Publication

Book Chapter:

"Evaluation of indium tin oxide-based surface plasmon resonance sensor for near-IR applications", Anjitha M, Niveditha Nair, Varsha. T. Babu, Nishi. G.N, Athulya. S, Sharika E, Tauseef Ahmed, **Mukul Kumar Das**, Rita Rizzoli, Caterina Summonte, Sanjay K. Ram, **Advances in Materials Science and Engineering**, edited by K. B. Kale, B. S. Gandhare, S. S. Kulkarni, Ed. Pune, India: **Grinrey Publishing**, **2021**, Chapter 1, pp. 1-16. ISBN: 978-81-948951-9-0.

Journal/Conference:

International Journal Papers:

1. A M Pillai, N Nair, **Mukul K Das**, S K Ram, "Strategic approaches to enhance efficiency and commercial feasibility of copper-based surface plasmon resonance sensing", ***Next Materials***, Vol.7. No.100377, **2024**, DOI: https://doi.org/10.1016/j.nxmate.2024.100377
2. Tauseef Ahmed, and **Mukul Kumar Das**, "Enhanced Efficiency in Thin Film Solar Cells: Optimized Design with Front Nanotextured and Rear Nanowire-Based Light Trapping Structure, ***IEEE Transactions on Nanotechnology***, Vol. 23, pp. 456-466, June **2024**, DoI: 10.1109/TNANO.2024.3408253
3. Anjitha M Pillai, Niveditha Nair1, **Mukul K Das**, and Sanjay K Ram, "Influence of the configuration of metal sensing layers on the performance of a bimetallic (Ag-Cu) surface plasmon resonance biosensor", ***Nanotechnology***, Vol. 35, No.33, May **2024**, DOI 10.1088/1361-6528/ad4ee8
4. Muzaffar Imam, S. S. A. Askari, and **Mukul Kumar Das**, "Development of Theoretical Model for Effective Carrier Lifetime in Polycrystalline Semiconductors," ***IEEE Trans. on Electron Devices***, Vol.70, pp. 5249-5256, October **2023**, DoI:10.1109/TED.2023.3300654.
5. Tauseef Ahmed, Syed Sadique Anwer Askari, and **Mukul Kumar Das**, "An Efficient Light Trapping Method to Enhance the Efficiency of Thin Film Solar Cell", ***IEEE Trans. on Nanotechnology***, Vol.22, pp. 190-199, **2023**, DoI: 10.1109/TNANO.2023.3262367
6. S. Banerjee, S. S. A. Askari and **M. K. Das**, 'Effect of Rear Contact Coverage and Improvement of Efficiency of Crystalline p-Si Solar Cell Compared to State of Art PERC Cell', ***IEEE Access***, Vol.11, pp. 34999-35006, 2023, DoI: 10.1109/ACCESS.2023.3264900
7. Manoj Kumar, S.S. Anwer Askari, Sanjay K. Ram, and **Mukul Kumar Das**, "Investigation of all-oxide thin film solar cell with p-SnOx as absorber layer", ***IEEE Trans. on Electron Devices***, Vol. 69, No. 3, pp. 1115-1122, March **2022**, DoI: 10.1109/TED.2022.3143077.
8. M Imam, S S A Askari, **Mukul Kumar Das**, "Effect of grain boundary orientation on the recombination in polycrystalline materials: a theoretical and simulation study", ***Applied Physics A****-Materials Science and Processing*, Vol. 128, pp. 891 (1-8), **2022**, DoI: 10.1007/s00339-022-06027-5
9. Anjali Rai, Syed Sadique Anwer Askari, **Mukul Kumar Das**, Subindu Kumar "Efficiency enhancement of solar cells using multi-layer interdiffused InGaAs/ GaAs quantum dots: A numerical approach," ***Micro and Nanostructures***, Vol. 172, pp.207445: 1-12, 2022, DoI: 10.1016/j.micrna.2022.207445
10. Sudipta Banerjee and **Mukul K Das**, "A review of Al_2O_3 as surface passivation material with relevant process technologies on c-Si solar cell", ***Optical and Quantum Electronics***, Springer, Vol.53, pp. 60 (1-25), January, **2021**, DoI: 10.1007/s11082-020-02689-8
11. MA Billaha, **Mukul Kumar Das**, "Transient response analysis of quantum well infrared photodetector", **Optical and Quantum Electronics**, Vol. 53, pp. 451 (1-13), **2021**, DoI: 10.1007/s11082-021-03113-5
12. Lipika Mandal, Syed Sadique Anwer Askari, Manoj Kumar, **Mukul Kumar Das**, "Band Offset Engineering for p-SnO/n-mc-Si Heterojunction Solar Cell", ***Applied Physics Letters***, Vol. 116, Iss.23, pp.234106(1-4), **2020,** DoI: 10.1063/1.5144767.
13. Manoj Kumar, S. S. Anwer Askari, **Mukul K. Das**, Oxygen controlled E-beam evaporation deposited p-SnO_x thin film for photosensitive devices, ***Materials Letters***, Vol. 257, pp.126684(1-5),**2019**, DoI:10.1016/j.matlet.2019.126684.
14. MA Billaha, **Mukul Kumar Das**, "Performance analysis of AlGaAs/GaAs/InGaAs-based asymmetric long-wavelength QWIP", ***Applied Physics A****-Materials Science and Processing*, Vol. 125, pp. 457 (1-7), **2019**, DoI: 10.1007/s00339-019-2750-2
15. Shambhu Sharan Kumar Sinha, Subindu Kumar, **Mukul Kumar Das**, "Dot size variability induced changes in the optical absorption spectra of interdifused quantum dot systems" ***Applied Physics A (Material Sc. & Processing)***, Vol. 125, pp. 774 (10 pg), **2019,** DoI: 10.1007/s00339-019-3050-6
16. Amrita Kumari, Subindu Kumar, Tarun Kumar Sharma, **Mukul K. Das**, "On the C-V characteristics of nanoscale strained gate-all-around Si/SiGe MOSFETs", ***Solid State Electronics***, Vol.154, pp. 36-42. **2019**, DoI: 10.1016/j.sse.2019.02.006

17. Syed Sadique Anwer Askari, Manoj Kumar and **Mukul Kumar Das**, "Numerical study on the interface property of ZnO/c-Si heterojunction solar cell", ***Semiconductor Science and Technology***, Vol. 33, pp. 115003(8pp), **2018**, DoI: 10.1088/1361-6641/aadf71
18. Md. Aref Billaha, **Mukul K Das**, Subindu Kumar, "Effect of Doping on the Performance of Multiple Quantum Well Infrared Photodetector", ***IET Circuits, Devices & Systems***, Vol. 12, Issue 5, pp. 551-556, **2018** (online), DoI: 10.1049/iet-cds.2017.0011
19. Ravi Ranjan, **Mukul K. Das** and S. Kumar "Performance analysis of tin-incorporated group-IV alloy based transistor laser", ***Optics and Laser Technology***, Vol. 106, pp. 228-233, **2018**. DoI:10.1016/j.optlastec.2018.04.010
20. Prakash Pareek, **Mukul K. Das** and S. Kumar, "Numerical Analysis of SiGeSn/GeSn Quantum Well Infrared Photodetector", ***Opto-Electronics Review***,Vol. 26, pp. 149–157, **2018**, DoI:10.1016/j.opelre.2018.03.002
21. Prakash Pareek, Ravi Ranjan and **Mukul K. Das**, "Numerical Analysis of Tin Incorporated Group IV Alloy Based MQWIP", ***Optical and Quantum Electronics***, Springer, Vol.50(179), pp.1-14, **2018**, DoI: 10.1007/s11082-018-1447-7
22. Prakash Pareek, **Mukul K. Das**, S. Kumar, "Responsivity Calculation of Group IV based InterbandMQWIP", ***Journal of Computational Electronics***, Vol.17, pp. 319-328, **2017**, DoI:10.1007/s10825-017-1071-y
23. Kumar Subindu, Kumari Amrita, **Das Mukul K**, "Strain induced changes in performance ofstrained-Si/strained-$Si_{1-y}Ge_y$/relaxed-$Si_{1-x}Ge_x$ MOSFETs and circuits for digital applications, ***Journal of Central South University***, Vol. 24, Issue 6, pp 1233–1244, June **2017**, DoI: 10.1007/s11771-017-3527-4.
24. Prakash Pareek, **Mukul K. Das**, S. Kumar, "Theoretical analysis of tin incorporated group IV alloy based QWIP, ***Superlattices and Microstructures***, Vol. 107, pp. 56-58, **2017**, DoI: 10.1016/j.spmi.2017.04.009
25. Kumar Subindu, Kumari Amrita, **Das Mukul Kumar**, "Modeling gate-all-around Si/SiGe MOSFETs and circuits for digital applications, Journal of Computational Electronics, Vol. 16, Iss. 1, pp. 47-60, March, **2017**, DoI: 10.1007/s10825-016-0941-z
26. Bindu Priyadarshini, **Mukul Kumar Das**, "Modeling and design of Si/SiGe radial heterojunction microwire array solar cell with pyramidal reflectors", ***Optik***, Vol. 140, pp.1047-1055, **2017** DoI:10.1016/j.ijleo.2017.05.015
27. Md. Aref Billaha, **Mukul K Das**, S. Kumar, "Doping Dependent Frequency Response of MQW Infrared Photodetector, ***Superlattices and Microstructures***, Vol. 104, pp. 128-139, **2017**, DoI: 10.1016/j.spmi.2017.02.018
28. Bindu Priyadarshini, **Mukul Kumar Das**, Mrinal Sen, Subindu Kumar "Radial microwire array solar cell with pyramidal structure", ***Superlattices and Microstructures***, Vol. 98, pp.208-219, **2016,** DoI: 10.1016/j.spmi.2016.08.020
29. S. Kumar, A. Kumari and **M. K. Das**, "Development of a Simulator for analyzing some Performance Parameters of Nanoscale Strained Silicon MOSFET-based CMOS Inverters", ***Microelectronics Journal***, Vol.55, pp.8-18, **2016**, DoI: 10.1016/j.mejo.2016.06.009
30. Subindu Kumar, Soumen Sen, **Mukul Kumar Das**, "A comparative analysis of the photoluminescence spectra of annealed ultrasmall In-rich InGaN/GaN quantum dots and wells", ***Optik***, Vol. 127, pp.8654–8661, **2016**, DoI: 10.1016/j.ijleo.2016.06.078
31. Prakash Pareek and **Mukul K Das**, "Theoretical analysis ofdirect transition in SiGeSn/GeSn strain balanced QWIP", ***Optical and Quantum Electronics***, Springer, Vol.48, Article no. 228, pp.1-11, **2016**, DoI: 10.1007/s11082-016-0498-x.
32. Ravi Ranjan and **Mukul K Das**, "Theoretical Estimation of Optical Gain in Tin-incorporated Group IV Alloy Based Transistor Laser", ***Optical and Quantum Electronics***, Springer, Vol.48,Article no. 201, pp.1-11,**2016**
33. Md. Aref Billaha, **Mukul K Das**, "Influence of Doping on the Performance of GaAs/AlGaAs QWIP for Long Wavelength Applications",***Opto-electronics Review***, Vol.24, Issue 01, pp.25-33, **2016**, DoI: 10.1515/oere−2016−0006
34. Mrinal Sen, **Mukul K Das**, "High-speed all-optical logic inverter based on stimulated Raman scattering in silicon nanocrystal", ***Applied Optics***, *OSA*, Vol. 54, No. 31, pp. 9136-9142, **2015**
35. Raju Dutta, Shishir Gupta &**Mukul K. Das**, "Low-Energy Adaptive Unequal Clustering Protocol Using Fuzzy c-Means in Wireless Sensor Networks," ***Wireless Pers. Comm.***, *Springer*, Vol. 79, Issue 04, pp.1187-1209, **2014,** DoI:10.1007/s11277-014-1924-7
36. Mrinal Sen and **Mukul K. Das**, "Raman mediated all-optical cascadable inverter using silicon-on-insulator waveguides," ***Optics Letters***, *OSA*, Vol. 38, Issue 23, pp. 5192–5195, **2013,** DOI:10.1364/OL.38.005192
37. **Mukul K. Das** and Santosh K. Choudhary, "Ge-content Dependent Efficiency of Si/SiGe Heterojunction Solar cell", ***Applied Physics A-****Material Science and Processing*, Vol. 112, Issue.3, pp. 543-548, (DoI: 10.1007/s00339-013-7761-9), **2013**
38. Mrinal Sen and **Mukul Kumar Das** "Determination of Resonance Frequencies in Silica Fiber using SRS Gain" ***Optical and Quantum Electronics***, Springer, Vol. 45, Issue.7, pp. 735-745, (DoI:10.1007/s11082-013-9679-z), **2013**
39. **Mukul K. Das** and N. R. Das, "Calculating the Responsivity of a Resonant-Cavity-Enhanced $Si_{1-x}Ge_x$/Si Multiple Quantum Well Photodetector" ***Journal of Applied Physics***, AIP, Vol.105, Issue 9, pp. 093118-1 – 093118-8, **2009**
40. **Mukul K. Das**, N. R. Das, "On optimum designs of a RCE Si/SiGe/Si MQW photodetector for long wavelength applications" ***Optical and Quantum Electronics***, Springer, Vol. 41, Issue7, pp. 539-549, **2009**

41. P. K. Basu, N. R. Das, BratatiMukhopadhyaya, Gopa Sen and **Mukul K. Das**, "Ge/Si photodetectors and group IV alloy based photodetector materials", ***Optical and Quantum Electronics***, Springer, Vol. 41, Issue.7, pp. 567-581, **2009**
42. H. S. Dutta, N. R. Das and **Mukul K. Das**, "Investigating the Effects of Heterointerface Trapping on the Performance of Ge-based RCE Schottky Photodiode at 1.55μm", ***Semiconductor Science and Technology***, IOP, Vol.23, Issue 8, pp.085012-085018, **2008**
43. H. S. Dutta, N. R. Das and **Mukul K. Das**, "Frequency response of a resonant cavity encapsulated germanium-on-silicon Schottky photodiode", ***IET Circuits, Devices & Systems***, Vol. 2, Issue 1, pp.128-132, **2008**
44. **Mukul K. Das**and N. R. Das**,**"Effect of Ge-composition on The Frequency Response of a $Si/Si_{1-y}Ge_y$ P-i-N Photodetector"***Optical Engineering, SPIE,***Vol. 45, Issue12, pp.124001- 124006,**2006**
45. **Mukul K. Das**, N. R. Das, P. K. Basu, "Effect of Ge Content and Profile in The SiGeBase on The Performance of a SiGe/Si Heterojunction Bipolar Transistor" ***Microwave and Optical Technology Letters***, *Willey*, Vol. 47, Issue 3, pp. 247-254, **2005**

International Conference Papers:

1. Sudipta Banerjee and Mukul K Das, "Review of rear surface passivation in passivated emitter rear cell (PERC) using different process technologies", Proc. Nat. Conf. on Emerging Trends on Sustainable Technology and Engineering Applications (NCETST EA) ***IEEE Explored***, 7-8 Feb, 2020, DoI: https://ieeexplore.ieee.org/document/9119921.
2. Manoj Kumar, Syed Sadique Anwer Askari, Mukul Kumar Das, "Some studies on surface morphological properties of SnOx thin film layer grown by e-beam technique under controlled oxygen pressure", Materials Today : Proceedings, 2020, DoI: https://doi.org/10.1016/j.matpr.2020.09.839.
3. Tauseef Ahmed, Muzaffar Imam, Siddhartha Kumar, Syed SadiqueAnwerAskari and Mukul Kumar Das, "Light Trapping Enhancement by Optimized Pyramidally Textured Substrate for Crystalline Silicon based Solar Cell", Proc. MSSND-2019 (***IEEE explored***),27th- 28thDecember 2019, organized by Jadavpur University Kolkata, India.
4. Muzaffar Imam, Tauseef Ahmed, Syed SadiqueAnwerAskari and Mukul Kumar Das, "Grain Boundary modeling of Microcrystalline Silicon based Thin Film Solar Cell", Proc., MSSND-2019 (***IEEE explored***), 27th-28thDecember 2019, organized by Jadavpur University Kolkata, India.
5. Muzaffar Imam, Syed SadiqueAnwerAskari and Mukul Kumar Das,"Enhanced Photovoltaic Performance in Pyramid-Textured Silicon Substrate based n-i-p-p+ Solar Cell", Proc., 3rdInternational Conference on Solar Energy Photovoltaic (ICSEP-2019), 17th-19th December 2019, organized by KIIT University Bhubaneswar, India.
6. Muzaffar Imam, S. SadiqueAnwer ,Manoj Kumar, Tauseef Ahmed, and Mukul Kumar Das, "Plasmonic Effect on Microcrystalline Silicon Solar Cell for Light Absorbtion Enhancement", The 80thJSAP Autumn Meeting JSAP-OSA Joint Symposia 2019, 18th to 21st September 2019, Hokkaido University, Sapporo Campus, Sapporo,Hokkaido, Japan.
7. S. SadiqueAnwer ,Manoj Kumar, Muzaffar Imam &Mukul Kumar Das, "Performance analysis of Plasmonic based ZnO/Silicon Thin-Film Heterojunction Solar cell", 79 th JSAP Autumn Meeting JJAP-OSA Joint Symposia 2018, Nagoya Congress Center, Nagoya, Japan, 18 th to 21 st September **2018**.
8. S. SadiqueAnwer ,Manoj Kumar &Mukul Kumar Das, "Effects of interfacial SiO2 on the performance of ZnO/p-Si heterojunction solar cell", SPIE Photonics West 2018, The Moscone Center San Francisco, California, United States, 27th Jan – 1st Feb, **2018**.
9. Ranjan. Ravi, Pareek P., Askari SSA., Das Mukul K., "Performance Analysis of GeSn Alloy Based Multiple Quantum Well Transistor Laser, Proceedings of SPIE, PHYSICS AND SIMULATION OF OPTOELECTRONIC DEVICES XXVI, Vol. 10526, Article Number: UNSP 105262A, San Francisco, CA, USA, JAN 29-FEB 01, **2018**, DoI: 10.1117/12.2290570.
10. S. SadiqueAnwer ,Manoj Kumar & Mukul Kumar Das, "Effects of Interface defect on the performance of ZnO/p-Si heterojunction solar cell", Proc., of the 78th JSAP Autumn Meeting JJAP-OSA Joint Symposia 2017, Fukuoka Convention Center, Fukuoka, 5th to 8th September **2017**.
11. Prakash Pareek, R. Ranjan, and M. K. Das, "Study of GeSn Strain Compensated Quantum Well as EAM," Proc. of Frontiers in Optics **2017**, Washington, US, 18th -21st September **2017**, paper JW3A.25(online), OSA Technical Digest.
12. Prakash Pareek, Ravi Ranjan and Mukul K Das, "Numerical Analysis of Tin Incorporated Group IV Alloy Based MQWIP", Proc. of 17th International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD 2017), pp. 141-142, Copenhagen, Denmark, 24th -28th July **2017** (***IEEE Explored***, DoI: 10.1109/NUSOD.2017.8010031).
13. Ravi Ranjan, Prakash Pareek and Mukul K Das, "Analysis of static response of tin incorporated group–IV alloy based mid-infrared transistor laser", Proc. of 17th International Conference on Numerical Simulation of

Optoelectronic Devices (NUSOD 2017), pp. 149-150, Copenhagen, Denmark, 24th-28th July, **2017** (***IEEE Explored***, DoI:: 10.1109/NUSOD.2017.8010035).

14. S. SadiqueAnwer ,Manoj Kumar &Mukul Kumar Das, "Performance Analysis of Perovskite on Si Tandem Solar Cell", *Proc. of 2nd Int. Conf. on Solar Energy Photovolraic (ICSEP-2016)*, KIIT University Bhubanesware, India, 17th -19th December **2016**.
15. S. SadiqueAnwer&Mukul Kumar Das, "Performance Analysis of ZnO/c-Si heterojunction Solar Cell, *Proc. of the 1st Int. Conf. on Advancement of Computer Communication & Electrical Technology(ACCET 2016)*, Murshidabad College of Engineering & Technology, Berhampore, Murshidabad, West Bengal, India, 21-22 October, **2016,** DoI: 10.1201/9781315400624-37.
16. Ravi Ranjan, Prakash Pareek and Mukul K. Das "Analysis of carrier dynamic effects on frequency response of tin incorporated group-IV alloy-based transistor laser," *Proc. of SPIE 10098, Physics and Simulation of Optoelectronic Devices XXV*, San Francisco, USA, 100980T, February, **2017**, DoI: 10.1117/12.2252655.
17. Ravi Ranjan, Mukul K. Das, "Analysis of optical gain in Tin incorporated group IV alloy based transistor laser for mid infrared application", *Proc. of 1stInt. Conf. on Advancement of Computer Communication & Electrical Technology(ACCET 2016)*, Murshidabad College of Engineering & Technology, Berhampore, Murshidabad, West Bengal, India, 21- 22 October, **2016**. DoI: 10.1201/9781315400624-31.
18. P. Pareek, R. Ranjan, and M. K. Das, "Sn Content Dependent Absorption in GeSn Quantum Well Layer for Infrared Sensing," *Proc.(abstract.) of JSAP-OSA Joint Symposia & Autumn Meeting* **2016** *(Optical Society of America, 2016)*, TokkiMesse, Niigata,Japan, 13-16 September, 2016.
19. Ravi Ranjan and Mukul K. Das "Steady State Analysis of Tin Incorporated Group IV Alloy Based Transistor Laser", *Proc.(Abstract) of 2nd International Conference on Microwave and Photonics (ICMAP)-2015*, Dhanbad, India, p.213. (IEEE explored, DoI: I 10.1109/ICMAP.2015.7408771), 11-13 Dec. **2015**.
20. Prakash Pareek, Mukul K. Das, "Finite Difference Approach for Self-Consistent Solution in Strained and Strain Balanced SiGe/GeSn Quantum Well", Proc. (Abstract) of 2nd International Conference on Microwave and Photonics (ICMAP-2015), Dhanbad,India, p. 213 (IEEE Explored, DOI: 10.1109/ICMAP.2015.7408722), Dec.11-13, **2015**.
21. Mukul K. Das, Prakash Pareek, "Theoretical Analysis of Direct Transition in SiGeSn/GeSn Strain Balanced QWIP," *Proc. of 15th International Conference on Numerical Simulation of Optoelectronic Devices (NUSOD)-2015*, Taipei, Taiwan, pp.11-12 (Post deadline Paper), Sept.7-11, **2015**.
22. Mukul K Das and Ravi Ranjan "Theoretical estimation of optical gain in Tin incorporated group IV transistor laser" *Proc. of 15thInternational Conference on Numerical Simulation of Optoelectronics Devices (NUSOD) 2015*, Taipei, Taiwan, pp.9-10 (post deadline paper), Sept.7-11 **2015**.
23. Prakash Pareek, Mukul K Das, "A Review on Tin doped Group IV alloys and Theoretical Analysis of Direct Transition in Tin doped Strained Quantum Well for Photonic Applications," *Proc. of 4th International Conference on Current Developments in Atomic, Molecular, Optical & Nano Physics with Applications (CDAOMP-2015)*, Delhi University, p.197, 11th-14th March-**2015**.
24. Prakash Pareek, Mukul K Das, "Theoretical Analysis of Direct Transition in SiGe/GeSn Strained Quantum Well Structure by Finite Difference Method," *Proc. of the 1st International conference IEM OPTRONIX 2014*, Kolkata, 17-18 Dec.2014 (*Springer Proceedings of Phys., Vol. 166, Advances in Optical Science and Engineering, chapter 79*, **2014**.
25. Mrinal Sen, TanmoyDatta and Mukul K. Das, "Effect of Geometry and Reverse Bias on Free Carrier Lifetime in p-i-n Structured Optical Rib Waveguide", Proc. *International Conference on Microwave and Photonics (ICMAP),*Dhanbad, India, Dec. 13-15, (*IEEE Explored*, DoI: *10.1109/ICMAP.2013.6733555*, pp.1-5), **2013**.
26. Santosh K. Choudhary, Ravi Ranjan and Mukul K. Das and "Performance Analysis of Si/SiGe Double Junction Solar Cell", *Proc. International Conference on Microwave and Photonics (ICMAP)*, Dhanbad, India, Dec. 13-15, (*IEEE Explored*, DoI: *10.1109/ICMAP.2013.6733559*, pp.1-5), **2013**.
27. Mrinal Sen, and Mukul K. Das, "Stimulated Raman Scattering based All-Optical Logic Inverter using Tellurite Fiber", *Proc. International Conference on Microwave and Photonics (ICMAP)*, Dhanbad, India, Dec. 13-15, *(IEEE Explored*, DoI: *10.1109/ICMAP.2013.6733545*, pp.1-4), **2013**.
28. Md. ArefBillaha and Mukul K. Das, "Performance Analysis of III-V Based Long Wavelength QWIP", *Proc. International Conference on Microwave and Photonics (ICMAP)*, Dhanbad, India, Dec. 13-15, (*IEEE Explored*, DoI: *10.1109/ICMAP.2013.6733545*, pp.1-4), **2013**.
29. BinduPriyadarshini and Mukul K. Das, "Modeling and Analysis of Core-Shell p-n Junction Si Nanorod Solar Cell with Pyramidal Structure", *Proc. International Conference on Microwave and Photonics (ICMAP)*, Dhanbad, India, Dec. 13-15, (*IEEE Explored*, DoI: *10.1109/ICMAP.2013.6733556*, pp.1-5), **2013**.

30. Santosh K. Choudhary and Mukul K. Das and "On the Temperature Dependent Efficiency of SiGe/Si Heterojunction Solar Cell", *Proc. International Conference on Microwave and Photonics (ICMAP)*, Dhanbad, India, Dec. 13-15, (*IEEE Explored,* DoI: *10.1109/ICMAP.2013.6733560*, pp.1-5), **2013**.
31. Mukul K. Das and Santosh K. Choudhary, "Ge-content Dependent Efficiency of Si/SiGe Heterojunction Solar cell", Proc. of the *Intl. Conf. Photonics Global Conference (PGC)-12*, Singapore, Dec. 13-16, (*IEEE Explored*, DOI: 10.1109/PGC.2012.6458050, pp.1-4), **2012**.
32. Mukul K. Das and Md. ArefBillaha, "Bound-to-Continuum Transition in GaAs/AlGaAs QWIP", Proc. of the *Intl. Conf. Photonics Global Conference (PGC)-12*, Singapore, Dec. 13-16, (*IEEE Explored*, DoI: 10.1109/PGC.2012.6458052, pp.1-3) **2012**.
33. Santosh K. Choudhary, Mukul Kumar Das, "Effect of Carrier Trapping on the Efficiency of Si/SiGe Heterojunction Solar cell", Proc. of the *Intl. Symp. Macro-and Supramolecular Architectures and Materials(MAM)-12*, Tamilnadu, India, pp. 167-172, Nov. 21-25, **2012**.
34. Mrinal Sen and Mukul Kumar Das "Determination of Resonance Frequencies in Silica Fiber using SRS Gain" Proc. of the Intl. Conf. *NUSOD-2012*, China (*IEEE Explored*, DoI: 10.1109/NUSOD.2012.6316555, pp.137-138), **2012**.
35. Md. ArefBillaha and Mukul K. Das, Theoretical Analysis of GaSb/GaAs QWIP", Proc. of the Intl. Symp. *Macro-and Supramolecular Architectures and Materials (MAM)-12*, Tamilnadu, India, pp. 161-166, Nov. 21-25, **2012**.
36. Mukul Kumar Das, Santosh K Choudhary, L Narender Kumar and B Praveen Kumar, "On the Performance Analysis and Optimization of Si/SiGe/Ge Tripple Junction Solar Cell" Proc. of the Intl. Conf. *ICMAT-2011 (IEEE explored)*, Singapore, O-PO3-28, 26 June-1 July, **2011**.
37. Mukul K. Das and N. R. Das, "On the Ge-content Dependent Noise Current in Si/SiGe MQW Photodetector" Proc. of the Intl. Conf. *CODEC-09* (*IEEE explored)*, Kolkata, OLT_LS01, December 14-16, **2009**.
38. P. K. Basu, N.R. Das, B. Mukhopadhyay, G. Sen, and M.K. Das, "Ge/Si photodetectors and group IV alloy based photodetector materials, Proc. of the Intl. Conf. *NUSOD-09, South Korea (IEEE explored*, DoI: 10.1109/NUSOD.2009.5297210, pp.79-80), **2009**.
39. M. K. Das and N. R. Das, "On Optimum Designs of a RCE Si/SiGe/Si MQW Photodetector for long wavelength applications" Proc. of the Intl. Conf. *NUSOD-09, South Korea (IEEE explored*, DOI 10.1109/NUSOD.2009.5297210, pp.87-88) **2009**.
40. Santu Sarkar, N. R. Das and M. K. Das, "Analysis of Component Cross-talk and Obtaining Bit-Error-Rate in a WDM Receiver", Proc. of the Intl. Conf. *PHOTONICS 08*, Delhi, PM-57, **2008**.
41. Mukul K. Das and N. R. Das, "On the Performance Analysis and Optimum Design of Si1-yGey/Si Multiple Quantum Well Resonant Cavity Enhanced p-i-n Photodetector", Proc. of the Intl. Conf. *URSI GA-08*, Chicago, D05.7, 2008.
42. Mukul K. Das and N. R. Das, "On the Responsivity of a Si1-xGex/Si RCE p-i-n Photodetector for Different Ge-compositions" Proc. of the Intl. Conf. *CODEC-06*, Kolkata, p.209, 2006.
43. Mukul K. Das and N. R. Das, "On the Ge-content Dependence of the Bandwidth of Si1-xGex/Si p-i-n Photodetector" Proc. of the Intl. Conf. *PHOTONICS 06*, Hyderabad, p.400, 2006.
44. Mukul K. Das and N. R. Das, "Performance Analysis of a Vertical Si/SiGe PIN Photodetector for Different Ge Concentration" Proc. of the Intl. Conf. *EPMDS-06*, Kolkata, p.C-28, 2006.
45. Mukul K. Das, N. R. Das, P. K. Basu, "Performance Analysis of a SiGe/Si Heterojunction Bipolar Transistor for Different Ge-composition" Proc. of the Intl. Conf. *URSI-GA-05*, New Delhi, D03.7, 2005.
46. Mukul K. Das, N. R. Das, P. K. Basu, "Performance Analysis and Design of an Integrated SiGe/Si pin-HBT Photoreceiver for Optical Communication" Proc. of the Intl. Conf. *CODEC-04*, Kolkata, p. 38, 2004.

National Conference Papers:

1. Mukul K Das and N.R.Das, "Recent Trends on Si-Ge Based Photodetector for Optical Communication", National Conference on Engineering Education, *NCEE-2008*, Academy of Technology, Adisaptagram, 2008.
2. Mukul K. Das and N. R. Das,"On the Ge-content Dependent Quantum Efficiency of $Si_{1-x}Ge_x$/Si RCE p-i-n Photodetector ", *INCURSI-07*, New Delhi, ODA-20, 2007.
3. Santosh K. Choudhary and Mukul Kumar Das, "On the Ge-content Dependent Efficiency of Si/SiGe Heterojunction Solar Cell" Proc. of the Natl. Conf. *FECIT-2011*, ISM, Dhanbad, India, SNT-3, Nov. 3-4, 2011.
4. Mrinal Sen and Mukul Kumar Das, "Theoretical Modeling of Resonance Frequency for Susceptibility of Optical Fiber Using Raman Gain Spectrum" Proc. of the Natl. Conf. *FECIT-2011*, ISM, Dhanbad, India, PTS-9, Nov. 3-4, 2011.