).
62. "Development of an FPGA based Fuzzy Neural Network System for early diagnosis of critical health condition of a patient", S. Roy Chowdhury, H. Saha, Computers in Biology and Medicine, (2009).
63. .Indigenous Ion Sources for Material Processing R. Bhattacharyya ,Defence Science Journal, 59 (2009) 377.
64. Characterization of Boron and Phosphorous Incorporated Tetrahedral Amorphous Carbon Films Deposited by the Cathodic Vacuum Arc Process" by O. S. Panwar, Mohd Alim Khan, Mahesh Kumar, S.M. Shivaprasad, B.S. Satyanarayana, P.N. Dixit and R.Bhattacharyya , Jap. J. Appl. Phys. 48 (2009) 65501.
65. Anti-resonant reflecting photonic crystal waveguide (ARRPCW): Modeling and Design Shrutu · R. K. Sinha · R.Bhattacharyya., Optical & Quantum Electronics 41 (2009) 181.
66. "Light induced degradation in nanocrystalline Si films and related solar cells : Role of crystalline fraction", Sumita Mukhopadhyay, Romyani Goswami and Swati Ray, Solar Energy Materials and Solar Cells. 93 (2009) 674
67. "Fabrication of thin film nanocrystalline silicon solar cell with low light-induced degradation", Amartya Chowdhury, Sumita Mukhopadhyay and Swati Ray, Solar Energy Materials and Solar Cells. 93 (2009) 597
68. "Transport and structural properties of silicon films in the amorphous-to-microcrystalline transition region", Sumita Mukhopadhyay, Romyani Goswami and Swati Ray, J. Vac. Sci. Technol. A. 27 (2009) 436.
69. "Structural characteristics of RF and VHF deposited nanocrystalline silicon films for solar cell application", Sumita Mukhopadhyay and Swati Ray, Philosophical Magazine 89 (2009) 2573.

Conference Publications

1. "Improvement of efficiency for the single junction a-Si solar cell by using n- μ c-Si:H layer as bottom n-layer", Gourav Das, Sourav Mandal, Rajive Tomy M, Chandan Banerjee, Sumita

Mukhopadhyay and A.K.Barua, presented in 20th West Bengal State Science and Technology Congress - 2013, BESU, Shibpur, Howrah, February 25 – March 2, 2013.

2. “Development of n- μ c-SiO:H as a back reflector and its application to Amorphous Silicon Solar Cells”, T. Srikanth, U. P. Basavaraju, Rajive Tomy M, M. G. Sreenivasan, Chandan Banerjee, K. Mohanchandran, Sumita Mukhopadhyay, A. K. Barua, Presented in 28th European Photovoltaic Solar Energy Conference and Exhibition, Paris, France, September 30 – October 4, 2013.

3. “Tapered Silicon Nanopillars for enhanced performance thin film solar cells”, Avra Kundu, Sonali Das, S. M. Hossain, Swapan K. Datta, Hiranmay Saha, 4th International Conference on Advances in Energy Research (ICAER), IIT Bombay, Mumbai, Dec 2013.

4. “Front surface glass texturization for improved performance of amorphous silicon solar cell”, Sonali Das, Avra Kundu, Chandan Banerjee, Prasenjit Dey, Swapan K. Datta, Hiranmay Saha, 17th International Workshop on The Physics of Semiconductor Devices (IWPSD), Amity University, Uttar Pradesh, Dec 2013.

5. Silicon Heterojunction Solar Cells with novel Fluorinated n-type Nanocrystalline Silicon Oxide Emitters on p-type c-Si: Sukanta Dhar, Sourav Mandal, Gourab Das, Chandan Banerjee, Sumita Mukhopadhyay, A. K. Barua: Accepted for presentation in 6th World Conference on Photovoltaic Energy Conversion, Kyoto, Japan, 23rd November – 27th November’ 2014.

6. Texturization of Al:ZnO Glass Substrate by Reactive ion Etching and its application to Single junction a-Si Solar cells: Gourab Das, Sourav Mandal, Sukanta Dhar, Sukanta Bose, Arpita Jana, Sumita Mukhopadhyay, Chandan Banerjee, A.K.Barua: Accepted for presentation in 6th World Conference on Photovoltaic Energy Conversion, Kyoto, Japan, 23rd November – 27th November’ 2014.

7. “Tapered Silicon Nanopillars for enhanced performance thin film solar cells”, Avra Kundu, Sonali Das, S. M. Hossain, Swapan K. Datta, Hiranmay Saha, 4th International Conference on Advances in Energy Research (ICAER), IIT Bombay, Mumbai, Dec 2013.

8. “A portable sensitive LPG / methane gas measuring unit”, S. Ghosh, S. Dey, I. Das, H. Saha, presented in 20th West Bengal State Science and Technology Congress - 2013, BESU, Shibpur, Howrah, February 25 – March 2, 2013.

9. “Nanoparticles for high efficiency silicon solar cells: Status and Prospects”, Sonali Das, Santanu Maity, Prasenjit Dey, Avra Kundu, Nillohit Mukherjee, Swapan K. Datta and Hiranmay Saha, presented at 20th West Bengal State Science and Technology Congress - 2013, BESU, Shibpur, Howrah, February 25 – March 2, 2013.

10. “Nanotexturing of silicon surfaces for solar cell applications”, Santanu Maity, Sonali Das, Avra Kundu, Swapan K. Datta and Hiranmay Saha, presented at 20th West Bengal State Science and Technology Congress - 2013, BESU, Shibpur, Howrah, February 25 – March 2, 2013.

11. “Radial junction si-nanowire for photovoltaic applications”, Saptaparna Dey, Sonali Das, Avra Kundu, Swapan K. Datta and H.Saha, presented in 20th West Bengal State Science and Technology Congress - 2013, BESU, Shibpur, Howrah, February 25 – March 2, 2013.

12. “A comparative study on the optical properties of Ag and Au nanoparticles deposited by chemical, electrochemical and physical techniques”, Sudarshana Banerjee, Sonali Das, Avra Kundu, Swapan K. Datta, Hiranmay Saha and Nillohit Mukherjee, presented in 20th West Bengal State Science and Technology Congress - 2013, BESU, Shibpur, Howrah, February 25 – March 2, 2013.

13. “Mixture of metal and dielectric nanoparticles for improved performance of silicon solar cell”, Sonali Das, Prasenjit Dey, Avra Kundu, S. M. Hossain, Swapan K. Datta, Hiranmay Saha, 4th International Conference on Advances in Energy Research (ICAER), IIT Bombay, Mumbai, Dec 2013.

14. “Front surface glass texturization for improved performance of amorphous silicon solar cell”, Sonali Das, Avra Kundu, Chandan Banerjee, Prasenjit Dey, Swapan K. Datta, Hiranmay Saha, 17th International Workshop on The Physics of Semiconductor Devices (IWPSD), Amity University, Uttar Pradesh, Dec 2013.

15. “Highly selective and stable methane sensor at reasonably low operating temperature”, Sugato Ghosh, Shalini Choudhury, Chiroree RoyChaudhuri, Raghunath Bhattacharyya, Hiranmay Saha and Nillohit Mukherjee, In ‘National Seminar on Thin Film and MEMS Science & Technology (NSTF & MT-14), Jadavpur University, Kolkata, March 21-22, 2014,

16. “Effect of size on the scattering properties of silica nanoparticles”, Sonali Das, Avra Kundu, S. M. Hossain, Hiranmay Saha, Swapan K. Datta, 2nd International Conference on Emerging Electronics (ICEE), IISc Bangalore, Bangalore, Dec 2014.

17. “Improvement of the Performance of Single Junction a-Si Integrated Mini Modules with Oxide Based Materials”, U. P. Basavaraju, Gourab Das, Rajive Tomy M, Chandan Banerjee, Sumita Mukhopadhyay, A.K.Barua, presented in International Conference on Solar Energy Photovoltaic, ICSEP-2012, KIIT University, Bhubaneswar, December 19-21, 2012.

18. “Lowering of LID in single junction amorphous solar cell using oxide based window and buffer layers”, Sourav Mandal, T. Srikanth, Chandan Banerjee, Sumita Mukhopadhyay, K. Mohanchandran, A.K.Barua, presented in International Conference on Solar Energy Photovoltaic, ICSEP-2012, KIIT University, Bhubaneswar, December 19-21, 2012.
19. “Effect of embedding silica nanoparticles and voids in the performance of c- Si solar cells”, Sonali Das, Avra Kundu, Hiranmay Saha, Swapan K. Datta, presented in International Conference on Solar Energy Photovoltaic, ICSEP-2012, KIIT University, Bhubaneswar, December 19-21, 2012.
20. “Index tuned nanoparticle coating on dielectric film for improved photon transmission and enhanced performance for silicon solar cells”, Sonali Das, Avra Kundu, Hiranmay Saha, Swapan K. Datta, 1st International Conference on Emerging Electronics (ICEE), IIT Bombay, Dec 2012.
21. “Plasmonic effect in light induced plating of c-Si solar cell”, Santanu Maity, Sonali Das, Soma Ray, Utpal Gangopadhyay, Swapan Datta, Hiranmay Saha, 1st International Conference on Emerging Electronics (ICEE), IIT Bombay, Dec 2012.
22. “Reduced reflection loss with silica nanoparticles atop bare silicon solar cells”, Sonali Das, Avra Kundu, Nillohit Mukherjee, Swapan K. Datta, Hiranmay Saha, 1st International Workshop on Nanomaterials (IWON):Engineering Photon and Phonon Transport, Jadavpur University, December 2012.
23. “Photon management at the nanoscale in thin silicon solar cells”, Saptaparna Dey, Sonali Das, Avra Kundu, Swapan K. Datta and Hiranmay Saha, 1st International Workshop on Nanomaterials (IWON):Engineering Photon and Phonon Transport, Jadavpur University, December 2012.
24. “Plasmonics based device in Photovoltaics, Sensing & Communication- an appreciation”, R,Bhattacharyya (invited), National conference on Advanced Technologies, ABV –Indian Institute of Technology & Management ,Gwalior, 27th-29th Feb 2012,
25. “Green Nanotechnology” (key note address), "National Conference on Nanoscience and Nanotechnology", Aligarh Muslim University. March 10-12,2012.
26. “Detection of proportion of different gas components present in manhole gas mixture using back propagation neural network”, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, and Sugato Ghosh, International Conference on Information & Network Technology (ICINT 2011), Chennai, India, April 2012. IACSIT – 2012, Vol-37 pp 11-15 ISBN 978-981-07-2068-1.
27. “Application of Real Valued Neuro Genetic Algorithm in Detection of Components Present in Manhole Gas Mixture”, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, and Sugato Ghosh, Proceedings of The Second International Conference On Computer Science,

Engineering And Application (Springer 2012), Delhi, India, May 2012. Vol-1, pp.333–340, ISSN 1867–5662.

28. “Linear Regression Based Statistical Approach For Detecting Proportion Of Component Gases In Manhole Gas Mixture”, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, and Sugato Ghosh, International Symposium on Physics and Technology of Sensors (IEEE – 2012), Pune, India, March 2012, Accepted & Presented.

29. “Sensor Array for Manhole Gas Analysis”, Sugato Ghosh, Animesh Roy, Sarat Singh, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, International Symposium on Physics and Technology of Sensors (IEEE – 2012), Pune, India, March 2012,

30. “A Novel Neuro Simulated Annealing Algorithm for Detecting Proportion of Component Gases in Manhole Gas Mixture”, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, and Sugato Ghosh, Proceedings Of International Conference On Advances In Computing And Communications (ICACC 2012) IEEE, Kochi, India, August 2012.

31. “USAID to deliver the keynote address on “ Moving Towards a Low Emissions Power Sector” by S. P. Gon Chaudhuri, in the Energy Summit of East African Countries held at Tanzania, from 16th July, 2012.

32. “Detection of proportion of different gas components present in manhole gas mixture using back propagation neural network”, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, and Sugato Ghosh, Intentional Conference on Information & Network Technology (ICINT 2011), Chennai, India, April 2012. IACSIT – 2012, Vol-37 pp 11-15 ISBN 978-981-07-2068-1.

33. “Application of Real Valued Neuro Genetic Algorithm in Detection of Components Present in Manhole Gas Mixture”, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, and Sugato Ghosh, Proceedings of The Second International Conference On Computer Science, Engineering And Application (Springer 2012), Delhi, India, May 2012. Vol-1, pp.333–340, ISSN 1867–5662.

34. “A Neuro-Swarm Technique for the Detection of Proportion of Components in Manhole Gas Mixture”, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, and Sugato Ghosh, Proceedings Of International Conference On Modeling, Optimization And Computing (ICMOC 2012), Kanyakumari, India, April 2012 Vol-2, pp. 1211-1218.

35. “Linear Regression Based Statistical Approach For Detecting Proportion Of Component Gases In Manhole Gas Mixture”, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, and Sugato Ghosh, Presented at International Symposium on Physics and Technology of Sensors (IEEE – 2012), Pune, India, March 2012.

36. "Sensor Array for Manhole Gas Analysis", Sugato Ghosh, Animesh Roy, Sarat Singh, Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, International Symposium on Physics and Technology of Sensors (IEEE – 2012), Pune, India, March 2012, Presented 978-1-4673-1043-7/12
37. "A Novel Neuro Simulated Annealing Algorithm for Detecting Proportion of Component Gases in Manhole Gas Mixture", Varun Kumar Ojha, Paramartha Dutta, Hiranmay Saha, and Sugato Ghosh, Proceedings Of International Conference On Advances In Computing And Communications (ICACC 2012) IEEE, Kochi, India, August 2012.
38. "USAID :keynote address on " Moving Towards a Low Emissions Power Sector" by S. P. Gon Chaudhuri, in the Energy Summit of East African Countries held at Tanzania, from 16th July,2012.
39. "Off-grid RE Policy", by S. P. Gonchaudhuri, organised by Prayas, at IIT, Mumbai, Pune in March,2012.
40. "Renewable Energy ", Delivered keynote address by S. P. Gonchaudhuri, Indian oil Conference on at Guwahati, in Feb,2012.
41. "Thermal analysis of cantilever MEMS based low power microheater array for the selective detection of explosive and toxic gases", Sugato Ghosh, Santanu Maity, Avra Kundu, Sayan Chatterjee, Hiranmay Saha, Presented at International Symposium on Physics and Technology of Sensors (IEEE – 2012), Pune, India, March 2012. 978-1-4673-1043-7/12.
42. 33. "A portable fast response sensitive measuring unit for LPG / Methane gas", Subhadip Dey, Nirmalya Samanta, Sugato Ghosh, Chirasree Roychaudhuri, Hiranmay Saha, Presented at First Michael Faraday Institution of Engineering & Technology (IET) India, Summit-2012, Kolkata, India, November 2012.
43. "Portable Sensor Array System for Intelligent Recognizer of Manhole Gas" , Sugato Ghosh, Varun Kr Ojha, Chirasree RoyChaudhuri, Paramartha Dutta, Hiranmay Saha, Presented at 6th International Conference on Sensing Technology (ICST 2012), Kolkata, India, December 2012.
44. . "Influence of silver plasmonic nanoparticles on planar silicon solar cells", S. Das, A. Kundu, S. K. Datta, H. Saha, International Congress on Renewable Energy (ICORE), Tezpur University, Assam, November 2011.

45. "Plasma Deposition of Multilayers for Surface Engineering", R.Bhattacharyya , Sushil Kumar, Indian vacuum Society Symposium on Thin Films: Science & Technology, BARC , Mumbai, TFST-2011, Nov-09-12.
46. "Novel Ka band phase shifter based on DC contact RF MEMS switch",A. Kundu, B Gupta, B K Sarkar, S K Lahiri, H Saha, Novel Ka band phase shifter based on DC contact RF MEMS switch,International Conference on Communication, Computers and Devices (ICCCD 2010).
47. "RF MEMS SWITCH: An overview at- a glance",S K Lahiri, H Saha and A Kundu, , Proc. International Conference on Computers and Devices for Communication (CODEC09), 978-81-8465-152-2/09 (2009).
48. "Performance Improvement of RF MEMS Switch with Two Movable Plates", A Kundu, N C Mondal, B Gupta, S K Lahiri, H Saha, , Proc. International Conference on MEMS (ICMEMS), ISBN-978-81908468-0-6 (2009).
49. "Development of SiO_x and SiO_x/ SiO₂ superlattice for application in solar cells." Swati Ray, Sumita Mukhopadhyay, Yasuyshi Kurokawa and Makoto Konagai, presented at 25th European Photovoltaic Solar Energy Conference and Exhibition (25th EU PVSEC)/ 5th World Conference on Photovoltaic Energy Conversion (WCPEC-5), Valencia, Spain, September 6 - 10, 2010.
50. "One dimensional tunable surface plasmonic photonic crystal", Shruti, Venus Dillu, R.Bhattacharyya, R.K Sinha Proc. SPIE 8173,81731J((2010) doi:10.1117/12.899932),Sandiego.
51. "Design of photonic crystal slab waveguide based infiltrated sensor" Shruti, R.K.Sinha, R.Bhattacharyya,ICOP-2009,International Conference on optics & photonics, Chandigragh, India, Oct 30-1 Nov,2009.
52. "Highly dispersive bandgap edge Photonic Crystal Slab Infiltrated Liquid", Shruti, R.K Sinha, R.Bhattacharyya " XVth International workshop on the Physics of Semiconductor Devices, December 15th-19th,2009, Delhi.
53. " Anti-Resonant Reflecting Photonic Crystal Waveguides", , Shruti, R.K Sinha, R.Bhattacharyya, Oral presentation in The 14th Optoelectronics and Communication Conference" July 13th-17th, 2009,HONGKONG.

54. “Photoluminescence and bonding configuration in silicon dioxide films prepared by RFPECVD”, Romyani Goswami, Sumita Mukhopadhyay and Swati Ray, Presented at 18th International Photovoltaic Science and Engineering Conference, Kolkata, India, January 18 - 23, 2009.
55. “Effect of electrode separation on PECVD deposited nanocrystalline silicon thin film and solar cell properties, ” Amartya Chowdhury, Sumita Mukhopadhyay and Swati Ray, Presented at 18th International Photovoltaic Science and Engineering Conference, Kolkata, India, January 18 - 23, 2009.
56. “Microstructure of silicon films developed under different plasma excitation frequency and its effects on solar cell performance”, Sumita Mukhopadhyay, Amartya Chowdhury and Swati Ray, Presented at 18th International Photovoltaic Science and Engineering Conference, Kolkata, India, January 18 - 23, 2009.