Dr. Gaurav Mahadev Lohar

M.Sc., Ph.D.

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CAREER OBJECTIVE

Present objective is to establish a group and alliances to work at the interface of material science and nanotechnology. To utilize knowledge, analytical skills, and experience to explore multidisciplinary research to create novel materials, advanced technologies, and provide technical support to groups with common interests.

HIGHLIGHTS

Dedicated individual with excellent technical, analytical and communication skills demonstrated by over 6 years of experience. Good experience of working on academic research projects. Hands-on experiences with modern material characterization and analytical tools. Presently working on Solar Cells, Biosensors and graphene-based composites for flexible energy storage devices. Capable of independent research and also have experience of supervising master students' projects. Have excellent English language skills to compile scientific proposals and research papers. Sound knowledge of computer applications in research activities. Present research h-index is 10 and i-10 index is 12 with 39 scientific publications. A present citation index is 267 (times cited).

RESEARCH AND ACADEMIC EXPERIENCE

1. **June 2016-present,** Assistant Professor**,** Department of Physics, Lal Bahadur Shastri College, Satara (M.S.) India
2. **July 2011-2015,** Ph.D. Material Science, Photoelectrochemical Cell Performance of Electron Beam Irradiated Iron Doped Zinc Selenide Thin Films.
3. **2009-2011,** M.Sc. Optics,
4. **2006-2009,** Physics

AWARDS AND APPRECIATION

1. The Indian Science Congress Association (ISCA) Young Scientist Award 2019.
2. InSc Young Achiever Award 2019.
3. Early Career Research Award (DST-SERB, Government of India)
4. UGC Meritorious Fellow, UGC New Delhi, 2012-13 and 2013-14
5. Conducted M.Sc. (Modern optics) practical during 2012-2015 (3 years)
6. Contributed to developing the physics instrumentation facility center (PIFC) at Department of Physics, Shivaji University, Kolhapur (India)

PATENT SUBMITTED

Sr. No.	Patent Title	Name of Applicant(s)	CBR No.	CBR Date	Agency/ Country
1.	Effect of high energy electron irradiation on gold substitute electrochemically reduced graphene oxide: modified photoluminescence properties	**Dr. Gaurav Mahadev Lohar** Dr. Swati Tanaji Jadhav, Dr. Vijay Janardan Fulari	2072	30/01/ 2017	India

PROJECT SANCTIONED

Sr. No.	Project title	Status PI/Co-PI	Funding Agency	Amount (Lakh)
1.	Performance and evaluation of high energy electron irradiation on metal oxide reduced graphene oxide composite for supercapacitor and biosensor applications	PI	DST-SERB	2177550/-
2.	Performance and evaluation of copper oxide reduced graphene oxide composite for supercapacitor and biosensor applications	PI	Shivaji University	70000/-

INSTRUMENTS HANDLED

1. Solar simulator
2. Field emission scanning electron microscope (JEOL JSM-6360 Japan)
3. Spectrofluorometer (Bruker, Flouromax 4)
4. X-ray diffraction (Bruker D2 phaser tabletop model)
5. Ultraviolet-vis spectrophotometer (UV-1800 Shimadzu, Japan)
6. Electrochemical workstation (Potentiostat galvanostat with EIS)
7. Raman Spectroscopy (Bruker AXE Analytical Instruments PVT, Germany)
8. High-Temperature programmable furnace
9. Spin coating unit
10. LCR meter
11. Hologram recording

OTHER INFORMATION

- Life member:
  - Laser & Spectroscopy Society of India
  - Indian Science Congress
  - Institute of Scholar (InSc unit of SDPL)
- Organizing Secretary: National conference on Recent Trends in Physical, Chemical and Nanoscience (NCRT-PCNano- 2017)
- Participation in National/International conference: 17
- Number of National/International Research Publications: 43
- Talk delivered in National/International conference: 05
- Citations: 309
- h-index: 10 i10- index: 12

Research Publications

Sr. No	References	Year
[1]	J. Geng, J. Ma, S. Ma, F. Li, L. Zhang, X. Ning, G.M. Lohar, Energy band investigation and role of Fe content in Zn1-xFexSe based nanomaterials for photoelectrochemical cell application, Ceramics International 45 (2019) 14457-14463, **DOI:** https://doi.org/10.1016/j.ceramint.2019.04.167 **Link:** https://www.sciencedirect.com/science/article/pii/S0272884219309927	2019
[2]	B.P. Relekar, A.V. Fulari, G.M. Lohar, V.J. Fulari, Development of Porous Manganese Oxide/Polyaniline Composite Using Electrochemical Route for Electrochemical Supercapacitor, Journal of Electronic Materials 24 (2019) 2449-2455, **DOI:** https://doi.org/10.1007/s11664-019-07039-3. **Link:** https://link.springer.com/article/10.1007/s11664-019-07039-3	2019
[3]	B.P. Relekar, S.A. Mahadik, S.T. Jadhav, A.S. Patil, R.R. Koli, G.M. Lohar, V.J. Fulari, Effect of Electrodeposition Potential on Surface Free Energy and Supercapacitance of MnO_2 Thin Films, Journal of Electronic Materials 47 (2018) 2731-2738, **DOI:** https://doi.org/10.1007/s11664-018-6109-9. **Link:** https://link.springer.com/article/10.1007/s11664-018-6109-9	2018
[4]	G.M. Lohar, S.T. Jadhav, B.P. Relekar, R.A. Patil, Y. Ma, V.J. Fulari, Electrochemically synthesized 1D and 3D hybrid Fe^{3+} doped ZnSe dandelions for photoelectrochemical cell application, Optik 158 (2018) 53-63, **DOI:** https://doi.org/10.1016/j.ijleo.2017.12.017. **Link:** https://www.sciencedirect.com/science/article/pii/S0030402617316455	2018
[5]	A.V. Fulari, M.V. Ramana Reddy, S.T. Jadhav, G.S. Ghodake, Dae-Young Kim, G.M. Lohar, TiO_2/reduced graphene oxide composite based nano-petals for supercapacitor application: effect of substrate, Journal of Materials Science: Materials in Electronics 29 (2018) 10814–10824, **DOI:** https://doi.org/10.1007/s10854-018-9146-5. **Link:** https://link.springer.com/article/10.1007/s10854-018-9146-5	2018
[6]	A.S. Patil, M.D. Patil, G.M. Lohar, S.T. Jadhav, V.J. Fulari, Supercapacitive properties of CuO thin films using modified SILAR method, Ionics 23 (2017) 1259-1266, **DOI:** https://doi.org/10.1007/s11581-016-1921-9. **Link:** https://link.springer.com/article/10.1007/s11581-016-1921-9	2017
[7]	B.P. Relekar, G.M. Lohar, P.S. Indapure, S.T. Punde, S.T. Jadhav, H.D. Dhygude, V.J. Fulari, Galvanostatically Deposited MnO_2 Thin Film and Their Electrochemical Properties, Materials Focus 5 (2016) 577-579, **DOI:** https://doi.org/10.1166/mat.2016.1347. **Link:** https://www.ingentaconnect.com/contentone/asp/mf/2016/00000005/00000006/art00013	2016

[8]	G.M. Lohar, R.K. Kamble, S.T. Punde, S.T. Jadhav, A.S. Patil, H.D. Dhaygude, B.P. Relekar, V.J. Fulari, Electrochemical Synthesis of Ni Doped ZnSe Thin Film for Photoelectrochemical Cell Application, Materials Focus 5 (2016) 481-484, DOI: https://doi.org/10.1166/mat.2016.1349. **Link:** https://www.ingentaconnect.com/content/asp/mf/2016/00000005/00000005/art00013	2016
[9]	A.S. Patil, G.M. Lohar, V.J. Fulari, Structural, morphological, optical and photoelectrochemical cell properties of copper oxide using modified SILAR method, Journal of Materials Science: Materials in Electronics 27 (2016) 9550-9557, **DOI:** https://doi.org/10.1007/s10854-016-5007-2. **Link:** https://link.springer.com/article/10.1007/s10854-016-5007-2	2016
[10]	G.M. Lohar, H.D. Dhaygude, B.P. Relekar, M.C. Rath, V.J. Fulari, Effect of 10 MeV energy of electron irradiation on Fe^{2+} doped ZnSe nanorods and their modified properties, Ionics 22 (2016) 1451-1460, DOI: https://doi.org/10.1007/s11581-016-1650-0. **Link:** https://link.springer.com/article/10.1007/s11581-016-1650-0	2016
[11]	B.P. Relekar, G.M. Lohar, R.K. Kamble, A.B. Bansode, H.D. Dhygude, V.J. Fulari, Potentiostatically Deposited MnO_2 Thin Film for Supercapacitor Application, Materials Focus 5 (2016) 258-260, **DOI:** https://doi.org/10.1166/mat.2016.1321. **Link:** https://www.ingentaconnect.com/contentone/asp/mf/2016/00000005/00000003/art00011	2016
[12]	H.D. Dhaygude, S.K. Shinde, M.V. Takale, G.M. Lohar, M.C. Rath, V.J. Fulari, **Effect of electron irradiation on structural, morphological and photoluminescence properties of ZnS thin films,** Ceramics International 42 (2016) 10159-10164, **DOI:** https://doi.org/10.1016/j.ceramint.2016.03.129. **Link:** https://www.sciencedirect.com/science/article/pii/S0272884216302656	2016
[13]	S.A. Mahadik, F.D. Pedraza, B.P. Relekar, V.G. Parale, G.M. Lohar, S.S. Thorat, Synthesis and characterization of superhydrophobic–superoleophilic surface, Journal of Sol-Gel Science and Technology 78 (2016) 475-481, **DOI:** https://doi.org/10.1007/s10971-016-3974-7. **Link:** https://link.springer.com/article/10.1007/s10971-016-3974-7	2016
[14]	H.D. Dhaygude, S.K. Shinde, M.V. Takale, D.P. Dubal, G.M. Lohar, V.J. Fulari, Electrodeposited nanosphere like $Cd_xZn_{1-x}S$ electrodes for photoelectrochemical cell, Journal of Materials Science: Materials in Electronics 27 (2016) 5145-5152, **DOI:** https://doi.org/10.1007/s10854-016-4406-8. **Link:** https://link.springer.com/article/10.1007/s10854-016-4406-8	2016
[15]	H.D. Dhaygude, S.K. Shinde, N.B. Velhal, G.M. Lohar, V.J. Fulari, Synthesis and characterization of ZnO thin film by low cost modified SILAR technique, AIMS Materials Science 3 (2018) 349-356, **DOI:** 10.3934/matersci. 2016.2. 349. **Link:** https://s3.amazonaws.com/academia.edu.documents/46874232/AIM_Materials_science.pdf?response-content-	2016

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[16]	G.M. Lohar, S.T. Jadhav, H.D. Dhaygude, M.V. Takale, R.A. Patil, Y.R. Ma, M.C. Rath, V.J. Fulari, **Studies of properties of Fe^{3+} doped ZnSe nanoparticles and hollow spheres for photoelectrochemical cell application,** Journal of Alloys and Compounds 653 (2015) 22-31, **DOI:** https://doi.org/10.1016/j.jallcom.2015.08.208. **Link:** https://www.sciencedirect.com/science/article/abs/pii/S092583881530904X	2015
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[21]	S.K. Shinde, D.P. Dubal, G.S. Ghodake, H.D. Dhaygude, G.M. Lohar, B.P. Relekar, V.J. Fulari, Temperature Dependence of Cationic and Anionic Precursor on Morphological Improvement of CuO Electrodes and Its Consequent Effect on Electrochemical Supercapacitive Properties, Advanced Science Letters 21 (2015) 2653-2656, **DOI:** https://doi.org/10.1166/asl.2015.6400. **Link:** https://www.ingentaconnect.com/content/asp/asl/2015/00000021/00000008/art00032	2015
[22]	S.S. Mali, S.K. Shinde, J.R. Mane, A.A. Mane, S.A. Swami, H.D. Dhaygude, G.M. Lohar, B.P. Relekar, V.J. Fulari, Surfactant-Assisted Morphological Modification of Hierarchical CuO Thin Films for	2015

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[23]	H.D. Dhaygude, B.P. Relekar, S.K. Shinde, G.M. Lohar, U.M. Chougale, V.J. Fulari, Electrochemical Synthesis of Nanorods-Like CdS Electrode for Solar Cell Application, Advanced Science Letters 21 (2015) 2641-2644, **DOI:** https://doi.org/10.1166/asl.2015.6399. **Link:** https://www.ingentaconnect.com/content/asp/asl/2015/00000021/00000008/art00029	2015
[24]	J.V. Thombare, G.M. Lohar, S.K. Shinde, S.S. Dhasade, M.C. Rath, V.J. Fulari, Synthesis, characterization and surface wettability study of polypyrrole films: Effect of applied constant current density, Electronic Materials Letters 11 (2015) 266-270, **DOI:** https://doi.org/10.1007/s13391-014-4082-x. **Link:** https://link.springer.com/article/10.1007/s13391-014-4082-x	2015
[25]	G.M. Lohar, J.V. Thombare, S.K. Shinde, B.P. Relekar, H.D. Dhaygude, V.J. Fulari, Hydrophilic semconducting micro-chip like Cu doped ZnS thin films grown at room temperature, material science an Indian journal 12 (2015) 057-062. **Link:** https://pdfs.semanticscholar.org/fa48/cecece1c328d7b50caa42a38d9488a118f93.pdf	
[26]	G.M. Lohar, Photoelectrochemical Cell Performance of Electron Beam Irradiated Iron Doped Zinc Selenide Thin Films, Journal of Shivaji University (Science & Technology) 41 (2015) 1-3. **Link:** http://ir.inflibnet.ac.in:8080/jspui/bitstream/10603/143542/9/10%20summary%20and%20conclusions.pdf	2015
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[28]	G.M. Lohar, J.V. Thombare, S.K. Shinde, U.M. Chougale, V.J. Fulari, Preparation and Characterization Iron doped Zinc Selenide Thin Film by Electrodeposition, Journal of Shivaji University (Science and Technology) 41 (2015) 1-3. **Link:** https://pdfs.semanticscholar.org/3962/cd28f197d903e030a2852ee2a0ee23c1a7b7.pdf	2015
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[33]	J.V. Thombare, S.K. Shinde, G.M. Lohar, U.M. Chougale, S.S. Dhasade, H.D. Dhaygude, B.P. Relekar, V.J. Fulari, Optical properties of electrochemically synthesized polypyrrole thin films: the electrolyte effect, Journal of Semiconductors 35 (2014) 063001. **Link:** https://iopscience.iop.org/article/10.1088/1674-4926/35/6/063001/meta	2014
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[35]	V.J. Fulari, U.M. Chougale, A.S. Powar, S.V. Tikone, S.K. Shinde, G.M. Lohar, J.V. Thombare, Synthesis and Characterization of Copper doped Cadmium Sulphide Thin Films by Electrodeposition Method, Journal of Shivaji University (Science & Technology) 41 (2014). **Link:** http://www.unishivaji.ac.in/uploads/journal/JOURNAL-42(2)/PG%203.pdf	2014
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