

Dr. IRUDAYARAJ JOHNSON (I. JOHNSON)

Dr. IRUDAYARAJ JOHNSON, INDIA

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jnaadarsh@hotmail.com



Ph.D. in chemical Physics , Bharathidasan University Honors: Highly Commended St. Joseph's College (Bharathidasan University), Trichy	2004
M.Phil. in physics	1990
M.Sc. in Physics	1989
B.Sc. in Physics	1987

TEACHING AND ADMINISTRATIVE EXPERIENCE

St. Joseph's College (Bharathidasan University), Trichy	
Lecturer	1990 – 1996
Senior lecture	1996 - 2000
Selection Grade Lecture	2000 - 2004
Reader	2004 – 2006
Associate Professor	2006 – till today
Coordinator of the Physics dept.—DST, FIST Programme	2009 - 2014
Head, Electronics department	2018 - 2020
Head, Physics department	2023 to till date
Executive committee member of Alumni Association, St. Joseph's College	2002 – 2004
Executive committee member of Staff Association, St. Joseph's College	2004 – 2005
President of the Physics Association, St. Joseph's College	1996 – 97, 2011-12

Dr. IRUDAYARAJ JOHNSON (I. JOHNSON)

AWARDS

--- Guest of Honour, NCMIEIS, Tamil Nadu	2024
--- Le Studium fellow INSA, Blois, France,	2016 – 2017
--- Bharat Jyoti Award by India International Friendship Society, New Delhi	April 2013
--- Erasmus Nano fellowship for 3 months to deliver lectures and research collaboration at KULeuven, Belgium,	2012
--- Visiting Scientist & Atom 2012, MaxPlanck, Dresden, Germany	2012
--- U.S. Professorship award to deliver lectures in U.S.A. awarded by American Physical Society, (Utah State University)	2011
--- Visiting Scientist to Spain (University of Zaragoza) Fellowship awarded by Indian Government and Spain Government under Indo-Spanish cultural and scientific exchange visit	September 2007
--- Post-doctoral research fellowship awarded by European Union at University of Coimbra, Portugal 2005	2005-2006
--- Fellowship from UNESCO to chair the session in the Interregional workshop On Lightning Physics in University of Colombo, SriLanka	2003
--- Travel grant awards (International Commission for Acoustics and UNESCO), INSA and TNSCST, India to participate in the 17th International Congress on Acoustics, ROME, Italy	2001
--- Best Local chapter Acoustical Society of India award, India	2013
--- Dr. R. Srinivasamoorthy Best Paper Awards, India	2002–2009
--- Fr. Sewell Medal for Outstanding Academic Performance in Physics	1990
--- Prof. P.E. Subramania Iyer Medal for Academic Performance in Physics	1989
--- National Merit Scholarship for School and College studies Sponsored by Ministry of Education and Culture, Govt. of India For 5 Consecutive years	1983–1987

Dr. IRUDAYARAJ JOHNSON (I. JOHNSON)

AWARDS TO PH.D./M.SC STUDENTS

- | | |
|---|---------------|
| — TNSCST, India fellowship for Abhirami, M.Sc Electronics for biosensors detect Dengue fever | 2018 |
| — Best presented Paper for Mr. Naveen and B. Kanickai Raj, Acoustical Society of India– Bundelkh and University-Jhansi | November 2011 |
| — Best Paper for Mr. A.J. Clement Lourdhu Raj, Acoustical Society of India–Acoustical Society of America Joint meeting, Rishikesh | November 2010 |
| — Best Paper for Ms. Josephine Prabha, Indian Thermal Analysis Society Conference, Gurushetra | March 2010 |
| — Best Paper for Mr. Armstrong Arasu, Acoustical Society of India-Acoustical Society of America joint meeting, RCI, Imarat, Hyderabad | November 2009 |

RELATED EXPERIENCE

Research assignments

- | | |
|---|------|
| — Non-conventional techniques for the formation of nanocrystals and nanoparticles (Royal Society of Chemistry, UK). | 2013 |
| — Acoustical characterization of Nano thin films, KULeuven, Belgium | 2012 |
| — Applications of Ultrasound and Nanotechnology to Materials and Biological substances, Utah State University, USA | 2011 |
| — Research on Material Science, University of Zaragoza, Spain | 2007 |
| — A study of Noise pollution in and around Trichy in collaboration with KU Leuven Belgium | - |

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Projects handled

- University Grants Commission, India, (Completed)
- Council of Scientific and Industrial Research, Govt. of India, (Completed)
- Defence Research and Development Organisation, Govt. of India, (Completed)
- University Grants Commission, Hyderabad, India (Completed)

Organization of Workshops/ Conferences and Chair Person

- International Conference on Advanced Materials, ICAM 2023, December 8 to 9, 2023 with Planetary lectures Professors Dr. Franca Albertini, CNR, Italy and Dr. Vincent Fournee, CNRS, France
- ANU awareness programe, Atom for the service of mankind In Collaboration with Indira Gandhi Centre for Atomic Research, Kalpakkam and Academy of Sciences, Chennai, November, 2023
- International webinar on Properties of Soft materials with Dr. Patricia Losada Perez, University of KU Leuven, Belgium, March 2013
- International Webinar on Nanomaterials with Dr. Valentina Mussi, Nano Medical Labs, University of Genova, Italy, March 2012
- International Webinar Application of Physics to Forensic Science, KU Leuven, Belgium-2023
- Indo-U.S. workshop on Nanosonics and Ultrasonics and International conference on Nano technology and Ultrasound, January12 –14,2011 in collaboration with U.S. Scientists under the aegis of IUSST and sponsored by Indian and International agencies (Principal Investigators: Dr. I. Johnson, India and Dr. SilvanaMartini, USU, U.S.A.) (more info at: <http://www.thehindu.com/todays-paper/tp-national/tp-tamilnadu/international-meet-on-nanosonics-ultrasonics/article1101950.ece>)
- National Workshop on Application of Radiation and Radioisotopes (NWARRI-2008) in collaboration with IANCAS, IGCAR, Kalpakkam

Dr. IRUDAYARAJ JOHNSON (I. JOHNSON)

- 16th Anglo-French Conference on Acoustics, Marseille, France, Jan 23-25.
- Indo-French conference Acoustics 13, (ASI & SFA) NPL, New Delhi, India, 2013 [presented on “Influence of ultrasound on nanoparticles”]
- Acoustics (NSA-2010), Govt. college at Rishikesh, Dehradun, India 2010
- Acoustics (NSA-2009), RCIImarat, DRDO Lab, Hyderabad, India 2009
- Acoustics (NSA-2008), Naval Science and Technological Laboratory, Vishakapatnam, India, 2008
- UNESCO Sponsored Interregional workshop on Lightning Physics, University of Colombo, SriLanka, 2003
- National Science Exhibition 2023 Sponsored by TNSCST, and NCSTC, New Delhi
- World Space Week 2024 (WSW) in collaboration with ISRO

Reviewer of National and International Journals

- Scientific reviewer for the Journal of Acoustical Society of India,
- Thermochimica Acta,
- The International Journal of Thermophysics,
- IEEE Transactions,
- Journal of Pure and Applied Ultrasonics
- Journal of Molecular Liquids

Research supervision

- 70 completed M.Sc Projects in Material Science, and Ultrasonics/Acoustics
- 60 completed M.Phil projects in Chemical Physics, Material science, and Ultrasonics / Acoustics
- 8 Ph.D graduates completed in Chemical Physics, Material science, and Acoustics
- 3 Ph.Ds ongoing – Nanomaterials and Acoustics

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Administrative Positions at Scientific Associations

- Joint secretary of the Acoustical Society of India, New Delhi 2014–till today
- President of the Acoustical Society of India, Trichy Chapter 2010–2013
- E.C. Member of the Acoustical Society of India, New Delhi 2010–2012
- Life fellow of Ultrasonics Society of India, New Delhi
- Life fellow of Acoustical Society of India, New Delhi
- Member of American Chemical Society
- Member of IACT (International Association for Chemical Thermodynamics)

Books

- Molecular interaction and thermodynamics, Scholars 'Press, Germany (2014)
- Materials, Energy and Environment Engineering, Springer Nature, Book chapter, (2015)
- Materials, Energy and Environment Engineering, Springer Nature Singapore, (2017)

Patents filed:

- Method for synthesizing MWCNT doped ZnO nanoparticles with enhanced optical properties dye solution
- Cost-Effective way of Mxene Synthesis in a controlled environment
- Portable type vertical axis wind turbine using Bamboo
- Method of making an electronics trip for detecting Dengue virus

Papers published in national and international scientific journals/conference proceedings

- Investigations on growth, XRD, strain, FTIR, UV–Vis NIR, photoluminescence, SHG, and Z-scan analyses of L-cysteine picrate single crystal for NLO and optical limiting applications, *Inorganic chemistry communications*, Volume 159, January 2024, 111751
- Synthesis and Characterization of rGO-ZnO/Elwendia persica Seed Reinforced Hybrid Nanocomposite for High-Performance Supercapacitor Applications, *Journal of Inorganic and Organometallic Polymers and Materials*, August 2024, 1-14
- Synthesis of Hydroxyapatite (HAp) from Eggshells via Thermal Decomposition Method for the Application of Dye Adsorption, *Journal of the Indian Chemical Society*, August 2024, 101321
- Growth and optoelectronic characterizations of potassium hydrogen phthalate single crystals for two-photon absorption and optical limiting applications, *J Mater Sci: Mater Electron* (2024) 35:1073
- Bioreduction of gold nanocolloids using *Quercus infectoria (Oliv)*: UV assisted cationic anionic dye degradation *Biomass Conversion and Biorefinery* 13 (4), 3463-3474. 2023
- Green synthesis of silver/iron (Ag/Fe) and copper/iron (Cu/Fe) nanoparticles for cytotoxic investigation on henrietta lacks (HeLa) cancer cell. *International Symposium on Lightweight and Sustainable Polymeric Materials*, 79-85,2023
- Solar-assisted removal of methylene blue dye from wastewater using zinc-metal organic framework (Zn-mof). *Journal of Inorganic and Organometallic Polymers and Materials* 34 (1), 251-265, 2024
- Extraction of cellulose nanocrystals from *Cissus quadrangularis* for sustainable biocomposite production *Biomass Conversion and Biorefinery*, 1-13, 2024
- Synthesis and Characterization of Graphene-Doped Co₃O₄ Nanotubes Electrode Material for Supercapacitor Application. *Journal of Inorganic and Organometallic Polymers and Materials*, 1-17,2024
- Solar assisted removal of Methylene Blue Dye from wastewater using Zinc-metal organic framework (Zn-MOF), *Journal of Inorganic and organometallic polymers and materials*

Dr. IRUDAYARAJ JOHNSON (I. JOHNSON)

published on 16th August 2023, Springer

- Green synthesis of Silver / Iron (Ag/Fe) and Copper / Iron (Cu/Fe) nanoparticles for cytotoxic investigation on Henrietta Lacks (HeLa) Cancer cell, Springer proceedings in Materials, book series (SPM, Volume 32), 79 - 95
- Laser-induced plant Leaf extract mediated Synthesis of CuO Nanoparticles and its Photocatalytic Activity, Environmental Research, Elsevier VI No 212,2022
- Colorimetric sensing of Mercury ions using green synthesized silver nanoparticles from *Trigonellafoenum (Linnaeus)*, Materials Today Proceedings –Journal (Elsevier), Online
- Antibacterial study of silver nanoparticles synthesized using *Strychnospotatorum (linn)* Green Synthesis method, Materials Today Proceedings- Journal (Elsevier), Online
- Synthesis and characterization studies of ZnO and ZnO SiO₂nanocomposite for biodiesel applications,36, (2021), 440 -446, Materials Today proceedings, Journal (Elsevier).
- Production of sustainable biofuel from biogenic waste using CuO nanoparticles, 36(2),2021,447- 452, Materials Today proceedings, Journal, (Elsevier)
- Designing of a new ultrasound interface technology to synthesize some industrially Important nanoparticles, Materials Today Proceedings, Elsevier,
- Designing an Ultrasound interface technology for the production of nanomaterials,16th Anglo-french conference on Acoustics, Marseille, France, Journées "Acoustique Physique Sousmarineet UltraSonore" (JAPSUS)
- MWCNT Doped CuO nanoflakes for luminescence applications using natural dye sensitizer, International Journal of Advanced Research in Engineering and Technology, 12(1), 2021
- Facile sonication-assisted synthesis and characterisations of silica decorated graphene nanocomposites IETMicro&NanoLetters,6(13),845-848,2018
- Ultrasonic study on *Moringa Oliefera* solution be for and after Laser exposure, International Journal for Research,4,607-611, 2017
- Ultrasonication Assisted Production of Biodiesel from Sunflower Oil by Using CuO: Mg Heterogeneous Nanocatalyst IOP Conf.Series: Materials Science and Engineering,2017.

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- Green Synthesis and Characterizations of Flower Shaped CuO Nanoparticles for Biodiesel Application, *Sensors & Transducers*, 210(3), 38–41, 2017.
- Synthesis And Characterizations of Needle-shaped CuO Nanoparticles For Biodiesel Application, *International Journal of Advanced Research*, 5(1), 1642–1648, 2017
- Ultrasonication- assisted Transesterification for Biodiesel Production by Using Heterogeneous ZnO Nanocatalyst *Environmental Progress & Sustainable Energy*, John Wiely, 2017
- Optical studies of CuO Nanoparticles using *Catharanthus Roseus* Plant leaves, *International journal of chemical concepts*, 2(1), 43-49, 2017
- Natural dye-sensitized CuO nanorods for luminescence applications, *Ceramics International*, Elsevier, Vol.42, pp.6198-6205(2016)
- Optical studies of CuO Nanoparticles using *Catharanthus Roseus* Plant leaves, *International journal of Chemical Concepts*, Vol.2. pp.43-49(2016)
- PL studies on NiO nanoflakes using natural *Tabernaemontana Divaricata* plant Leaves, *International Journal of ChemTechResearch*, Vol. 8, pp.316-321(2015)
- Preparation, Characterization and Chemical Sensing Behaviour of Polyaniline Thin Films, *International Journal of Nanotechnology and Application (IJNA)*, Volume 9, Number1, pp.1-7 (2015)
- Plant-mediated biosynthesis and characterization of silver nanoparticles by leaf extracts of *Tragia involucrata*, *Cymbopogon citronella*, *Solanum verbascifolium* and *Tylophora ovate*, *Karbala International Journal of Modern science*, Elsevier, 1(4), 237-246, (2015)
- Eco-friendly electrochemical synthesis of rod-shaped Ag nanostructures for Battery applications. *International Journal of Chemtech Research*, 8(7), 271-277, 2015.
- Hydrothermal synthesis of ZnO nano honeycomb structures and their activity against *pathogenic bacteria*, *International Journal of Pharmtech Research*, 8(6), 65-71, 2015
- Antibacterial activity of Silver nanoparticles synthesized from plant leaf extract of *cycascircinalis*, *Ficus amplissima*, *commelinabenghalensis*, and *Lippianodiflora* leaves, *Journal of chemical and pharmaceutical research*, 7(9), 443-449, 2015,

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- Flower shaped CuO Nanostructure synthesized by sonochemical method and the effect of NaOH concentrations, International Journal of Advanced Research, 3(8), 1091-1096, 2015,
- Greener cum chemical synthesis and characterization of Mg-doped ZnS nanoparticles and their engineer in bandgap performance. International Journal of Engineering research and applications, 5(8), 99-105, 2015
- Green synthesis and characterization of silver nanoparticles by leaf extracts of *Cycascircinalis*, *Ficusamplissima*, *Commelinabenghalensis* and *Lippianodiflora*, International Nano Letters, Springer, 5:43–51,2015, DOI 10.1007/s40089-014-0136-1
- Ultrasonic study on Coconut water and sugar solution before and after Laser exposure, IOSR Journal of Applied Physics, 7(2), 151-152, 2015.
- Estimation of mineral content in vegetable extraction by Ultrasonic technique, International journal of Engineering Science Invention, 3(4), 20-23, 2015,
- Estimation of vitamin content in fruit juices by Ultrasonic technique, International journal of Engineering Science Invention, 3(4), 15-19, 2015,
- Ultrasonic Study on the mixture of *Gymnemasyvestre* and sugar solution, International Journal of Pharmaceutical Science Invention, 3(9), 29-30,2014,[http://www.ijpsi.org/Papers/Vol3\(9\)/D039029030.pdf](http://www.ijpsi.org/Papers/Vol3(9)/D039029030.pdf)
- Ultrasonic Study on Bio-Liquids Before and After Sonication, International Journal of Scientific Research, 3(9), 2014,
- Induced Nano crystallization of *Dextrose monohydrate*, International Journal of Nanoscience, Worldscientific.12(3), 2013
- Characterisation of Vanadia doped titania nano thin film using acoustical and other techniques, Acoustics2012, Nantes, France
- Designing ultrasound sensor for induced crystallization, Acoustics 2012, Nantes, France, https://www.researchgate.net/publication/281418215_Designing_ultrasound_generator_for_induced_crystallization,http://www.conforg.fr/acoustics2012/cdrom/data/abstract_book.pdf
- Kinetics of Thermally Activated Lattice Softening in Titanium: A Dynamic Calorimetry Study, Transactions of the Indian Institute of Metals, Volume66, Issue4, pp415-418, August 2013

Dr. IRUDAYARAJ JOHNSON (I. JOHNSON)

- Tailoring of CdSe Nanoparticles by different Techniques, International Journal of Scientific research 2(6),524-525,2013
- Ultrasound tailoring of industrially important nanoparticles, International Journal of Scientific Research Engineering and Technology, 2(2),056-059,2013
- Thermodynamic study on Binary mixture of DMSO + Benzaldehyd, Journal of Acoustical Society of India, 39(2)103-107,2012
- Thermodynamics of $\alpha \rightarrow \beta$ Phase transformation and heat capacity measurements in Ti-15 at.% Nb alloy, Physica B: Condensed matter 406,(22), 4200-4209,2011
- Pressure Volume Temperature measurements of Phosphonium based ionic liquids and Analysis with simple equations of state, Journal of Chemical Thermodynamics 43(6), 2011,914-929
- Dichloromethane: Revision and extension of p_qT relationships for the liquid, Journal of Chemical Thermodynamics 43(2),2011,105–116
- Ultrasonic & Spectroscopic Studies of Binary Mixtures Ethyl Acetate + 2-Butanone & Ethyl Acetate + Hexane, Journal of Acoustical Society of India,37(2)65-69,2010
- Ultrasonic and Spectroscopic Studies of Ternary Mixture Ethyl Acetate + 2-Butanone + Hexane, Journal of Acoustical Society of India, Vol.37, Num.1pp.33-36,2010
- Ultrasonic & Spectroscopic Studies of Binary Mixtures Benzaldehyde + Benzyl Chloride & Benzyl Chloride + 2-Butanone, Journal of Acoustical Society of India,37(1)15-19,2010
- Evaluation Thermo Acoustical Parameters Of Some Binary Mixtures From Volume Expansivity Data, Journal of the Acoustical Society Of India Vol.37, No. 4, (2010), Pp161-168
- Study Of Thermodynamical and Excess Parameters Of Binary And Ternary Mixtures By Having Propanol As Common Component, Journal of the Acoustical Society Of India, Vol.37, No.3, (2010), Pp105-111
- Viscosity and surface tension of ethanol: New measurements and literature data evaluation, The Journal of Chemical Thermodynamics,2010,42(8),1039– 1049
- Liquid–Liquid Equilibria, Density, Viscosity, and Surface and Interfacial Tension of the System Water + n-Butyl Acetate + 1-Propanol at 323.15 K and Atmospheric Pressure, Journal of Chemical and Engineering Data, U.S.A.2009, 54(10), pp2845-2854

Dr. IRUDAYARAJ JOHNSON (I. JOHNSON)

- PVT property Measurements for Ethyl Propionate, Ethyl Butyrate and Ethyl Pentanoate Esters from 298 to 393 K and up to 35 MPa, Journal of Chemical and Engineering Data, U.S.A. 2009, 54(2), 256-262,
- Density, Viscosity, Surface Tension and Interfacial tension of the system Water + n-Butyl acetate + 1-Propanol at 303.15 K and Atmospheric pressure, International Journal of thermophysics, 2008, 29(2), 619-633
- Spectroscopic and ultrasonic studies of some binary mixtures, Journal of Pure and Applied Ultrasonics, (May 2006)
- PVT Property measurements for some Aliphatic Esters from (298 to 393) K and up to 35 MPa, Journal of Chemical and Engineering Data, U.S.A. 2007, 52, 737-751
- Spectroscopic and ultrasonic studies of some binary mixtures, Journal of Pure and Applied Ultrasonics, (May 2006)
- Derivation of a new equation to determine the internal pressure of liquids in terms of non-linear acoustical parameter and experimental confirmation, Journal of Acoustical Society of India, 2005, 33, 268-271
- Evaluation of thermo-acoustic parameters of some binary mixtures from volume expansivity data, Journal of Pure and Applied Ultrasonics, 2003, 25(4), 136-142
- Density, Viscosity and speed of sound in the ternary mixtures of 2-Ethoxy ethanol + N,N, DMFA + DMAc and 2-E-E + DMSO + DMAc at 308.15 K, Journal of Chemical and Engineering Data U.S.A, 2002, 47, 1388-1390
- Evaluation of thermodynamical parameters of ternary mixtures of 2-Ethoxyethanol + DMSO + DMFA at 308.15 K Journal of Acoustical Society of India 2002, 30, 32-37
- Evaluation of Physicochemical parameters of Ethyl benzene + DMSO + DMFA Using an acoustic method, Acoustics Letters (U.K.), 2001, 24, 210-217
- Thermo-acoustic parameters of the 2-Ethoxyethanol + DMSO/ DMF mixtures from volume expansivity data, Journal of Acoustical Society of India, 2000, 28, 347-350.
- Ultrasonic study of Binary Mixture of Glycerol Vol. I, Journal of Acoustical Society of India, 1999, New Delhi

Papers published in national and international scientific conference proceedings

- Nanocatalytic effect in Gold/Tin functionalized tin oxide nanowires for enhanced cosensing, Proceedings of International Conference on Nanoscience and Nanotechnology (ICONN), IEEEExplore, 22-26, Feb. 2010, Pages 49-50, 2010
- Thermodynamic characterization of Ti-15 at% Nb alloy by drop calorimetry, Proceedings of 19th European conference on Thermophysical properties (2011)
- Preparation and characterization of some nanoparticles using ionic liquids, Proceedings of International conference on “Synthesis, characterization, consolidation, and modeling of nanomaterials (ICON-2010), Coimbatore, India, pages 71-76
- Enthalpy measurements on Titanium 20 atomic percent Niobium alloy, Proceedings of The International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering - ISRS, Indian Institute of Technology, Chennai, Dec. 2010
- I., Kinetics of HCP to BCC Phase Change in pure titanium: Effect of heating cooling rates on transformation asymmetry. Proceedings of The International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering (Page No. 71, MP-P4) - ISRS, Indian Institute of Technology, Chennai, Dec. 2008
- A Study of Nitrogen sputtered Nanothin films in Argon and Nitrogen atm, Proceedings of the International Symposium for Research Scholars on Metallurgy, Materials science and Engineering (Page No. 68, MP-P1) - ISRS, Indian Institute of Technology, Chennai, Dec. 2008
- Liquid-Liquid Equilibria, Surface and Interfacial Tension for Water+N -Butyl acetate+1-Propanol at 323.15 K, Proceedings of CHEMPOR 2008, Braga, Portugal
- Acoustical, Optical and Thermodynamical Investigation of Ternary mixtures of cyclohexanone + heptane + hexane using an ultrasonic technique, Proceedings of 19th International Congress on Acoustics, 2007, Madrid, Spain, 6782-6787
- Surface tension and Interfacial tension of some organic liquid mixtures, Proceedings of the European Symposium on Applied Thermodynamics, ESAT, Denmark, 2006
- Spectroscopic confirmation of excess volume studies of 2E-E + DMSO at 308.15K, Proceedings of the International Conference on Spectro Physics, Chennai, India, Feb. 2005

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- Acoustical investigation of some ternary organic liquid mixtures, Proceedings of the International Congress on Acoustics, Rome, Italy, 2001.
- Facile Sonication-assisted Synthesis and Characterisations of Silica decorated Graphene Nanocomposites, *Micro & Nano Letters* 2018:13(6);1-4; doi:10.1049/mnl.2017.0656.
- Ultrasonication-assisted Transesterification for Biodiesel Production by using Heterogeneous ZnO Nanocatalyst, *Environmental Progress & Sustainable Energy* 2017: 37(3); 1176-1182; <https://doi.org/10.1002/ep.12770>.
- Facile Preparation and Characterization of Silica decorated Graphene nanocomposite, *International Journal of Scientific Research in Science, Engineering and Technology* 2017:(3)6; pp941-945; ISSN:2394-4099.
- Synthesis and Characterization of Mg-Doped CuO Nano Particles by Quick Precipitation Method, *Materials, Energy and Environment Engineering (Springer Nature)* 2017; pp.159165; ISBN978-981-10-2675-1.
- Ultrasonication-assisted Production of Biodiesel from Sunflower oil by using CuO: Mg Heterogeneous Nanocatalyst, *IOP Conf. Series: Materials Science and Engineering* 2017;225012213: doi:10.1088/1757-899X/225/1/012213.
- Synthesis and Characterizations of Needle-shaped CuO Nanoparticles for Biodiesel Application, *International Journal of Advanced Research (IJAR)* 2017:5(1); pp1642-1648, e-ISSN2320-5407.
- Synthesis and Characterizations of Needle-shaped CuO Nanoparticles for Biodiesel Application, *Sensors & Transducers* 2017: 210 (3); 38-41, e-ISSN1726-5479.

Number of Invited Talks:10

Other presentations

- Green Synthesis of nanoparticles by medicinal plants, First International translational nanomedicine conference, Northeastern University (ITNano2013) Page No.49, Boston, M.A. U.S.A., July26-28,2013 http://www.northeastern.edu/itnano/?page_id=217
- Nonlinear spectroscopy with X-rays in some complex liquid Interactions, International

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workshop on Atomic Physics, Nov.26– 30,2012,<http://www.pks.mpg.de/~atom2012>

- Characterisation of vanadia doped titania nano thin film using acoustical and other techniques, Acoustics, 2012, Nantes, France, Page3, (2012)
- Designing ultrasound generator for induced (nano) crystalization, Acoustics2012, Nantes, France, Page19, (2012)
- Characterisation of Vanadia doped Titanium Oxide nano-thin films, Workshop On Oxide Electronics, 19, Sep.30- Oct. 3, 2012, Paleist Loo, Apeldoorn, Netherlands, P.119
- Surface Tension measurements of some ternary mixtures (Poster presentation), Proceedings of the 8th Congress of Physical-Chemistry of the Portuguese Chemical Society, Luso, Portugal, June 2007.
- Facile Preparation of Graphene /Silica and its Structural and Morphological Analysis, (February 2017), International Conferences on Emerging Trends in Nano World, VELS University, Chennai, Tamil Nadu, India
- Ultrasonic-assisted Synthesis and Characterization of Graphene Nanosheets, (January 2017), International Conferences on Advances in Functional Materials, Anna University, Chennai, Tamil Nadu, India.
- Ultrasonication -assisted Production of biodiesel from Sunflower Oil by using CuO: Mg Heterogeneous Nanocatalyst, (December 2016), International Conference on Advanced Material Technologies, Dadi Institute of Engineering &Technology, Visakhapatnam, Andhra Pradesh, India.
- Acoustical-assisted Green Synthesis and Characterization of CuO Nanoparticles, (November 2016), International Symposium on Acoustics for Engineering Applications, KIIT College of Engineering, Haryana, India.
- Synthesis and Characterization of Pure and Mg-doped ZnS nanoparticles by Precipitation Method, (June 2016), Second International Conferences on Material Science and Technology, Department of Physics, St. Thomas College, Palai, Kerala, India.
- Synthesis and Characterization of Mg-doped CuO Nanoparticles by Quick Precipitation Method, Proceeding so international Conferences on Advances in Chemical Engineering, (December 2015), Department of Chemical Engineering, National Institute of Technology,

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Surathkal, Mangalore, Karnataka, India.

- Green synthesis and Characterization of CuO Nanocatalyst in Biodiesel production. (November 2015), International Conferences on Nanostructured Polymeric Materials and Polymer Nanocomposites, Mahatma Gandhi University, Kottayam, Kerala, India.
- Preparation, Characterization and Chemical Sensing Behaviour of Polyaniline Thin Films
- IPL studies on NiO nanoflakes using natural *Tabernaemontana Divaricata* plant Leaves
Optical studies of CuO Nanoparticles using *Catharanthus Roseus* Plant leaves Joseph Sagaya Kennedy.A1*, Johnson. I2
- Natural dye-sensitized CuO nanorods for luminescence applications Science Popularisation
- Interview on the need of alternative energy sources to Utahradio (U.S.) on the occasion of the Energy Fair and Expoat Utah State University (2011)
- “Global warming and its impact”, organized by Urumu Dhana Lakshmi college and BARD University (2009)
- “Alternative energy resources for safety and healthy environment”, EXNORA, Urumu Dhana Lakshmi College and University Students service center (2007)
- “Efficient Usage of alternative energy resources”, Rajiv Gandhi Renewable Energy Day Celebrations conducted by N.S.S Unit of St. Joseph’s College and Bharathidasan University (2006)
- “Importance of Alternative Energy resources”, Rajiv Gandhi Renewable Energy Day celebrations conducted by N.S.S Unit of St. Joseph’s College and Bharathidasan University (2005)
- Talk on New Dimensions in Acoustics (in Tamil) to All India Radio (2001)
- Talk and conversation on Acoustics to Radio Vaticano, (August 2001)
- Ultrasonics for Advanced Technology, Telangana University
- Synthesis of Mgo Nanoparticles using Sonochemical Method under the influence of rose Extract, Veer Surendra Sai University.

COURSES

- Theme Meeting—STEM-2008 Organised by IGCAR, Kalpakkam and Indian Institute of Metals (April 2008)
- Innovative and Concept – Concept-centered experiments organized by the Dept. of Physics, Regional Engineering College and Bharathidasan University, Trichy (18th January 2002)
- UGC Sponsored Refresher course in Physics organized by the Academic Staff College, Bharathidasan University, Trichy (30th August–19th September 2000)
- UGC sponsored seminar cum workshop on MICROPROCESSORS and MICROCONTROLLER Sheld at Urumu Dhanalakshmi College, Trichy (15th May–5th June 2000)
- INTERNATIONAL CONFERENCE ON LASERS AND THEIR APPLICATIONS organized by the Dept. of Physics, St. Joseph’s College, Trichy (1st–4th March 2000)
- Seminar on “RECENT ADVANCES OF LASER IN SCIENTIFIC& INDUSTRIAL APPLICATIONS ”held at the Dept. of Physics, St. Joseph’s College, Trichy(6th–7th September 1999)
- UGC Sponsored Refresher course in Physics conducted by School of Pure and Applied Physics, Mahatma Gandhi University, Kottayam, KERALA (3rd–26th March 1999)
- Workshop on PHYSICAL ULTRASONICS held at the Dept. of Physics, St. Joseph’s college (Autonomous), Trichy (27th February 1999)
- UGC Question Bank Workshop in Physics (PhaseII) organized by the Department of Physics, AVVM Sri Pushpam College, Poondi, Thanjavur (3rd–6th February 1999)
- IX National symposium on Ultrasonics organized by Raman School of Physics, PondicherryUniversity, PONDICHERRY and Ultrasonics society of India, NEW DELHI (December 14 – 16,1998)
- Orientation course for college and University Teachers organized by the Academic staff college, Pondicherry University (26th September 1997–23rd October 1997)
- Course on LASER APPLICATIONS organized by Regional Engineering College, Trichy and Welding Research Institute, Boiler Heavy Electricals Ltd.Trichy (15th March 1997)

Dr. IRUDAYARAJ JOHNSON (I. JOHNSON)

- UGC workshop–Question Bank in Physics (PhaseI) at the Department of Physics, Fatima College, Madurai, India (January 30,–February 1, 1997)
- National Seminar on Education for Social Change – Role of Autonomous colleges --- held at St. Joseph’s College, Trichy-2(5th January to 7th January 1994).

