



Sanghamitra Acharya

Date of birth: 11-05-1986

(M): (+91) 9764496387

Email: sanghamitra.nit@gmail.com

Education

2022 (Feb)-2022 (Nov): Research Associate

Glass and Advance Material Division (G&AMD)

Supervisor: Dr. Kinshuk Dasgupta

Project title: “Spinnable Carbon nanotube fiber”

2013(Aug)-2019(Nov): Ph. D in Applied Physics

Institute: Defense Institute of Advanced Technology, Pune, India.

Supervisor: Dr. Suwarna Datar

Thesis title: “Carbon Nanocomposite for electromagnetic shielding Application”

2010(Jan)-2012(Dec): M. Tech (Res)

Institute: NIT-Rourkela. Supervisor:

Dr.P.N.Vishwakarma

Thesis title: “Studies on superconductor Nano composite of $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2/\text{BiFe}_3\text{O}_4$ ”

2007(July)-2009(Aug): M.Sc. Physics

Institute: Ravenshaw University, Cuttack, Odisha

2004(July)-2007(July): Stewart Science College

Institute: Utkal University, Cuttack, Odisha

Research Interests

- Advanced functional materials, Spinnable carbon nanotube fiber, carbon based energy storage materials, different polymerblends for dual shielding and storage application, Electric and magnetic study by atomic force microscopy (CFM and MFM), Perovskite based solar cell, Topological Insulator, Mxene based composite material

Teaching skills

- 2020(Oct)-2022 (Jan): Assistant Professor (Contractual), Amity University, Mumbai
- 2021(Nov)- 2022 (Jan): Visiting Faculty, Ravenshaw University, Odisha
- 2019(July)-2020(August): Assistant Professor in RITE, Khurda.
- 2014(Feb)-2015(May): Tutorial classes for Quantum mechanics, various synthesis methods
- 2010-2012: B. Tech tutorial and lab classes.

Instrumental techniques

- Personally handled-RAMAN, TG, BET, SEM, Cryogenic He- Liquefier With Vacuum Pump, Vector network analyzer(VNA), Cyclic Voltammetry, Atomic force Microscopy(AFM, CFM, MFM), Optical Microscope, Photo Luminescence (PL), Microwave synthesizer, Lock In Amplifier For I- V Measurement, Cryogenic He- Liquefier With Vacuum Pump, Thin Film Deposition By Spin Coater, Electro Spinning, Doctor bladed technique
- Significant knowledge about XRD, FE-SEM, RAMAN, FTIR, SAXS, TEM, XPS, VSM, AFM, CFM, MFM, Superconductivity, Solar Cell Device Fabrication

Computer skills

- Graphing software (Origin), Chemical structure software (Chemsketch, Chemdraw), Microsoft office programs

Administrative Skill

- Discipline committee Member, SAS Co-coordinator, Member in Exam section committee, Co-Ordinator in Seminar committee

Journal publications

- S. Acharya, P. S. Alegaonkar and S. Datar “Effect of formation of heterostructure of $\text{SrAl}_4\text{Fe}_8\text{O}_{19}/\text{RGO}/\text{PVDF}$ on the microwave absorption properties of the composite” *Chemical Engineering Journal*, 374 (2019) (Impact factor: 16.7)
- S. Acharya, J. Ray, T. U. Patro, P. S. Alegaonkar, S. Datar “Micro wave absorption properties of reduced graphene oxide strontium hexaferrite/ Poly(methyl methacrylate) composite”, *IOP Nanotechnology*, 29(2018)11 (Impact factor: 3.87)
- S. Acharya, C. S. Gopinath, P. S. Alegaonkar and S. Datar “Enhanced microwave absorption property of Reduced Graphene Oxide (RGO)–Strontium hexa –ferrite (SF)/ Poly (Vinylidene) Fluoride (PVDF)” *Diamond and related material*, 89(2018) (Impact factor: 3.35)
- S. Acharya and S. Datar “Wideband (8–18 GHz) microwave absorption dominated electromagnetic interference (EMI) shielding composite using copper aluminum ferrite and reduced graphene oxide in polymer matrix” *Journal of Applied physics* 128 (2020) (Impact factor: 2.84)
- S. Acharya, A. K. Bishwal, J. Ray “ Study of $\text{Bi}_2\text{Sr}_2\text{Ca}_1\text{Cu}_2/\text{BiFe}_3\text{O}_4$ nanocomposite for electrical transport application” *Journal of Applied physics* 112 (2012) (Impact factor: 2.84)
- J. Ray, A. K. Bishwal, S. Acharya, Effect of Co substitution on the magnetic properties of BiFe_3O_4 , *Journal of magnetism and magnetic material*, 324(2012) (Impact factor: 3.046)
- S. Acharya, P. S. Alegaonkar and S. Datar “ $\text{SrAl}_4\text{Fe}_8\text{O}_{19}$ Hexaferrite and Reduced Graphene Oxide: For Microwave Absorption Application” *AIP Conference Proceedings* 2115, 030145 (2019) (Impact factor: 0.18)
- J. Ray, A. K. Bishwal, S. Acharya “Neutron diffraction studies on cobalt substituted

BiFe₃O₄”*American Institute of Physics conference proceeding 1512 (2013)* (Impact factor: 0.18)

- S.Acharya, R. Rana, S. Datar “Highly transparent and excellent microwave absorber: In multi layered PMMA/PEDOT:PSS film by cost effective- easy processing technique” (communicated in IOP Nanotechnology)

Conference/Workshop presentations

- **S. Acharya** and S. Datar, “Carbon Nanocomposite for microwave absorption applications” in *International seminar series in Applied physics*, Amity university in Feb (2021) Mumbai, India.
- **S. Acharya** and S. Datar, “Graphene decorated with hexagonal ferrite nanocomposite: A potential candidate for electromagnetic wave shielding and microwave absorption applications” in *International conference on global challenges in nanomaterials research for environmental and healthcare application* in August (2020), CSIR-IMMT, BBSR, India.
- **S. Acharya**, P. S. Alegaonkar and S. Datar “SrAl₄Fe₈O₁₉ Hexaferrite and Reduced Graphene Oxide: For Microwave Absorption Application”, *63rd- DAE solid state symposium in Dec(2018)*, Hisar, Haryana, India.
- **S. Acharya**, H.Kulkarni and S. Datar “Doped Strontium ferrite-Carbon black-Polyvinylidene Difluoride (PVDF):Efficient Microwave Absorber in X-Band, *International Conference on Nanotechnology for Human Welfare 2018*, H.V.Desai college, Pune, India.
- **S. Acharya**, T.U.Patro and S. Datar, Strontium ferrite decorated reduced graphene oxide in Poly (methyl methacrylate) a suitable candidate for electromagnetic shielding, *Second International Conference on Advanced Polymeric Materials*, April 7-9, 2017, Mahatma Gandhi University, Kerala, India.
- **S. Acharya**, R.V.Jagtap, S.Datar, Attenuation of Microwave Radiation by SrFe₁₂O₁₉ Decorated on thermally Reduced Graphene Oxide in PVDF Matrix, *International*

Conference on Nano technology: Ideas, Innovations and Initiatives, December 06-08 2017, IIT Roorkee, Uttarakhand, India.

- **S. Acharya**, S. Datar, Solvent dependent behavior in perovskite based solar cell National Conference on Chalcogens-2014, DIAT (DU)-DRDO, Pune, Maharashtra, India.

Certification (Academic/Industrial)

- Participated in **FDP** in the BPUT TEQIP-III sponsored on “Functional materials for emerging Technology (FMET-2020)” from 13th -15th February 2020.
- Participated in **FDP** in the on “Production and application of Bio-based packaging Material for Agriculture and food Industry” from 4th -8th February 2020.
- Participated in workshop on “Workshop on photovoltaic devices molecule to device “from 9-10 June 2014 organized at CSIR-NCL, India.
- Participated on training course on “NMR Spectrometer operation and application” from 5th to 9th Feb 2018 organized at DIAT, Pune, India.
- Participated in the “Short course on spectroscopic Ellipsometry” from 16th to 17th Oct 2014 organized at IIT Madras, Chennai, India.
- Participated in “7th India-Singapore symposium on experimental condensed matter physics” from 24-26th Feb 2014 organized at IIT Bombay, India.
- Participated in “IEEE Indian antenna week-2017” from 5th -9th June 2017 organized by DIAT, Pune, India.

References

1. Dr.Kinshu Dasgupta, Scientis-H and Associate Professor HBNI, Glass and advance Material Division, BARC-Mumbai, 400085, dasguptakinshuk@yahoo.com, kdg@barc.gov.in, 022 2559 4951 (O), 9869068308(M),
2. Dr.Suwarna Datar, HoD and Associate Professor, Department of Applied Physics,

DIAT-DRDO, Girinagar,Pune-411025, suwarna.datar@gmail.com, 9011024935

3. Dr.P.N.Vishwakarma, Associate Professor Department of Applied Physics, NIT-RKL,
Sundargarh,Odisha 769008, pnviisc@gmail.com, 9437140165
4. Dr.P.S.Alegaokar, Associate Professor, Department of Physical Sciences, School of Basic
and Applied Sciences, Central University of Punjab, City Campus, Mansa Road, Bathinda–
151 001, India, prasant.alegaokar@gmail.com, 883041114