

BRIEF RESUME

Dr SUNASIRA MISRA, M.Sc., Ph.D.

**Assistant Professor, Department of Chemistry,
Khallikote Unitary University,
Berhampur, Odisha PIN: 760001 India
Email : misra.sunasir@gmail.com**



Mobile: 91-9439803985, Ph. & Fax : +91-680-2229667

- Currently working as an ***Assistant Professor*** at the Post Graduate Department of Chemistry, ***Khallikote Unitary University (Erstwhile Khallikote Autonomous College)***, Berhampur, Odisha **28th June 2014** onwards. Prior to this, worked as an Assistant Professor of Chemistry at ***C.V. Raman College of Engineering (now Global University)***, Bhubaneswar, Odisha from **March 2010 to June 2014**.
- Received **Ph.D.** (in Chemistry) degree from ***University of Madras***, India on 21st January **2011** under the supervision of ***Prof. (Dr) T. Gnanasekaran, IGCAR, Kalpakkam, India.***
- Joined as a research fellow at **Indira Gandhi Centre for Atomic Research (IGCAR)**, Kalpakkam, Dept. of Atomic Energy (DAE), India during the period of ***Nov. 2003 - Feb. 2010***. His Doctoral work comprises the identification of suitable substituted perovskite formulations and their use in the development of conductivity based percentage level risk oxygen sensors. He is also involved in the development of nanomaterials and its thin films for trace level sensing of ammonia and petroleum gas in ambient. He has acquired interdisciplinary research aptitude in advanced functional materials. His research interest is on ***Materials investigations for electrical conductivity measurement and atmospheric gas sensor applications.***
- Obtained Masters (**M.Sc.**) degree in Chemistry from Khallikote College (Autonomous), Berhampur University, Orissa, India in **2002** and **B.Sc.** degree with Chemistry honours & distinction from Berhampur University in **2000** with an excellent academic career (first class throughout).
- Published around **11** international publications in peer reviewed journals, **01** self-authored book in Lambert Academic Publishing, Germany and more than **60** conference research papers of national and international repute to his credit.

- Contributed significantly in the technological development of electrochemical oxygen sensor for the risk oxygen monitoring of on-board oxygen generating system continuously in Indian Aircrafts flying above 30,000 ft. altitude, which is an essential safety system for pilot life support.
- Organised Four national seminars.
- Presently acting as Assistant Superintendent of RCM PG hostel, KUU, Berhampur.

Membership of Professional Bodies (*Scientific societies*): (1) Student member of **Ionics**, Annual member of (2) **The Indian Science Congress Association (ISCA - Membership No. A2877)** & (3) **Materials Research Society, Singapore** (4) Life member in **Orissa Chemical Society (OCS - Membership No. LM/787/10)**.

List of publications of **Dr SUNASIRA MISRA** (h-index 5)

(A) Book Published:

Sunasira Misra, "*Materials Investigations for Atmospheric Gas Sensing Applications*", An international standard research book by **Lambert Academic Publishing**, Saarbrücken, Germany (Europe); ISBN: 978-3-659-89127-4 (2016) 1-220

(B) International Scientific Journals:

1. "Electrical conductivity and oxygen sensing behavior of $\text{SrZr}_{1-x}\text{Fe}_x\text{O}_{3-\delta}$ ($x = 0 - 0.2$) ceramics"

Sunasira Misra, "*Materials Chemistry & Physics*", Vol. 190, 1-7 (2017) - IF 4.094, Citation 06
doi: 10.1016/j.matchemphys.2016.12.020

2. "Titania Nanocrystals as Active Host for Safe Drug Delivery"

Sunasira Misra; *Applied Science & Advanced Materials International*, Vol. 1, Issue No. 6, 169 - 170 (2015) Citation 03

3. "Trace Level Gas Sensing Characteristics of Nano-crystalline Silver Decamolybdate"

Sunasira Misra, Venkataraman Jayaraman and Thiagarajan Gnanasekaran;
Soft Nanoscience Letters, Vol. 3, Issue No. 4, 39 - 42 (2013) – A Scientific Research Open Access International Journal - IF 0.9, Citation 05

4. "Behavior of silver molybdate at high-pressure"

A.K. Arora, R. Nithya, [Sunasira Misra](#) and Takehiko Yagi;

J. of Solid State Chemistry, Volume 196, 391-397 (2012) - IF 3.5, Citation 39

5. "Effect of annealing on microstructure and phase evolution of Ag₆Mo₁₀O₃₃ nanorods synthesized by novel soft chemical method"

[Sunasira Misra](#), Satyaprakash Sahoo, V. Jayaraman, A.K. Arora and T. Gnanasekaran; *International Journal of Nanotechnology*, Vol. 7, Issue No.9-12, 870 - 882 (2010) - IF 0.4, Citation 04

6. "Electrical conductivity and oxygen sensing behavior of SrSn_{1-x}Fe_xO_{3-δ} (x = 0 - 0.2)"

[Sunasira Misra](#), K.I. Gnanasekar, R.V. Subba Rao, V. Jayaraman and T. Gnanasekaran; *J. of Alloys and Compounds*, Volume 506, Issue 1, 285-292 (2010) - IF 5.316, Citation 26

7. "Electrical conductivity and oxygen sensing behavior of SrFe_{0.2-x}Ti_{0.8}Co_xO_{3-δ} (x = 0.05 - 0.2)"

[Sunasira Misra](#), E. Prabhu, K.I. Gnanasekar, V. Jayaraman, P. Chandramohan, M.P. Srinivasan and T. Gnanasekaran; *Materials Research Bulletin* 44(5), 1041-1045 (2009)-IF 4.64, Citation 7

8. "Transition metal substituted SrTiO₃ perovskite oxides as promising functional materials for oxygen sensor"

[Sunasira Misra](#); *Published* in the *AIP– International Conference Proceedings of International Workshop on Functional Materials-IWFM 2011*; AIP Conf. Proc. 1461, 379-382 (2012); doi: 10.1063/1.4736925- Citation 05

9. "Electrical conductivity and ammonia sensing characteristics of nano-crystalline silver molybdates synthesized by solution chemistry route"

[Sunasira Misra](#), V. Jayaraman and T. Gnanasekaran; *Published* in the *IEEE Explore Digital Library – International Conference Proceedings of Nano Science, Technology and Societal Implications-NSTSI 2011(NT-I)*, page 1-6; Digital Object Identifier: [10.1109/NSTSI.2011.6111791](#) - Citation 04

10. "Development of Process Technology to Produce Low Cost Biofuel I - Minimization of Operating Parameters during Preparation of Biodiesel"

Soumya Parida, [Sunasira Misra](#), Debendra Kumar Sahu; *Published* in the *Electronic Conference Proceedings of WREC 2011, Conference-0203-BE, Bioenergy Technology, Issue 57, Volume-1 (Article 10)*, pp. 72-78; Digital Object Identifier (doi): 10.3384/ecp1105772 - Citation 05

11. "Comparative Study on Performance of Straight Vegetable Oil and its FAME with respect to Common Diesel Fuel in Compression Ignition Engine"

Soumya Sri Sabyasachi Singh, Dwijendra Kumar Ray, [Sunasira Misra](#), Soumya Parida, Debendra Kumar Sahu; **Published** in the *Electronic Conference Proceedings of WREC 2011, Conference-0282-ST, Sustainable Transport, Issue 57, Volume-13 (Article 07)*, pp. 3549-3556; **Digital Object Identifier (doi)**: 10.3384/ecp110573549, **Citation 01**

12. "Iron Substituted Strontium Stannates as Promising Functional Materials for Oxygen Sensor"

[Sunasira Misra](#); **Published** in the *International Conference of Young Researchers on Advanced Materials (ICYRAM 2012)* organized by the *International Union of Materials Research Societies (IUMRS)* at Matrix, **Biopolis, Singapore** during July 01-06, 2012. [Financial support funded by Science & Engineering Research Board (SERB), Dept. of Science & Technology (DST), India]

(C) International Conference Proceedings :

1. "Electrical conductivity and oxygen sensing behavior of $\text{SrFe}_{0.2-x}\text{Ti}_{0.8}\text{Co}_x\text{O}_{3-\delta}$ ($x = 0.05$ to 0.2)"

[Sunasira Misra](#), E. Prabhu, K.I. Gnanasekar, V. Jayaraman, P. Chandramohan, M.P. Srinivasan and T. Gnanasekaran; Published in 3rd [International Conference on Ionic Devices \(ICID 2006\)](#) held during December 07-09, 2006 at **Anna University, Chennai**, Tamilnadu, India. [*Abstracts of ICID 2006*, p. 110]

2. "Electrical conductivity and oxygen sensing behavior of $\text{SrFe}_{0.2-x}\text{Ti}_{0.8}\text{Co}_x\text{O}_{3-\delta}$ ($x = 0.05$ to 0.2)"

[Sunasira Misra](#), E. Prabhu, K.I. Gnanasekar, V. Jayaraman, P. Chandramohan, M.P. Srinivasan and T. Gnanasekaran

Presented in International Conference on [Sensors and Related Networks \(SENNET'07\)](#) held during December 12-14, 2007 at **Vellore Institute of Technology (VIT University), Vellore**, Tamilnadu, India. [*Conference Proceedings of SENNET'07*, pp. 66-70]

3. "Sensing properties of $\text{Ag}_6\text{Mo}_{10}\text{O}_{33}$ synthesized by a novel soft chemical method"

[Sunasira Misra](#), E. Prabhu, K.I. Gnanasekar, V. Jayaraman and T. Gnanasekaran

Presented in International Conference on [Sensors and Related Networks \(SENNET'07\)](#) held during December 12-14, 2007 at **Vellore Institute of Technology (VIT University), Vellore**, Tamilnadu, India. [*Conference Proceedings of SENNET'07*, pp. 86-89]

4. "Sensing properties of $\text{Ag}_6\text{Mo}_{10}\text{O}_{33}$ synthesized by a novel soft chemical method"

[Sunasira Misra](#), E. Prabhu, V. Jayaraman, K.I. Gnanasekar and T. Gnanasekaran

Awarded for second best paper presentation in 2nd DAE-BRNS [International Symposium on Materials Chemistry \(ISMC 2008\)](#), Dec. 2-6, 2008, **Bhabha Atomic Research Centre (BARC)**, Mumbai, India. [*Conference Proceedings of ISMC 2008*, pp. 341]

5. "Gas sensing properties of thin film of $\text{Ag}_6\text{Mo}_{10}\text{O}_{33}$ synthesized by a novel soft-chemical method"

[Sunasira Misra](#), E. Prabhu, V. Jayaraman, K.I. Gnanasekar and T.Gnanasekaran

Presented in International Conference on [Sol-Gel Processes for Advanced Ceramics](#) (SGPAC-2009) held during October 11-14, 2009 at Convention Centre, Anupuram, **Indira Gandhi Centre for Atomic Research, Kalpakkam**, Tamilnadu, India. [*Conference Proceedings of SGPAC 2009*, pp. 196-197]

6. "Development of Process Technology to Produce Low Cost Biofuel I - Minimization of Operating Parameters during Preparation of Biodiesel"

Soumya Parida, [Sunasira Misra](#), Debendra Kumar Sahu; **Published** in the [World Renewable Energy Congress 2011-Sweden](#) during May 08-13, 2011 at [Linköping University, Linköping, Sweden](#). [*Electronic Conference Proceedings of WREC 2011, Conference-0203-BE, Bioenergy Technology, Issue 57, Volume-1 (Article 10)*, pp. 72-78; **Digital Object Identifier (doi)**: 10.3384/ecp1105772]

7. "Comparative Study on Performance of Straight Vegetable Oil and its FAME with respect to Common Diesel Fuel in Compression Ignition Engine"

Soumya Sri Sabyasachi Singh, Dwijendra Kumar Ray, [Sunasira Misra](#), Soumya Parida, Debendra Kumar Sahu; **Published** in the [World Renewable Energy Congress 2011-Sweden](#) during May 08-13, 2011 at [Linköping University, Linköping, Sweden](#). [*Electronic Conference Proceedings of WREC 2011, Conference-0282-ST, Sustainable Transport, Issue 57, Volume-13 (Article 07)*, pp. 3549-3556; **Digital Object Identifier (doi)**: 10.3384/ecp110573549]

8. "X-ray diffraction and Raman spectroscopic study of silver molybdate at high-pressure"

A. K. Arora, R. Nithya, [S. Misra](#), Takehiko Yagi; **Published** in the [International Conference on High Pressure Science and Technology](#) organized by International Association for the Advancement of High Pressure Science and Technology (**AIRAPT-23**) during September 25-30, 2011 at **Bhabha Atomic Research Centre (BARC), Mumbai-400085**, India. [*AIP-Proceedings of AIRAPT-23, 2011*]

9. "Electrical conductivity and ammonia sensing characteristics of nano-crystalline silver molybdates synthesized by solution chemistry route"

[Sunasira Misra](#), V. Jayaraman and T. Gnanasekaran; Presented in the International Conference on [Nano Science, Technology and Societal Implications \(NSTSI 11\)](#) during 08-10th DEC. 2011 at **C.V. Raman College of Engineering (CVRCE), Bhubaneswar**, Odisha, India. [*IEEE Explore Digital Library – International Conference Proceedings of NSTSI 2011(NT-I)*, **Digital Object Identifier**: [10.1109/NSTSI.2011.6111791](#), page 1-6]

10. "Transition metal substituted SrTiO_3 perovskite oxides as promising functional materials for oxygen sensor" [Sunasira Misra](#); Presented in the [International Workshop on Functional Materials \(IWFM-2011\)](#) held at **National Institute of Science & Technology (NIST), Berhampur**, Odisha, India during DEC. 20-22, 2011. [*AIP– International Conference Proceedings of IWFM 2011 (PP-04)*, page 59; *AIP Conf. Proc.* 1461, 379-382 (2012); **doi**: 10.1063/1.4736925]

11. "Iron Substituted Strontium Stannates as Promising Functional Materials for Oxygen Sensor"

[Sunasira Misra](#); Presented in the *International Conference of Young Researchers on Advanced Materials (ICYRAM 2012)* organized by the *International Union of Materials Research Societies (IUMRS)* at Matrix, Biopolis, Singapore during July 01-06, 2012. [Partial financial support offered by *Science & Engineering Research Board (SERB), Dept. of Science & Technology (DST), India*]

12. "Trace Level Gas Sensing Characteristics of Nano-crystalline Silver Decamolybdate"

[Sunasira Misra](#), V. Jayaraman and T. Gnanasekaran; Presented in the '*Indo-US International Workshop on Nanosensor Science & Technology (IWNST-2013)*' held at *National Institute of Science & Technology (NIST), Berhampur, Odisha, India* during *27th Feb-01st Mar. 2013*. [*International Conference Proceedings of IWNST 2013 (PP-21), page 43*]

13. "Titania Nanocrystals as Active Host for Safe Drug Delivery"

[Sunasira Misra](#); Presented in the *International Conference on Innovative Applications of Chemistry in Pharmacology & Technology (IC-IACPT 2015)* during Feb. 06-08, 2015 at P.G. Dept. of Chemistry, *Berhampur University, Bhanja Bihar, Berhampur 760007*, Odisha, India. [*Souvenir of IC-IACPT 2015, Poster No 107, p. 150*]

14. "Electrical conductivity and oxygen sensing behavior of $\text{SrZr}_{1-x}\text{Fe}_x\text{O}_{3-\delta}$ ($x = 0 - 0.2$)"

[Sunasira Misra](#) and T. Gnanasekaran; Presented in the '*International Conference on Frontiers in Materials Science & Technology (ICFMST-2015)*' held at *National Institute of Science & Technology (NIST), Berhampur, Odisha, India* during *10-12th Dec. 2015*. [*International Conference Proceedings of ICFMST 2015 (P-12), page 60*]

15. " $\text{SrSn}_{1-x}\text{Fe}_x\text{O}_{3-\delta}$ ($x=0-0.2$) Perovskite Oxides as Promising Functional Materials for Oxygen Sensor", [Sunasira Misra](#);

Presented in the *International Conference on 'Recent Advances in Materials Chemistry (RAMC-2017)'* held at *Utkal University, Bhubaneswar, Odisha, India* during *24-26th Feb. 2017*. [*International Conference Proceedings of RAMC 2017 (P-28), page 39-40*]

16. "Nanotechnology Enabled Gas Sensors for Environmental Monitoring"

[Sunasira Misra](#); Presented in the '*International Conference on Recent Trends of Chemical & Biological Science in Medicine, Natural Product & Drug Discovery (IC-RTCBSMNPDD-2017)*' held at *Berhampur University, Berhampur, Odisha, India* during *03-05th March 2017*. [*International Conference Proceedings of IC-RTCBSMNPDD 2017 (P-18), page 60*]

(D) Other symposia and national conference papers presented :

17. "Conductivity and oxygen sensing properties of cobalt substituted $\text{SrFe}_{0.2}\text{Ti}_{0.8}\text{O}_{3-\delta}$ "

[Sunasira Misra](#), V. Jayaraman, E. Prabhu, K.I. Gnanasekar and T. Gnanasekaran

Presented in the [National Conference on Recent Trends in Materials Science and Technology \(NCRTMST-2005\)](#) during August 10-12, 2005 at **Vellore Institute of Technology, Vellore**, Tamilnadu. [Abstracts of NCRTMST 2005, p. 62]

18. "Effect of cobalt substitution on conductivity and oxygen sensing behavior of $\text{SrFe}_{0.2}\text{Ti}_{0.8}\text{O}_{3-\delta}$ "

[Sunasira Misra](#), E. Prabhu, K.I. Gnanasekar, V. Jayaraman, P. Chandramohan, M.P. Srinivasan and T. Gnanasekaran; Presented in the [National Conference on Solid State Ionics \(NCSSI-7\)](#) during June 06-08, 2006 at Dept. of Physics, **Bharathiar University, Coimbatore**, Tamilnadu.

19. "Role of gas sensors in monitoring the industrial environment and its pollution control"

[Sunasira Misra](#); Presented in the [National Seminar on Industrialization Induced Environmental Crisis and its Cure \(NSIIECC-2010\)](#) during Dec. 28-29, 2010 at P.G. Dept. of Chemistry, **Berhampur University, Bhanja Bihari, Berhampur 760007**, Odisha. [Souvenir of NSIIECC 2010, p. 30]

20. "Nanotechnology enabled gas sensors for monitoring the industrial air quality"

[Sunasira Misra](#); Presented in the [UGC-National Seminar on Recent Trends in Chemical Sciences & Technology \(UNSRTCST-2011\)](#) during March 29-30, 2011 at P.G. Dept. of Chemistry, **Khallikote (Autonomous) College, Berhampur-760001**, Odisha. [Souvenir of UNSRTCST 2011(OP-16), p. 18]

21. Participated in an AICTE sponsored workshop and staff development programme on **"Advancement of Energy sector towards Global Sustainability"** conducted at **Centurion University of Technology and Management**, Jatni, Bhubaneswar, Odisha during **July 04-10, 2011**.

22. "Safety measures to monitor the industrial environment employing gas sensors during waste management" [Sunasira Misra](#); Presented in the **National Seminar & Regional Conference of Odisha Chemical Society** on **Recent Trends in Industrial Waste Management** on 23rd Oct. 2011 at IACR, Rayagada-765002, Odisha.

23. "Ammonia and petroleum gas sensing characteristics of nano-crystalline $\text{Ag}_6\text{Mo}_{10}\text{O}_{33}$ and $\text{Ag}_2\text{Mo}_2\text{O}_7$ powders and their spin coated thin films synthesized by wet chemical method"

[Sunasira Misra](#); Presented in the **99th INDIAN SCIENCE CONGRESS** held at **Kalinga Institute of**

Industrial Technology (KIIT) University, Bhubaneswar, Odisha, India during 03-07th January 2012.

[Conference Proceedings of 99th ISC 2012- Materials Science Section (MSP-18), page 37]

24. "Nano-crystalline thin films of cobalt substituted SrTiO₃ perovskite oxide as promising oxygen sensor" [Sunasira Misra](#); Presented in the [Workshop on New & Nano Materials \(WNNM-2012\)](#) organized by **Institute of Materials Science (IMS)**, Science & Technology Department (Odisha), **Bhubaneswar**, Odisha during 20-21st January 2012. [Abstract-Souvenir of WNNM-2012, p. 52]

25. "Safety measures to monitor the industrial environment employing chemical technology based gas sensors" [Sunasira Misra](#); Presented in the [26th Annual Conference of Orissa Chemical Society & National Seminar on "Chemistry in Technology"](#) organized by **Orissa Chemical Society** at **Ravenshaw University, Cuttack, Odisha** during 08-09th December 2012. [Abstract-Souvenir of OCS-2012(P-22), p.76]

26. Invited to the "**National Conference on Nano-materials as Catalysts (NMC-2013)**" at Dept. of Chemistry, Institute of Technical Education & Research (**ITER**), SOA University, Bhubaneswar, Odisha, India during 25-26th January 2013. [Sponsored by BRNS, Mumbai, India]

27. "Phase Characterization and Electrical Conductivity Studies of SrZr_{1-x}Fe_xO_{3-δ} (x = 0 to 0.2)"

[Sunasira Misra](#) and T. Gnanasekaran; Received **Best Oral Presentation Award** in the [National Seminar on 'Innovations in Science & Technology for Inclusive Development'](#) on the occasion of the **16th Odisha Bigyan Congress** organized **by Indian Science Congress Association** at **Institute of Physics, Bhubaneswar, Odisha during Nov. 23-24, 2013** [Souvenir of NSISTID-2013(P-184), p. 164]

28. "Role of gas sensors in monitoring our environment"

[Sunasira Misra](#); Presented in the [National Seminar on Emerging Trends in Chemical Sciences](#) during April 12-13, 2014 at **Saraswati Vidya Mandir, Berhampur**, Odisha [Souvenir of NSETCS 2014, p. 54]

29. "Role of gas sensors in ensuring a healthy environment"

[Sunasira Misra](#); Delivered an invited talk in the [National Workshop on Education for Sustainable Development & Biodiversity](#) during April 10-11, 2015 at **Saraswati Vidya Mandir, Berhampur**, Odisha

30. "Nanocrystalline Ag₆Mo₁₀O₃₃ Thin Film – A Potential Petroleum Gas Sensor"

[Sunasira Misra](#); Received **Best Poster Presentation Award** in the [National Workshop on Development of Nanomaterials for Energy, Environment & Sustainability \(DNEES-2015\)](#) during May 02-03, 2015 at Institute of Technical Education & Research (**ITER**), **SOA University, Bhubaneswar**, Odisha. [Proceedings of DNEES-2015, Abstract No 46, p. 88]

31. "Iron Substituted Strontium Zirconates as Promising Functional Material for Oxygen Sensor"

[Sunasira Misra](#) and T. Gnanasekaran; Presented in the [National Seminar on 'Recent Advancement in Material Sciences' \(RAIMS-2015\)](#) at [Veer Surendra Sai University of Technology \(VSSUT\), Burla, Sambalpur, Odisha](#) during [Nov. 14-15, 2015](#). [*Proceedings of RAIMS-2015, PP- 04, p. 17*]

32. "Indigenously Developed Zirconia Oxygen Sensor for Pilot Life Safety in Tejas - Light Combat Aircraft (LCA)"

[Sunasira Misra](#), K.H. Mahendran, E. Prabhu and T. Gnanasekaran; Presented in the National Seminar on **"SCIENCE AND TECHNOLOGY FOR INDIGENOUS DEVELOPMENT IN INDIA"** held at [Kalinga Institute of Industrial Technology \(KIIT\) University, Bhubaneswar](#), Odisha during 09-11th December 2015. [*Souvenir of Abstracts - Physics Section (PHY-013), page 223*]

33. "NANOTECHNOLOGY ENABLED GAS SENSORS FOR MONITORING INDUSTRIAL ENVIRONMENT"

[Sunasira Misra](#); Presented in the 29th Annual conference of Orissa Chemical Society-2015 & National Seminar on "Recent Advances in Materials Science for Sustainable Energy & Environment" held at [Indira Gandhi Institute of Technology \(IGIT\), Sarang](#), Dhenkanal, Odisha during 24-25th December 2015. [*Conference Proceedings of OCS-2015, page 34-35*]

34. "Effect of annealing on microstructure and phase evolution of silver molybdate nanoparticles for gas sensing applications"

[Sunasira Misra](#); Presented in the [All India Seminar on Nano Material & Nano Composite \(NMNC-2016\)](#) organised by [The Institution of Engineers](#) at [School of Mechanical Engineering, KIIT University, Bhubaneswar](#), Odisha during Jan. 29-30, 2016. [*Conference Proceedings of NMNC-2016, page 19-22*]

35. "TiO₂ Nanocomposite as Active Host for Safe Drug Delivery"

[Sunasira Misra](#) & Pravat K. Swain; Presented in the [All India Seminar on Nano Material & Nano Composite \(NMNC-2016\)](#) organised by [The Institution of Engineers](#) at [School of Mechanical Engineering, KIIT University, Bhubaneswar](#), Odisha during Jan. 29-30, 2016. [*Conference Proceedings of NMNC-2016, page 34-37*]

36. "Microstructure and phase evolution study of silver molybdate nanoparticles for trace level gas sensing applications", [Sunasira Misra](#); Presented in the [National Workshop on Development of Nanomaterials for Energy, Environment & Sustainability](#) (DNEES-2016) during May 09-10, 2016 at Institute of Technical Education & Research ([ITER](#)), [SOA University, Bhubaneswar](#), Odisha.

[*Proceedings of DNEES-2016, Abstract No 04, p. 28*]

37. "Nanotechnology Enabled Gas Sensors for Monitoring Industrial Environment"

[Sunasira Misra](#); Presented in the UGC [National Seminar on Green Environment for Sustainable Development](#) during July 23-24, 2016 at TSD College, B.D. Pur, Odisha. [*Abstract No 23, p. 23*]

38. "Gas Sensors in Ensuring a Green Environment and Pollution Control"

[Sunasira Misra](#); Presented in the UGC [National Seminar on Trends of Climate: Challenges for Humanity](#) during September 10-11, 2016 at Berhampur City College, Berhampur, Odisha. [*Abstract No. 17, p. 30-31*]

39. "Indigenous Development of Zirconia Oxygen Sensor for Pilot Life Safety in Indian Light Combat Aircraft (LCA)-Tejas"

[Sunasira Misra](#), K.H. Mahendran, E. Prabhu and T. Gnanasekaran; Presented in the National Seminar on **"SCIENCE AND TECHNOLOGY FOR NATIONAL DEVELOPMENT IN INDIA"** held at *Kalinga Institute of Industrial Technology (KIIT) University, Bhubaneswar*, Odisha during 12-13th December 2016. [*Abstract No. CH-01, p. 105*]

40. "Indigenous Development of Zirconia Oxygen Sensor for Pilot Life Safety in Indian Light Combat Aircraft (LCA)-Tejas"

[Sunasira Misra](#), K.H. Mahendran, E. Prabhu and T. Gnanasekaran; Oral paper presented in 30th Annual conference by Orissa Chemical Society at KIIT University, Bhubaneswar during 24-25th December 2016. [*Abstract No. 16, Page 29*]

41. "Nanotechnology Enabled Gas Sensors for Environmental Protection"

[Sunasira Misra](#); Presented in the UGC sponsored seminar on **'Environmental Protection: Concerns & Avenues'** held at *Aska Science College, Aska, Odisha* on [28th Feb. 2017](#). [*P-04, Souvenir page 24-25*]

42. "Nanotechnology Enabled Gas Sensors for Monitoring Industrial Environment"

[Sunasira Misra](#); Presented an invited talk in the UGC sponsored national seminar on **'Environmental Pollution & its Management'** held at *Adikavi Saraladas College, Tirtol, Odisha* on [26-27th March 2017](#). [*P-03, Souvenir page no. 19-20*]

43. "Pedagogy workshop for UG & PG Science & Mathematics Teachers"

[Sunasira Misra](#); Presented a poster & group activities held at *NISER, Bhubaneswar, India* in collaboration with *IISER, Pune* during [27-29th Oct. 2017](#).

44. "Nanotechnology Enabled Gas Sensors for Monitoring Industrial Environment"

[Sunasira Misra](#); Oral paper presented in National conference on New Perspective to Advance Functional Materials at Ravenshaw University, Cuttack, Odisha during 15-17th December 2017. [Abstract No. OP-8, Page 37]

45. "Nanotechnology Enabled Gas Sensors for Monitoring Industrial Environment"

[Sunasira Misra](#); Oral paper presented in 31st Annual conference by Orissa Chemical Society at Centurion University, Paralakhemundi during 23-24th December 2017. [Abstract No. O-14, Page 27-28]

46. Oral presentation in the international conference at Kalam institute of technology, Berhampur, India during 17-18, March 2018.

47. Oral presentation in the national conference at Rayagada Autonomous College, Odisha during 22-23, June 2019.

48. Presented an oral paper in international webinar on climate change and sustainability at N.C. Autonomous College, Jajpur, Odisha, India during 11-12th July 2020.

49. Participated in the international webinar on Design of Ligand Targeted Therapies at SRM Institute of Science & Technology, Katankulathur, Tamilnadu, India on 20.07.2020

50. Presented an invited talk in international webinar on ethno medicine and healthcare at N.C. Autonomous College, Jajpur, Odisha, India during 25-26th July 2020.

51. Presented an oral paper in international conference on emerging smart materials in applied chemistry at KIIT University, Bhubaneswar, Odisha, India during 10-12th August 2020.

52. Presented a poster paper in international conference on advances in functional materials at KIIT University, Bhubaneswar, Odisha, India during 26-28th August 2020.

53. Participated in the international webinar on modern analytical techniques for material characterisation at GITAM School of Sciences, Bangaluru, India during 9-12, Nov. 2020.

54. Participated in the international webinar on innovations on future science and technology at Auro University, Surat, India on 27th Feb. 2021.

55. Participated in the international webinar on Advances in chemical research at GITAM University, Visakhapatnam, India during 19-20, April 2021.

56. Presented an oral paper in international conference on recent advances in materials (ICRAM 2022) at CUTM, Bhubaneswar, Odisha, India during 21-23rd March 2022. (OP-2, page 37)

(E) Seminars Conducted:

57. Organized the *UGC-National Seminar on Modern Chemical Approaches on Organic Synthesis, Drug Design & Development* (UNSMCAOSD-2014) as Joint Secretary & also Presented a paper entitled "*Nanocrystalline TiO₂ Powders as Host Matrix for Active Drug Delivery*", [Sunasira Misra](#); during November 08-09, 2014 at P.G. Dept. of Chemistry, *Khallikote Autonomous College, Berhampur-760001*, Odisha. [*Souvenir of UNSMCAOSD-2014 (PP-5 & FP-5)*, p. 72-75]
58. Organized an "*Audio-visual Program on Climate Change Challenges in Our Environment and Energy Crisis*" for B.Tech. students at *C.V. Raman College of Engineering, Bhubaneswar*, Odisha on 29th September 2010 jointly with British Council, Scotland & Kolkata, India.
59. Organised a national webinar on Advancements in chemistry for smart and sustainable world as Co-convener at PG Department of chemistry, Khallikote Autonomous College, Berhampur, Odisha on 27th March 2021.
60. Organised & papers presented in the regional conference of OCS & national seminar on Environment management in 21st century: challenges & opportunities at SSVM, Berhampur on 28th Nov. 2021 in collaboration with Khallikote Unitary University, Odisha.

Special training particulars

- Acquired training on (61) *Gas Chromatography* by attending 116th *Customers' Training Programme* during 16-21st June 2010 at Thermo Fisher Scientific Ltd., Nasik, Maharashtra.
- (62) "*Methods in Material Characterizations*" by participating in a school sponsored by Science and Engineering Research Council (*SERC*) during 09-28th February 2004 organized at Indira Gandhi Centre for Atomic Research, Kalpakkam, Tamil Nadu.

(F) Technological development work involved in device fabrication

Contributed significantly for technological development of electrochemical **oxygen sensors** (working in *potentiometric* mode using yttria stabilized zirconia as solid-electrolyte) for the risk oxygen monitoring of on-board oxygen generating system continuously in *Aircrafts* flying above 30,000 ft. altitude, which is an essential safety system for pilot life support.

Worked in a scientific research team at Chemistry Group, IGCAR, Kalpakkam for fabrication of such oxygen sensors in collaboration with Defence Bioengineering and Electromedical Laboratory (*DEBEL*), Defence Research and Development Organisation (*DRDO*), Bangalore, India.