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I the undersigned asks to participate in the public selection, for qualifications and examinations, for the awarding of a type B fellowship at **Dipartimento di _____Chimica_____**

Scientist- in – charge: **_____Assegno di Ricerca_____**

[Meenakshi Gusain]

CURRICULUM VITAE

PERSONAL INFORMATION

Surname	Gusain
Name	Meenakshi

PRESENT OCCUPATION

Appointment	Structure
NA	NA

EDUCATION AND TRAINING

Degree	Course of studies	University	year of achievement of the degree
Degree	PhD	University of Delhi	2015
Specialization	Inorganic chemistry	University of Delhi	
PhD	Inorganic Chemistry	University of Delhi	2015
Master	Organic Chemistry	University of Delhi	2009
Degree of medical specialization	-	-	-
Degree of European specialization	-	-	-
Other	-	-	-

REGISTRATION IN PROFESSIONAL ASSOCIATIONS

Date of registration	Association	City

FOREIGN LANGUAGES

Languages	level of knowledge
English, Hindi	Proficient, Proficient

AWARDS, ACKNOWLEDGEMENTS, SCHOLARSHIPS

Year	Description of award
2009	Junior Research Fellowship (JRF) from Council of Scientific and Industrial Research (CSIR)

TRAINING OR RESEARCH ACTIVITY

description of activity:

1. Short-term certified course on "Green Chemistry" in 2008 from Hindu College, University of Delhi
2. Certified workshop training at Department of Chemistry, University of Delhi, Delhi. INDIA in "IUCr workshop on XRD systems and its Applications" from December 25-26, 2014.

PROJECT ACTIVITY

Year	Project
2019-2021	Talented young scientist program-TYSP from Fudan University, Shanghai, China
2016-2018	National Post Doctoral Fellowship (NPDF) from DRDO, Delhi, India entitled "Systematic Synthetic Exploration of Copper Sulfide-Polymer Nanocomposites: Stoichiometric Derived Band Gap Engineering in Polymer Matrix for Sustainable Conducting Polymer Based Devices."

PATENTS

Patent
NA

CONGRESSES AND SEMINARS

Date	Title	Place
December 11-15, 2017	Synthesis and characterization of surfactant free MoS_2 3D microspheres	XIX International Workshop on the Physics of Semiconductor Devices (IWPSD 2017), Indian Institute of Technology Delhi, New Delhi, INDIA
December 10-13, 2017	Structural and Electrical Properties of $Ba_{1-x}Y_xTi_{0.955}Zr_{0.045}O_3$ Ceramics	6th International Symposium on Integrated Functionalities, New Delhi, INDIA
March 15 - 18, 2017	Monolayer MoS_2: Systematic Synthesis and Device Fabrication	NANO INDIA 2017, Indian Institute of Technology Delhi, New Delhi, INDIA
December	Wurtzite $CuInS_2$: Solution based one pot	*International Union of Materials Research Societies-International Conference in Asia*

16 - 20, 2013	direct synthesis and its doping studies with non-magnetic Ga^{3+} and magnetic Fe^{3+} ions	*2013 (IUMRS-ICA 2013)*, Indian Institute of Science, Banglore, INDIA
December 8 - 11, 2013	Wurtzite $CuInS_2$: Solution based one pot direct synthesis and its doping studies with non-magnetic Ga^{3+} and magnetic Fe^{3+} ions	*3rd Nanotoday Conference*, Matrix, Biopolis, SINGAPORE
December 11-15, 2012	Solvent Mediated Room Temperature Synthesis of Highly Crystalline Cu_9S_5 ($Cu_{1.8}S$), CuSe, PbS and PbSe from their Elements	4th *International Symposium on Materials Chemistry*, Bhabha Atomic Research Centre (BARC), Trombay, Mumbai. INDIA
December 7-12, 2010	A Novel Single Source Precursor Approach for the Synthesis of Cu(I) Sulfide: An intermediate Step	3rd *International Symposium on Materials Chemistry*, Bhabha Atomic Research Centre (BARC), Trombay, Mumbai. INDIA

PUBLICATIONS

Books

Chapter name "Conducting polymeric nanocomposite for supercapattery" Submitted to Elsevier Publishing, Imprint: Date: 1st November 2020, Book Name: Advances in Supercapacitor and Supercapattery: Innovations for Energy Storage Devices.

Chapter name "Energy Storage Devices (Supercapacitors and Batteries)" submitted to Springer, Nature Switzerland AG, 2021, Book Name: Advances in Hybrid Conducting Polymer Technology.

Chapter name "Analysis and characterization of quantum dots" Submitted to Woodhead Publishing Series in Electronic and Optical Materials, Imprint: Date: 29th July 2022, Book Name: Graphene, Nanotubes and Quantum Dots-Based Nanotechnology: Fundamentals and applications

Chapter name "Synthesis methods of quantum dots" Submitted to Woodhead Publishing Series in Electronic and Optical Materials, Imprint: Date: 29th July 2022, Book Name: Graphene, Nanotubes and Quantum Dots-Based Nanotechnology: Fundamentals and applications

Articles in reviews

Organic-inorganic Porphyrinoid Frameworks for Biomolecules Sensing Arora, Smriti; Nagpal, Ritika; Gusain, Meenakshi; Singh, Balram; Pan, Yuanwei; Yadav, Deepak; Ahmed, Ishtiaq; Kumar, Vinod; Parshad, Badri, ACS Sensors (accepted), 2023.

Congress proceedings

Structural Properties of MoS2 Layers grown by CVD Technique Radhapiyari Laishram*, S. Praveen, Meenakshi Gusain, Preeti Garg, J.S. Rawat and Chandra Prakash 6th International Symposium on Integrated Functionalities ISIF 2017, Journal of Integrated Ferroelectrics(Accepted)

Structural properties of MoS2 layers grown by CVD technique, Integrated Ferroelectrics, (2018) 194:1, 16-20, DOI: 10.1080/10584587.2018.1514889

OTHER INFORMATION

Publications:

1. Deep Dive into Lattice Dynamics and Phonon Anharmonicity for Intrinsically Low Thermal Expansion Coefficient in CuS. Sudeshna Samanta, **Meenakshi Gusain**, Yiming Zhang, Yiqiang Zhan, Hao Zhang, Lin Wang, Shisheng Xiong ChemNanoMat 2022, 8, e202200238.
Web link: https://onlinelibrary.wiley.com/doi/10.1002/cnma.202200238

2. A hybrid self-growing polymer microtip for ultracompact and fast fiber humidity sensing. Zixian Hu, Yuxing Chen, Jingyu Tan, ZhengYu Yan, Zhenhua Weng, **Meenakshi Gusain**, Yiqiang Zhan*, Limin Xiao, Sensors and Actuators B: Chemical, 2021, 346, 130462.
Web link: https://www.sciencedirect.com/science/article/abs/pii/S0925400521010303
3. Highly Efficient 1D/3D Ferroelectric Perovskite Solar Cell. Haijuan Zhang, Zejiao Shi, Laigui Hu, Yuan-Yuan Tang, Zhengyuan Qin, Wei-Qiang Liao, Zi Shuai Wang, Jiajun Qin, Xiaoguo Li, Haoliang Wang, **Meenakshi Gusain**, Fengcai Liu, Yiyi Pan, Mingsheng Xu, Jiao Wang, Ran Liu, Chunfeng Zhang, Ren-Gen Xiong, Wei E. I. Sha, Yiqiang Zhan* Advance Functional Materials. *2021, 31, 2100205.*
Web link: *https://doi.org/10.1002/adfm.202100205*
4. Detection Range Extended 2D Ruddlesden-Popper Perovskite Photodetectors Yiyi Pan, Haoliang Wang, Xiaoguo Li, Xin Zhang, Fengcai Liu, Meng Peng, Zejiao Shi, Chongyuan Li, Haijuan Zhang, Zhenhua Weng, **Meenakshi Gusain**, Huabao Long, Dapeng Li, Jiao Wang, Yiqiang Zhan* and Lirong Zheng *J. Mater. Chem. C, 2020, 8, 3359-3366.*
Web link: *https://pubs.rsc.org/en/Content/ArticleLanding/2020/TC/C9TC06109F#!divAbstract*
5. Energy storage study of trimetallic Cu_2MSnS_4 (M: Fe, Co, Ni) nanomaterials prepared by sequential crystallization method Malaya K. Sahoo, **Meenakshi Gusain**, Sweta Thangriyal, Rajamani Nagarajan, G. Ranga Rao* *Journal of Solid State Chemistry 2020, 282, 121049.*
Web Link: *https://doi.org/10.1016/j.jssc.2019.121049*
6. Role of the solvent medium in the wet-chemical synthesis of $CuSbS_2$, Cu_3SbS_3, and bismuth substituted Cu_3SbS_3 Shalu Atri, Meenakshi Gusain, Prashant Kumar, Sitharaman Uma, Rajamani Nagarajan* Journal of Chemical Sciences, 2020, 132, 132
Web Link: *https://link.springer.com/article/10.1007/s12039-020-01831-z*
7. Layered Polyaniline: Synthesis, Characterization and Electrochemical Properties. **Meenakshi Gusain***, R. Nagarajan and Sushil Kumar Singh *Polymer Bulletin 2020, 77, 3277-3286.*
Web Link: *https://doi.org/10.1007/s00289-019-02912-x*
8. Facial surfactant-free hydrothermal synthesis of MoS_2 microflower and its effect in electrochemical properties.**Meenakshi Gusain**, Amarish Dubey, Mainak Das and Sushil Kumar Singh* *Journal of Solid State Chemistry*, 2019, *274*, 58-63.
Web link: https://www.sciencedirect.com/science/article/pii/S0022459619301203?via%3Dihub
9. Synthesis of zincblende $CuInS_2$ and Fe-substituted $CuInS_2$ by the reaction of binary colloids. **Meenakshi Gusain**, Prashant Kumar, S. Uma and Rajamani Nagarajan* *Colloids and Surfaces A* 2015, *481*, 269-275.
Web link: http://www.sciencedirect.com/science/article/pii/S0927775715300133
10. Facile synthesis and optical properties of pure and Ni^{2+}, Co^{2+}, Bi^{3+}, Sb^{3+} substituted Cu_3SnS_4. **Meenakshi Gusain**, Pooja Rawat and Rajamani Nagarajan* *RSC Advances*, 2015, *5*, 43202-43208.
Web link: http://pubs.rsc.org/en/content/articlelanding/2014/ra/c4ra17125j
11. Influence of reaction conditions for the fabrication of Cu_2SnS_3 and Cu_3SnS_4 in ethylene glycol. **Meenakshi Gusain**, Pooja Rawat and Rajamani Nagarajan* *Material Research Express* 2015, *2*, 055501(5).
Web link: http://iopscience.iop.org/2053-1591/2/5/055501/pdf/2053-1591_2_5_055501.pdf
12. A simple one pot synthesis of cubic Cu_5FeS_4. Prashant Kumar, **Meenakshi Gusain**, Pandian Senthil Kumar, Sitharaman Uma and Rajamani Nagarajan* *RSC Advances*, 2014, *4*, 52633-52636.
Web link: http://pubs.rsc.org/en/content/articlelanding/2014/ra/c4ra06939k#!divAbstract
13. Soft chemical synthesis of Ag_3SbS_3 with efficient and recyclable visible light photocatalytic properties. **Meenakshi Gusain**, Pooja Rawat and Rajamani Nagarajan* *Material Research Bulletein* 2014, *60*, 872-875.
Web link: http://www.sciencedirect.com/science/article/pii/S0025540814005868
14. Solvent Mediated Rapid Synthesis of Orthorhombic Cu_2ZnSnS_4 (CZTS). **Meenakshi Gusain**, Pooja Rawat and Rajamani Nagarajan* *Materials Letter* 2014, *133*, 220-223.
Web link: http://www.sciencedirect.com/science/article/pii/S0167577X14012518
15. Wurtzite $CuInS_2$: Solution based one pot direct synthesis and its doping studies with non-magnetic Ga^{3+} and magnetic Fe^{3+} ions **Meenakshi Gusain**, Prashant Kumar and Rajamani Nagarajan* *RSC Adv.* 2013, *3*, 18863-18871.
Web link: http://pubs.rsc.org/EN/content/articlelanding/2013/ra/c3ra41698d/unauth#!divAbstract
16. Solvent-mediated room temperature synthesis of highly crystalline Cu_9S_5 ($Cu_{1.8}S$), CuSe. PbS and PbSe from their elements. Prashant Kumar, **Meenakshi Gusain**, Rajamani Nagarajan* *Inorg. Chem.* 2012, *51*, 7945-7947.
Web link: http://pubs.acs.org/doi/abs/10.1021/ic301422x
17. Synthesis of $Cu_{1.8}S$ and CuS from Copper-Thiourea complexes; anionic (Cl^-, NO_3^-, SO_4^{2-}) influence on the product stoichiometry. Prashant Kumar, **Meenakshi Gusain**, R. Nagarajan* *Inorg. Chem.* 2011, *50*, 3065-3070.

Web link: http://pubs.acs.org/doi/abs/10.1021/ic102593h

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