



Dr Manoj Raama Varma - Senior Principal Scientist and Professor AcSIR (Physical Sciences)



Our research is focused on Synthesis and Characterization of Magnetic materials like intermetallics, oxides and nanostructures. We work also on magnetodielectric behaviour of composites for miniaturized antennas and microwave absorbing materials. We study thermoelectric behaviour of some materials using abinitio calculations and study these materials experimentally.



Education:

- ❖ PhD in Metallurgical Engineering, Indian Institute of Technology Madras, 2000.
- ❖ MS in Metallurgical Engineering, Indian Institute of Technology Madras, 1988.
- ❖ MSc in Physics, University of Kerala, 1984.
- ❖ BSc in Physics, University of Kerala, 1982.



Employment History:

- ❖ Senior Principal Scientist and Professor AcSIR (physical sciences), Material Science and Technology Division, National Institute of Interdisciplinary Science and Technology (CSIR), Trivandrum, Kerala from 2010 (Present position).
- ❖ Post Doctoral fellow (DAAD fellow) in Institute for Nanotechnology, Forschungszentrum Karlsruhe, Germany, 2008.
- ❖ Principal Scientist in Material Science and Technology Division, National Institute of Interdisciplinary Science and Technology (CSIR), Trivandrum, Kerala from 2004 – 2010.
- ❖ Scientist E1, Regional Research Laboratory, Trivandrum from 1998 – 2004.
- ❖ Scientist C, Regional Research Laboratory, Trivandrum from 1993 – 1998.
- ❖ Scientist B, Regional Research Laboratory, Trivandrum from 1988 – 1993.

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Past and Present Group Members

PDFs 4 Completed
PhD (10 completed and 4 ongoing)
M.Phil- 7 Completed
M.Tech- 5 completed
M.Sc-10 Completed



AcSIR Course Teaching:

PHY-NIIST -2-4102: Advanced Materials Characterisation /Electron microscopy.
PHY-NIIST -3-4116: Magnetism and Magnetic Materials.



Broad Areas of Interest:

- ❖ Physics of magnetic materials and their transport properties.
- ❖ Advanced functional Materials like Intermetallics, magnetic refrigeration materials, magnetodielectric materials, thermoelectric materials and permanent magnets.
- ❖ Ab initio simulation using density function theory.

Open Position
for Ph.D
Program
Interested
students can
apply through
AcSIR Ph.D
Program



Welcome to Research Group of Dr. Narayanan Unni K. N. @ CSIR-NIIST



Our research area is organic electronics. We are particularly interested in the device applications using organic semiconductors in energy harvesting, lighting, sensing and memory.



Education:

- **PhD (Experimental Condensed Matter Physics)**: School of Pure & Applied Physics, Mahatma Gandhi University, Kerala 2001
- **M.Sc (Physics)**: School of Pure & Applied Physics, Mahatma Gandhi University, Kerala 1993

Employment history:

- **Associate Professor** with Academy of Scientific and Innovative Research, New Delhi, India, (2013-till now)
- **Principal Scientist** at Chemical Sciences and Technology Division, National Institute for Interdisciplinary Science Technology, India (2013 – present)
- **Principal Research Engineer** at IIT Kanpur (2012-2013)
- **Manager (R&D)**, Samtel Color Ltd (2005-2012)
- **Post doctoral fellow** at University of Angers, France, (2002 –2005)
- Post doctoral research Associate at IIT Bombay (2001-2002)

Principal Scientist & AcSIR Associate
Professor

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Broad Areas of Interest

- Organic Light Emitting Diodes
- III Generation Photovoltaics
- Organic Field effect Transistor based sensors
- Photodetectors

AcSIR Course Teaching

PHY-NIIST PHY-NIIST-3-4118: Fundamentals of Organic Electronics
PHY-NIIST PHY-NIIST-2-4105: Physics of Thin Films

Past and Present Group Members

Phd- 7(1 completed and 6 on-going)
M.Tech 1
M.Sc-15

Open Position for Ph.D Program

Interested students can apply through AcSIR Ph.D Program



Dr. Biswapriya Deb, Senior Scientist



Welcome to Smart Materials & Devices (SMD) group. Our primary activity is to make energy efficient and smart devices with variety of inorganic, organic and hybrid systems. The uniqueness of our activity demands a highly interdisciplinary skill range. Therefore the group consists of students and personnel from Physics, Chemistry, Nanoscience and Engineering branches



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919496445333**

Past & Present Group Members

Ph.D. students - 7
Project fellows – 7
Research engineers – 2
PG project students - 12

**Interested students can apply
through AcSIR Ph.D Program**

Education:

- ❑ Ph.D. in Materials Science, IACS (Jadavpur University), India 1999-2003
- ❑ M.Sc. in Physics (Minor-Electronics), Calcutta University, India 1996-1998
- ❑ B.Sc. in Physics (Major) and Chemistry/Maths (Minors), Calcutta University, India, 1993-1996

Employment history:

- ❑ Senior Scientist and AcSIR assistant professor (physical sciences), Chemical Science and Technology Division, National Institute of Interdisciplinary Science and Technology (CSIR), Trivandrum, Kerala. From May 2012 (Present position).
- ❑ POST DOCTORAL ASSOCIATE, National Institute for Materials Science (NIMS), Japan, 2010-2012
- ❑ RESEARCH SCIENTIST (INDUSTRIAL), Institute for Advanced Material & Renewable Energy (IAMRE), University of Louisville, USA, 2007- 2010
- ❑ RESEARCH ASSOCIATE, Dept. of Chemical Eng. , University of Louisville, USA, 2004- 2007
- ❑ POST DOCTORAL RESEARCHER, Dept. of Chemical Eng and Materials Sc, (CEMS), University of Minnesota, USA, 2003- 2004

Keywords

Smart materials and coatings, Organic and hybrid electronics, Thermoelectricity, Photovoltaics, Surface and Interface science, Nanofabrication

AcSIR Course Teaching

Fundamentals of Organic Electronics, Electrochemistry, Transport in Solids



Asahi India Glass Ltd.





Welcome to Research Group of Dr. K.P. Surendran@ CSIR-NIIST



Our research interest is mainly in the domain of electronic materials. We work on functional inks for printed electronics, low temperature co-fired ceramic tapes and hybrid circuits, printed antennas, EMI shielding materials, flexible piezoelectric transducers and ultra-low κ materials



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Education:

- **PhD (Applied Physics)** from University of Kerala based on the work done at CSIR-NIIST, India (2005)
- **M.Sc (Physics)** from the School of Pure & Applied Physics, Mahatma Gadhi University, Kottayam, India (1996).
- **B.Sc (Physics)** from K. E. College, M.G. University, India (1993)

Employment history:

- **Assistant Professor** in Academy of Scientific and Innovative Research, New Delhi, India, (2012-till now)
- **Senior Scientist** at Materials Science and Technology Division, CSIR-NIIST, India (2015 – till now)
- **Scientist** at Materials Science and Technology Division, CSIR-NIIST, India (2012 – 2015)
- **Humboldt post doc fellow** at Leibniz Institute of Solid State Physics (IFW), **Dresden, Germany** (2010 – 2012)
- **Auxiliary Researcher** at Coimbra University, Portugal (2009 – 2010)
- **FCT post doc researcher** at Aveiro University, Portugal, (2006 – 2009)
- **Research Associate** at Indian Institute of Science Bangalore 2005-2006

Broad Areas of Interest

- **Printable Electronic Materials** especially conductive, semiconducting, magnetic, piezoelectric and insulating materials
- **EMI Shielding Materials**, including conductive aerogels, metallized fabrics, porous foams and 2D layered materials
- **Piezoelectric Materials**, including Pb-free materials and nanocomposites
- **Ultra-low κ Materials**, including inorganic aerogels and 2D materials

AcSIR Course Teaching

PHY-NIIST-2-4102: Advanced Materials Character

PHY-NIIST-2-4104: Electroceramics

PHY-NIIST-3-4101: Nano science and Nanotechnology

PHY-NIIST-3-4109 : Ceramic Microsystems and LTCC

PHY-NIIST-3-4110: MEMS and EMI Shielding Materials

Past and Present Group Members

Phd- 6 (2 awarded and 4 on-going)

M.Phil- 2

M.Tech- 3

M.Sc-21 (19 completed and 2 on-going)

Open Position for Ph.D Program

Interested students with a valid fellowship can apply through AcSIR Ph.D Program



Our research focus is in the area magnetism and advanced functional materials, such as, spintronics, ferromagnetic, magneto caloric, thermoelectrics and nanostructured materials **for various applications.**
We also work on magnetic nanomaterials and ferrofluids for biomedical applications.



Scientist & AcSIR Assistant Professor

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Google Scholars link :
<https://scholar.google.co.in/citations?user=XjIqZ5wAAAAJ&hl=en>

Research gate profile:
https://www.researchgate.net/profile/Vasundhara_M

Total Papers : 47

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Education:

- **PhD (Experimental Condensed Matter Physics)** from the department of Physics & Meteorology, Indian Institute of Technology Kharagpur, India (2008)
- **M.Sc (Physics)** from the department of Physics & Techno-physics ,Vidyasagar University, India (2001).
- **B.Sc Hons. (Physics)** from Vidyasagar University, India (1999)

Employment history:

- **Assistant Professor** in Academy of Scientific and Innovative Research, New Delhi, India, (2012-till now)
- **Scientist** at Materials Science and Technology Division, National Institute for Interdisciplinary Science Technology, India (2012 – present)
- **Post doc** at Risø National Laboratory for Sustainable Energy, Denmark, (2011 – 2012)
- **Post doc** at Korea Advanced Institute of Science and Technology, South Korea, (2009 –2011)
- **Contract Researcher** at Korea Advanced Institute of Science and Technology, South Korea, (2008 –2009)

Broad Areas of Interest:

- Physics at the mesoscale or nanometer scale in magnetic novel materials, including nanomaterials, magnetic thin films and ceramic magnetic oxides.
- Advanced functional materials (such as spintronic, ferromagnetic, magneto caloric and thermoelectrics).
- Magnetism: Intermetallics, magnetic refrigeration, and permanent magnets.
- Ferro fluids for biomedical applications

AcSIR Course Teaching:

PHY-NIIST -2-4102: Advanced Materials Characterisation
PHY-NIIST -3-4115: Cryogenics and Vacuum Techniques
PHY-NIIST -3-4116: Magnetism and Magnetic Materials

Key Publications:

- Physical Chemistry and Chemical Physics, 2019, 21, 10823-10833
- New Journal of Chemistry, 2019, 43, 6048 - 6062
- Physical Chemistry and Chemical Physics, 2019,21,2519-2532
- *ACS Applied Nano Materials* 2018, 1 (7), 3236–3258
- Dalton Transactions, 2018,47 15512-15522
- Journal of Physical Chemistry C, 2018,122,26592-26604
- Journal of Materials Chemistry C, 2013, 1, 6565-6574
- Physical Review B 78, 2008, 064401(1-10)
- Physical Review B 77, 2008, 224415(1-8)

Past and present Group Members:

Phd- 5(2 completed and 3 on-going)
M.Phil- 1
Project Assistants-5
M.Tech- 3
M.Sc-17

Open Position for Ph.D Program

Interested students can apply through AcSIR Ph.D Program

Optical and Opto-electronic Materials Lab

Our lab emphasizes on the research related to optical materials, electro-optical materials, and nano-materials for various energy relevant applications.



Senior Scientist & AcSIR Assistant Professor
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Education Background

- **M.Sc. 2006. Applied Physics.** Bengal Engineering and Science University, Shibpur (Presently IEST Shibpur)
- **Ph.D. 2010. Applied Physics.** Indian School of Mines Dhanbad (Presently IIT-ISM Dhanbad)

Professional Career

- **Post-Doc** at Indian Institute of Technology Delhi (2010 to 2011)
- **Post-Doc** at National Taiwan University, Taiwan (2011 to 2017)
- **Senior Scientist** at CSIR-National Institute for Interdisciplinary Science Technology, India (2017 to till date).

Research interests

- **Downconverted phosphors** for lighting and display applications.
- **Upconverted nanophosphors** for luminescent probe, imaging and sensor applications.
- **Persistent afterglow phosphors** for energy saving display and night vision applications.

Research positions

- **CSIR/UGC NET qualified** students, interested to Ph.D., are preferred
- Interested students can apply through **AcSIR Ph.D Program**
- Interested one can apply **Research associated/post doc positions** via various programs



Welcome to Research Group of Dr. Sushanta Kumar Sahoo @ CSIR-NIIST



Our research focus is in the area of **Polymers and composites**, such as, Polymers from renewable resources, Biobased and biodegradable polymers, Conducting Polymer composites, Fiber reinforced composites, Polymer Nanocomposites **for various applications** like structural, coatings, adhesives and packaging applications .



Scientist & AcSIR Assistant Professor

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Google Scholars link :

<https://scholar.google.co.in/citations?user=rs2TTv0AAAAJ&hl=en>

Research gate profile:

https://www.researchgate.net/profile/Sushanta_Sahoo

Total Papers : 18

H index- 7

i10 index- 7

Citation: 184

Education:

- **PhD (Polymer Science & Technology)** from CIPET, Bhubneswar, under Utkal University (2016)
- **M.Tech (Polymer Nanotechnology)** from CIPET, Bhubaneswar, Biju patnaik University of Technology, India (2011).
- **MSc (Physics, Spectroscopy specialization)** from Ravenshaw University, Odisha India (2006)

Employment history:

- **Assistant Professor** in Academy of Scientific and Innovative Research, New Delhi, India, (2018-till now)
- **Scientist** at Materials Science and Technology Division, National Institute for Interdisciplinary Science Technology, India (2018 – present)
- **Post doc** at Indian Institute of Technology, Roorkee (2016 –2018)
- **Executive R & D** at Indore Composites Pvt Ltd, Mumbai, (2015 –2016)

Broad Areas of Interest:

Polymers from renewable resources such as plant oils and industrial biomass
Bio-based and biodegradable Polymers
Specialty Polymers
Polymer nanocomposites
Bio-based Conducting Polymers
Fibers reinforced Polymer composites

Awards/Fellowships:

- Awarded National Post Doctoral Fellowship (N-PDF) sponsored by SERB, DST, Govt of India.
- Awarded “Merit Scholarship in Polymer Processing” for Academic Excellence and Innovative Research by Polymer Processing Academy (PPA) at Pune on March 17, 2012.
- GATE qualified in Engineering Sciences (XE) paper with All India Rank 95 (MHRD, Govt of India)

Key Publications:

- **Industrial & Engineering Chemistry Research, 2018, 57 (33), 11323-11334**
- **Composites Part B: Engineering, 2019, 172, 76-82**
- **Polymers for Advanced Technologies, 2018, 29 (7), 2080-2090**
- **Composites Part B: Engineering, 2018, 136, 149-157**
- **J. Materials Science: Materials in Electronics 28 2017, (19), 14240-14251**
- **RSC Advances, 2015, 5 (18), 13674-13691**
- **Progress in Organic Coatings, 2015, 88, 263-271**
- **Thermochimica acta, 2015, 614, 163-170**

Present Group Members: M.Sc Project students-2

Sreelkashmi Vijayan, Shinsa C.K

Open Position for Ph.D Program

Interested students can apply through AcSIR Ph.D Program