

## ANNEXURE - I

### LIST OF PUBLICATION

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- 1) Highly selective and stable acetone sensor based on chemically prepared bismuth ferrite nanoparticles  
Sonam Chakraborty and **Mrinal Pal\***, *J.Alloy. Comp.* **787** (2019) 1204
- 2) "A Light Induced Tunable n-Doping of Ag Embedded GO/RGO Sheets in Polymer Matrix"  
N. Singh, D. Kothari, J. Ansari, **M. Pal**, S. Mandal, S. Dhara and A. Datta, *J. Phys. Chem. C.* **123** (2019) 10557.
- 3) Impact of morphology on the electrical and photocatalytic property of CdS nanostructures  
Sonam Chakraborty, Sucheta Sau and **Mrinal Pal\***, *Mater. Today. Proc.* 2019 (accepted)
- 4) Microscopic length scale of charge transport and structural properties of cobalt doped Ni–Zn ferrite nanocrystals: A structure property correlation study  
S.Chakrabarty, Swagata Bandyopadhyay, A.Dutta and **M.Pal\***, *Mat.Chem.Phys.*, **233** (2019) 310
- 5) Tailoring of microstructure, magnetic properties and charge carrier dynamics of YIG nanoparticles by Gd doping  
S.Chakrabarty, Ankurava Sinha, A.Dutta and **M.Pal\***, *J. Mag. Mag. Mater.*, **468** (2018) 215
- 6) Effect of yttrium doping on structure, magnetic and electric properties of nanocrystalline cobalt ferrites.  
S. Chakraborty, A. Datta and **M. Pal\***, *J. Mag. Mag. Mater.*, **461** (2018) 69
- 7) Yttrium Doped Cobalt Ferrite Nanoparticles: Study of Dielectric relaxation and Charge Carrier Dynamics.  
Sabyasachi Chakrabarty, **Mrinal Pal\*** and Abhigyan Dutta, *Ceram. Int.* **44** (2018) 14652
- 8) Highly efficient novel carbon monoxide gas sensor based on bismuth ferrite nanoparticles for environmental monitoring.  
S. Chakraborty and **M. Pal\***, *New. J. Chem.*, **42** (2018) 7188
- 9) Hedgehog ZnO/Ag heterostructure: an environment-friendly rare earth free potential material for cold-white light emission with high quantum yield  
Puja Bhattacharyya, Swarupananda Bhattacharjee, Manoranjan Bar, Uttam Kumar Ghorai, **Mrinal Pal**, Sujoy Baitalik and Chandan Kr. Ghosh, *Applied Physics A* **124** (2018) 782
- 10) Novel multiple phosphorescence in nanostructured Zinc oxide and calculation of correlated colour temperature.

- Sagnik Das , Uttam Kumar Ghorai , Rajib Dey , Chandan Kumar Ghosh , **Mrinal Pal\*** ,  
*Phys. Chem. Chem. Phys.*, **19** (2017) 22995
- 11) Improved sensitivity of CdS nanoparticles by virtue of calcium doping: Promising candidate for monitoring alcohol in exhale human breath  
S. Chakraborty and **M. Pal\***, *Materials & Design*, **126** (2017) 18
  - 12) Improved ethanol sensing behaviour of cadmium sulphide nanoflakes: Beneficial effect of morphology.  
S. Chakraborty and **M. Pal\***, *Sensor Actuator B*, **242** (2017) 1155.
  - 13) Enhanced and selective acetone sensing properties of SnO<sub>2</sub>-MWCNT nanocomposites: Promising materials for diabetes sensor.  
M. Narjinary, P. Rana, A. Sen and **M. Pal\***, *Materials & Design*, **115** (2017) 158
  - 14) Nanoporous  $\gamma$ -alumina based novel sensor to detect trace moisture in high temperature and high pressure environment, D Saha, DK Ghara, **M Pal\***, *Sensors and Actuators B: Chemical* **222**, (2016) 1043.
  - 15) Enhanced magnetic properties of Mn-Ni codoped cobalt ferrite nanoparticles corroborated with microstructural analysis.  
Sabyasachi Chakraborty · **Mrinal Pal** and Abhigyan Dutta, *Adv. Sc. Lett.*, **22** (2016) 89.
  - 16) Novel green phosphorescence from pristine ZnO quantum dots: Tuning of correlated color temperature.  
S. Das, C.K. Ghosh\*, R. Dey and **M. Pal\***, *RSC Advances*, **6** (2016) 236
  - 17) Multifunctionality in graphene decorated with cobalt nanorods.  
O. Mondal, **M. Pal**, D. Chakravorty and A. Dutta, *Materials & Design*, **101** (2016) 204
  - 18) Effect of Mn and Ni codoping on ion dynamics of nanocrystalline cobalt ferrite: A structure property correlation study  
S. Chakraborty, A. Dutta and **M. Pal\***, *Electro. Chemica. Acta*, **184** (2015) 70
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A. Mukherjee, S. Basu, Nguyen TK Thanh, Luke AW Green **M. Pal\*** *J. Mat. Sc.*, **50** (2015) 1891.
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S. Chakraborty, A. Dutta and **M. Pal\***, *J. Alloys and Comp.*, **625** (2015) 216–223
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S. Chakraborty, **M. Pal** and A. Dutta, *Mater. Chem. Phys.*, **153** (2015) 221
  - 22) Synthesis and characterization of redox non-innocent cobalt(III) complexes of a O,N,O donor ligand: Radical generation, semi-conductivity, antibacterial and anticancer activities.

P.Ghosh, A.Roy Chowdhury, S. Kr. Saha, M. Ghosh, **M.Pal**, N.C.Murmu and P.Banerjee., *Inorg. Chimica Acta.*, **429** (2015) 99

- 23)** Influence of doping on crystal growth, structure and optical properties of nanocrystalline CaTiO<sub>3</sub>: a case study using small-angle neutron scattering. O. Mondal, M. Pal, R. Singh, D. Sen, S. Mazumder and **M. Pal\***, *J. Appl. Cryst.* (2015) **48**, 836.
- 24)** Reduced graphene oxide synthesis by high energy ball milling, O. Mondal, S. Mitra, **M. Pal**, A. Dutta, S. Dhara, D. Chakravorty, *Mater. Chem. Phys.*, **161** (2015) 123
- 25)** Enhanced Magnetodielectric and Multiferroic Properties of Er-doped Bismuth Ferrite Nanoparticles Materials Chemistry and Physics.  
A. Mukherjee, M. Banerjee, S. Basu, M.D. Mukadam, S.M. Yusuf, **M. Pal\***, *Mater. Chem. Phys.*, **162** (2015) 140.
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A.Mukherjee, S.Basu, P.K. Manna, S.M. Yusuf and **M. Pal\***, *J. Mater. Chem. C*, **2** (2014) 5885.
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- 30)** Acetone and Ethanol sensing of barium hexaferrite particles: A case study considering the possibilities of non-conventional hexaferrite sensor.  
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- 33)** Improved and unusual magnetic properties of ZnO nanorings.  
Oindrila Mondal, Nguyen TK Thanh, Luke AW Green and **Mrinal Pal\***

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- 34) Unusual and strong emission in visible region from Mn<sup>2+</sup> and Y<sup>3+</sup> doped ZnO nanocrystals, O. Mondal and **M. Pal\***, *Optical Materials*, **35** (2013) 1520.
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O. Mondal and **M. Pal\***, *J. Mater. Chem*, 2011, **21**, 18354, DOI: 10.1039/C1JM13083H.
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- 90) Synthesis, Characterization and Electrical Properties of Nd-doped Nano crystalline Multiferroic Bismuth Ferrite  
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- 92)** Phase Transformation Study of Nd: YAG Laser Ablated TiO<sub>2</sub> Thin Film.  
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- 93)** Crystallization of laser ablated TiO<sub>2</sub> thin film.  
**M. Pal**, T. Sasaki and N. Koshizaki, 2<sup>nd</sup> NIMC International Symposium on Photoreaction Control and Photo functional Materials (PCPM) (1999) 185.
- 94)** Electrical and optical properties of Gd-doped bismuth ferrite nanoparticles.  
A.Mukherjee, M. Banerjee, S.Basu and **M. Pal**, *AIP Con. Proc.*, **1591** (2014) 1339
- 95)** Nanocomposite based gas sensor for non-invasive monitoring of diabetes from exhale breath.  
**M. Pal\***, *Proc. Of Intl. Con. On Nanotechnology for Better Living*, 2016, Vol 3, No. 1, pp. 249. doi:10.3850/978-981-09-7519-7nbl16-rps-249.
- 96)** Enhanced and ultrafast visible light photo catalytic effect of bismuth ferrite nanoparticles by virtue of molybdenum doping.  
Sonam Chakraborty and **Mrinal Pal\***, (Submitted)
- 97)** Observation of white light by tailoring defects of pristine ZnO  
Sagnik Das , Uttam Kumar Ghorai , Rajib Dey , Chandan Kumar Ghosh , **Mrinal Pal\*** (submitted)

### Book (chapter contributed)

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- 98)** Superplastic Nanoceramics  
**M. Pal** and D. Chakravorty, *Encyclopedia of Nanoscience and Nanotechnology*, American Scientific publishers , **10** (2004) 237.
- 99)** Borate based Nanocrystalline Magnetic Semiconductor above room temperature.  
**M. Pal\***, *Tata McGraw Hill*, (2004) 421.
- 100)** Nanocomposite with core-shell structure,  
D. Chakravorty, D. Das K. Chatterjee, S. Banerjee and **M. Pal**, *Inorganic Materials Recent Advances*, Narosa Publishing House, New Delhi, (2004) 316
- 101)** Effect of iron substitution on nanocrystalline CaTiO<sub>3</sub>  
S. Mondal, H. Dutta, S.K. Pradhan and **M. Pal\***, *“Dielectrics and Ferroelectrics: Modern Perspectives”* 2008.
- 102)** Polymer-iron Oxide Based Magnetic Nanocomposites.



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## PLENARY /KEYNOTE /INVITED TALK DELIVERED

- 1) Plenary lecture delivered in “International conference on nanomedicine (ICON-2019)” at Madurai Kamraj University, 2019.
- 2) Plenary lecture delivered in a Workshop on “Fabrication of Optoelectronics devices and Sensors Hands-on-Experience” at NIT Warangal, 2019.
- 3) Delivered invited talk in 4<sup>th</sup> International Conference on Nanoscience and Nanotechnology (NanoAfrica 2012), During 1-4<sup>th</sup> April, 2012 at Bloemfontein, South Africa.
- 4) Delivered invited talk in 7<sup>th</sup> BANGALORE NANO 2014, India.
- 5) Delivered invited talk in International conference on Nanoscience and Nanotechnology “ICONN-2015” Chennai, India.
- 6) Delivered invited talk in International Conference on Nanoscience, Engineering and Technology (ICONSET-2011), India.
- 7) Delivered **MRSI Award lecture** at NEIST, Jorhat during MRSI symposium – 2016.
- 8) Delivered invited talk in International conference on Nanoscience and Nanotechnology (NanoSciTech 2012) at Punjab University, Chandigarh, India, 2012.
- 9) Delivered invited talk in 21<sup>st</sup> International symposium on Processing and Fabrication of advanced materials (PFAM21), IITG, 2012.
- 10) Delivered invited talk in 3<sup>rd</sup> International conference on “Recent Advances in Materials Processing Technology “RAMPT-13” Tamilnadu, India.
- 11) Delivered invited talk in “International conference on Materials Science (ICMS2013)” at Tripura University, 2013.
- 12) Delivered invited talk in International Workshop on “Futuristic Materials: Characterization, Properties and Applications in Technology FMCPAT-2014” Rohilkhand University, UP, India.
- 13) Delivered invited talk in 4<sup>th</sup> International conference /workshop on computational condensed matter physics and materials science (IWCCMP-2016), Gwalior, India.
- 14) Delivered invited talk on “Nanostructured Metal Oxide Semiconductor based Gas Sensors for Healthcare” by Mrinal Pal, 2<sup>nd</sup> International on Materials Science (ICMS 2017), organized by Tripura University during 16-18 February.
- 15) Delivered Invited talk in International Conference on Nanotechnology (ICN:31 - 2017) at IIT Roorkee, during 6-8<sup>th</sup> December, 2017.

- 16) Invited talk delivered in 1<sup>st</sup> International conference on ubiquitous and emerging concepts on sensors & transducers UEMCOS2019, University of Engineering and Management, 2019.
- 17) Delivered invited talk on “Magnetic Nanocomposites” at S. N. College, Kolkata, 2006.
- 18) Delivered invited talk on “Nanostructured Materials” at St. Edmond College, Shilong, India, 2007.
- 19) Delivered invited talk on “Magnetism and magnetic Materials” at Ramananda College, Bishnupur, W.B., India, 2008.
- 20) Delivered invited talk on “Magnetic materials and its applications” at Govt. College of Textile Engineering, Serampore, W.B., India, 2008.
- 21) Delivered invited talk on “Nanoscience and Nanotechnology” at Barasat Govt. College, 2009.
- 22) Deliver lecture in National Symposium of Nanoscience and Technology (NANOSTech 2011), Kerala.
- 23) Deliver lecture in 6<sup>th</sup> National Conference on Thermophysical Properties (NCTP-2011) at BHU, India.
- 24) Deliver lecture in a National Conference on Recent Trends of Research in Physics, Tripura University, 2012.
- 25) Delivered talk in “Second National Seminar on Recent Trends in Condensed Matter Physics including Laser Application (SNSCMPLA 2012)”, Burdwan University, 2012.
- 26) Delivered presentation in “National conference on Innovative molecules for sustainable future (NCIMSF-2013)”, Thappar University.
- 27) Deliver invited lecture in National conference on Microwave communication and devices at Vidyasagar University, 2014
- 28) Delivered presentation in “National workshop on “Physics of Low Dimensional Structures (PLDS-2015)” at Vidyasagar University.
- 29) Invited talk in “Advanced Nanomaterials: Characterizations and Applications (WANCA-2015)” during Nov., 2015, BHU, India.
- 30) Invited Talk in “Advanced Materials & Nanotechnology (AMN-2016), Durgapur, India.
- 31) Invited Talk in “National Symposium on Advances in Chemical Sciences (NSACS-2017)” Organized by Assam University, Silchar – 2017.

## Resource person

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- 32) Delivered lecture in National Workshop on Quantum Perspective on Advanced Materials (QPAM-11) at Vidyasagar University 2011.
- 33) Delivered talk in “Workshop on Advanced Functional Materials”, NIT Durgapur, 2013.
- 34) Delivered presentation in “Workshop on Nanomaterials: Synthesis, Characterization and Applications”, NIT Durgapur, 2014.
- 35) Delivered presentation in Refresher course on “Thin films and Nanoscience” at Tripura University, 2015.
- 36) Delivered presentation in “2<sup>nd</sup> Refresher course on Nanoscience and Nanotechnology” during August, 2015 at The University of Burdwan.
- 37) Delivered presentation in Short term course on “Advanced Materials and Processing (AMP-2017)” Organised by Department of Physics, NIT Durgapur, 2017.
- 38) Invited talk delivered in “National workshop on emerging sensor technologies” organized by Department of Nanoscience and Nanotechnology, Bharathiar University, Coimbatore, 2019.
- 39) Invited talk delivered in a Refresher course organised by Faculty Development Council of Tripura University on 1<sup>st</sup> March, 2019.
- 40) Invited talk delivered in Short term course on “Fundamentals and recent advances in nanomaterials (FRAN-2019)” at NIT, Durgapur.

### **Popular lecture:**

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- 1) Deliver lecture on “Renewable energy for sustainable future” in a science camp on “Vigyan O Amra” organized by JBNSTS, 2014.
- 2) Deliver lecture on “Superstition and science” in an awareness camp 2014.
- 3) Deliver lecture on “Renewable energy” in a science awareness camp in 2013.
- 4) Deliver lecture on Magnetism, Magnetic materials and Application, Vidyasagar College for Women, Kolkata, 2013.
- 5) Deliver lecture on “Introduction to Nanoscience and nanotechnology” 2007.

### **Technical Session Chaired / Chairperson / Honourable judge:**

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1. 4<sup>th</sup> International conference on Nanoscience and Technology (NanoAfrica 2012), South Africa.

2. National conference on Recent Trends of Research in Physics, 2012, Tripura University, India.
3. 21<sup>st</sup> International symposium on Processing and Fabrication of advanced materials (PFAM21), IITG, 2012.
4. National conference on Innovative molecules for sustainable future (NCIMSF-2013), Thappar University.
5. National Conference on Nanotechnology: Materials and Applications (NCoN:M&A) – 2016.
6. National Conference on Characterization of Nanomaterials – 2016, Ramananda College, Bishnupur, West-Bengal.
7. “National Symposium on Advances in Chemical Sciences (NSACS-2017)” Organized by Assam University, Silchar – 2017.
8. 2<sup>nd</sup> International on Materials Science (ICMS 2017), organized by Tripura University during 16-18 February.
9. International Conference on Nanotechnology (ICN:31 -2017) at IIT Roorkee, during 6-8<sup>th</sup> December, 2017.
10. 125th Birth Anniversary of Satyendra Nath Bose Bose Tagore National Advanced Workshop on “Recent Advances in Condensed Matter Physics: Theory and Experiment” (NAWCMP - 2018), Visva-Barati, India.
11. Act as a Judge to evaluate e-poster in NCRDNN 2019 at Jadavpur University during 29<sup>th</sup> January, 2019.

### Organizers/ Member of Important Committees:

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- 1) Secretary, National Workshop on Advanced Laser and Nanomaterials (**NWALNM 2005**), India.
- 2) Secretary, National Workshop on Characterization of Laser and Nanomaterials (**NWCLNM 2006**), India.
- 3) Secretary, Third National Workshop on Characterization of Laser and Nanomaterials (**TNWCLNM 2007**), Burdwan, India.
- 4) Secretary, Fourth National Workshop on Characterization of Laser and Nanomaterials (**FNWCLNM 2007**), Burdwan, India.
- 5) Jt. Secretary, International conference on “Radiation Physics and Applications (**ICRPA-2010**)” at Burdwan, India.
- 6) Jt. Organizing Secretary, National Symposium on Advanced Functional Materials-(**NSAFM-2013**)” at Central Mechanical Engineering Research Institute, India.
- 7) Convener of One day Awareness Program on **ISO 9001: 2015**.