

Dr. Lipi Goswami

Journal Publications:

1. Shape confirmation of Silver nanoparticles from Characterisation Techniques ^{1*} Lipi Goswami, ² Pranayee Datta *American Journal of Material Synthesis and Processing*, 3(2): 23-29, July 31st, 2018. p-ISSN: 2575-2154, e-ISSN:2575-1530
2. Coulomb Blockade effect in Ag/PVA nanocomposites. ^{1*} Lipi Goswami, ² Pranayee Datta *Journal of Basic and Applied Engineering Research*, Volume 2, Issue 20, (2015 Oct) Pg:1724-1727. P-ISSN:2350-0077, e-ISSN: 2350-0255.
3. On the electron transport processes of Lead sulphide/Polyvinyl Alcohol Quantum dots. Lipi Goswami^{1*}, Pranayee Datta² *Journal of Nanoelectronics and Optoelectronics*, ISSN: 1555-130X (Print) EISSN: 1555- 1318 Online Volume 10, No.1, Pg: 15-23 (2015) February, published by American Scientific Publishers, .
4. TEA LEAF ASSISTED SYNTHESIS OF SILVER NANOPARTICLES AND THEIR ANTIMICROBIAL POTENTIAL. Lipi Goswami¹, Debabrat Baishya², Sorra Sandhya³, Joyeeta Talukdar⁴, Pranayee Datta⁵ *International Journal of Pharma and Bio Sciences*, 2014 April; 5(2) p 196-204, ISSN-0975-6299, published by SCImago (powered by scopus of Elseveir)
5. Therapeutic Application of Metal nanoparticles. *IJAP (ISST Journal of Applied Physics)*, 2012, Vol3 No2, p 39-43, ISSN: 0976-903X.
6. Optical and Structural Properties of PbS nanoparticles embedded in starch. ¹Lipi Goswami, ²Hirendra Das, ³Prabin Kumar Boruah, ⁴Pranayee Datta. *International Journal of Innovative Research and Development*, Vol11 Issue 7,p 234-239, ISSN 2278-0211.

7. Some characteristics of doped and undoped semiconductor nanocrystals. Sweety Sarma¹, Lipi Goswami², Prof(Mrs) Pranayee Datta³. *National Conference on Nanoscience and Nanotechnology, Nov 2007, organized by the Dept. of Physics, University of Lucknow, India, conference proceedings p 91-94.*

Books Published:

1. Engineering Physics-II Prof R.C Goswami, Dr. L.Goswami, Dr. D.Phukan First Edition: Feb, 2016, Publisher: Mani Manik Prakash, Panbajar, Guwahati ISBN: 978-81-85917-58-2
2. Engineering Physics-I Prof R.C Goswami, Dr. L.Goswami, Dr. D.Phukan First Edition: July, 2016, Publisher: Mani Manik Prakash, Panbajar, Guwahati

Conference publications:

1. Strong confinement and the synthesis of nanoparticles(quantum dots) in strong confinement region.
Lipi Goswami
3rd National Conference in Recent Advances in Science and Technology, NCRASST, 2020, organized by Assam Science and Technology University, through Online mode, Aug 17-Aug19, under TEQIP-III Project of World Bank and MHRD, New Delhi.
2. Coulomb Blockade effect in Ag/PVA nanocomposites ¹Lipi Goswami, ² Pranayee Datta *International Conference On Electronic Devices, Circuits, Applied Electronics and Communication Technology (EDCAECT 2015) organized by Department of Electronics and Communication Technology, Gauhati University, Gauhati, Assam, India and Krishi Sanskriti, New Delhi, India on 8th, 9th and 10th October, 2015.*

3. Fabrication of PbS/PVA Quantum Dot devices and their applications as photodetector. ¹Lipi Goswami, ² Pranayee Datta. *International Conference on Green Energy, Smart Materials through Science, Technology and Management, organized by Faculty of Technology in association with UNISA, and SECONE, 21st Jan-23rd Jan, 2014.*
4. Optical and Structural properties of PbS nanoparticles embedded in starch. ¹Lipi Goswami, ² Hirendra Das, ³Prabin Kumar Boruah, ⁴Pranayee Datta. *International Seminar and Workshop on Energy, Sustainability and Development (ISWED, 2012), organized by the Dept. of Physics, Sibsagar College in association with NEIST, Jorhat held during 12th-14th Oct'2012.*
5. An approach towards green synthesis of silver nanoparticles. ¹Lipi Goswami, ² Prabin Kumar Boruah, ³ Pranayee Datta. *International Conference of NanoScience and Technology, organized by ARCI (International Advanced Research Centre for Powder Metallurgy and New Materials) sponsored by Nano Mission, Department of Science and Technology, Govt. of India, Jan 19- Jan23, 2012.*
6. Some characteristics of doped and undoped semiconductor nanocrystals. Sweety Sarma¹, Lipi Goswami², Prof(Mrs) Pranayee Datta³. *National Conference on Nanoscience and Nanotechnology, Nov 2007, organized by the Dept. of Physics, University of Lucknow, India,*

Dr. Ajanta Deka

List of Publications:

International Journals:

- 1) R. C. Deka, **A. Deka**, P. Deka, S. Saikia, J. Baruah and P. J. Sarma, Recent advances in nanoarchitectonics of SnO₂ clusters and their application in catalysis, *Journal of Nanoscience and Nanotechnology* 20, 5153-5161 (2020). ISSN: 1533-4880 (Print); EISSN:1533-4899(Online)
- 2) **A. Deka**, Preferential sites for adsorption of CO on Au₆ clusters using DFT based reactivity descriptors, *Journal of Nanoscience and Nanotechnology* 20, 5288-5293 (2020). ISSN: 1533-4880 (Print); EISSN:1533-4899(Online).
- 3) S. Paul. J. Deka, **A. Deka**, N. K. Gour, Degradation mechanism of propylene carbonate initiated by hydroxyl radical and fate of its product radicals: A hybrid density functional study, *Atmospheric Environment* 216, 116952, (2019). ISSN: 1352-2310. (Scopus Serial No. 4363)
- 4) N.K.Gour, N.P. Rajkumari, R.C. Deka, S. Paul and **A. Deka**, Atmospheric degradation pathways and kinetics of 2-difluoroethanol (CHF₂CH₂OH) with Cl atom: A theoretical investigation, *Chemical Physics Letters* 716, 35-41 (2019). ISSN: 0009-2614. (Scopus)
- 5) **A. Deka**, Structure and reverse hydrogen spillover in mononuclear Au⁰ and Au^I complexes bonded to faujasite zeolite: A density functional study, *Journal of Catalysts*, Vol. 2013, Article ID 467846 (2013). ISSN: 2314-5102 (Print), 2314-5110 (Online).
- 6) **A. Deka**, Influence of sodium loading on CO adsorption over faujasite zeolite supported gold monomers: A density functional study, *Review of Applied Physics*, Vol. 2, Issue 2 33-38 (2013). ISSN: 2327-1604.

- 7) **A. Deka** and R. C. Deka, A density functional study on equilibrium geometries, stabilities and electronic properties of Au₅Li binary clusters, *Applied Nanoscience* **2**, 359-364 (2012). ISSN: 2190-5517.

- 8) **A. Deka**, R. C. Deka and A. Choudhury, Adsorption of CO on gas phase and zeolite supported gold monomers: a computational study, *Chem. Phys. Lett.* **490**, 184-188 (2010). ISSN No. 0009-2614.

- 9) R. C. Deka, **A. Deka** and A. Miyamoto, Density Functional Studies on the structure and reverse hydrogen spillover in Au₆ cluster supported on zeolite, *Catalysis Letters*, **131**, 155-159 (2009). ISSN: 1011-372X.

- 10) **A. Deka** and R. C. Deka, Structural and Electronic Properties of Stable Au_n (n=2-13) Clusters: A Density Functional Study, *J. Molecular Structure: THEOCHEM* **870**, 83-93 (2008). ISSN: 0166-1280.

- 11) M. Huix-Rotllant, **A. Deka**, S. I. Bosko, A. V. Matveev, L. V. Moskaleva and N. Rösch, Characterization of Optical Spectra of Interacting Systems: Application to Oxide-Supported Metal Clusters, *International Journal of Quantum Chemistry* **108**, 2978-2990 (2008). ISSN: 0020-7608 (Print) 1097-461X (Online)

- 12) P. Mondal, K. K. Hazarika, **A. Deka** and R. C. Deka, Density Functional Studies on Lewis Acidity of Alkaline Earth Metal Exchanged Faujasite Zeolite, *Molecular Simulation*, **34**, 1121-1128 (2008). ISSN: 0892-7022.

In National Journals:

- 1) R. C. Deka, S. Baruah, **A. Deka** and N. K. Gour, Theoretical insight of OH-initiated mechanistic pathways and kinetics of n-butyl nitrate($\text{CH}_3\text{CH}_2\text{CH}_2\text{CH}_2\text{ONO}_2$) at 298 K and 1 atm, *Journal of the Indian Chemical Society*, **95**, 1-12 (2018). ISSN: 0019-4522.
- 2) R. C. Deka, P. Mondal, **A. Deka** and A. Miyamoto, DFT based reactivity descriptors to predict the influence of alkali cations on the Brønsted acidity of zeolites, *Bulletin of the Cataysis Society of India*, **8**, 140-155 (2009). ISSN: 2347-5382 (Online).

Book Chapters:

1. Ramesh Ch. Deka and **Ajanta Deka**, Chapter 11, pg. 95-98 : “Sooner or Later Ethical Violations Get Exposed” in ACADEMIC INTEGRITY AND RESEARCH QUALITY, University Grants Commission, December, 2021
2. Ramesh Ch. Deka, Sudakshina Saikia, Nishant Biswakarma, Nand Kishor Gour and **Ajanta Deka**, Chapter 25, pg 511-528 : “Nanocatalysts for Exhaust Emissions Reduction” in NANOTECHNOLOGY IN THE AUTOMOTIVE INDUSTRY, Elsevier, April, 2022; Paperback ISBN: 9780323905244, eBook ISBN: 9780323905268
3. Ramesh Ch. Deka, Plaban J. Sarma, **Ajanta Deka**, Nishant Biswakarma, Dikshita Dowerah, Satyajit Dey Baruah, , “Mechanistic Details of Catalytic Hydrogenation of CO_2 to useful chemicals using SnO_2 clusters” in HETEROGENEOUS NANOCATALYSIS FOR ENERGY AND ENVIRONMENTAL SUSTAINIBILITY : VOLUME 2 – ENVIRONMENTAL APPLICATIONS, John Wiley & Sons, Inc, August, 2022, Chapter 25, pg 303-335, ISBN: 978-1-119-77202-6