About Faculty

Dr R. Ridhi
Assistant Professor
Physics
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Areas of Interest

- Solid State Physics with specialization in fabrication of chemresistor devices for sensing toxic gases in environment and explosives.
- NanoScience and Nanotechnology with specialization in synthesizing thin films using thermal evaporation, spin coating, dip coating, sol-gel method, Langmuir Blodgett and other chemical route methods.
- Thermoelectric devices and thermoelectric materials with specialization in Bismuth Telluride Polymer nanocomposites.

Educational Qualification

Degree	Year	Dept/University	Percent	Medals/ Positions
10th	2003	CBSE Board	80.60	
10+2	2005	CBSE Board	70.60	
BSc. (Hons.) Physics	2008	Panjab University, Chandigarh	69.30	5th
MSc. (Hons.) Physics	2010	Panjab University, Chandigarh	73.20	
M Tech (NanoScience and Nanotechnology)	2012	Panjab University, Chandigarh	78.76	Gold Medallist/ Ist Position
PhD. in Physics	2017	Panjab University, Chandigarh	Successfully Completed	

Professional Experience

Designation	From	To	Organization
Assistant Professor	26/10/2022	Present	MCM DAV College for Women, Sector-36, Chandigarh
Assistant Professor	01/09/2022	25/10/2022	GGDSD College, Sector-32, Chandigarh
Assistant Professor	07/03/2022	10/06/2022	DAV College, Sector-10, Chandigarh
Senior Scientist C	19/11/2020	18/11/2021	DST-CPR, Panjab University, Chandigarh
Research Associate (RA-III)	12/11/2018	11/11/2020	SSPL, Defence Research and Development Organization (DRDO), Delhi, India
Assistant Professor	01/08/2017	06/11/2018	GGDSD College, Sector-32, Chandigarh

Research Paper Publications

Title	Journal	Refereed	Date and Year of Publication	Online Link
Study of the effect of orbital on interaction behaviour of SWCNT-Metal Phthalocyanines composites with Ammonia gas	Sensors and Actuators B	Refereed, Peer Reviewed	11/03/2021	https://doi.org/10.1016/j.snb.2021.129767
Study of the effect of flow rate and decomposition temperature on sensing of ammonium nitrate by Carbon nanotubes	Sensors and Actuators B	Refereed, Peer Reviewed	13/02/2021	https://doi.org/10.1016/j.snb.2021.129658
Amendment in sensing response of Single Walled Carbon nanotube (SWCNT) towards ammonia gas with copper phthalocyanine functionalization	Materials Today Proceedings	Refereed, Peer Reviewed	12/06/2020	https://doi.org/10.1016/j.matpr.2020.05.169
Layers dependent properties of magnesium phthalocyanine thin films prepared by Langmuir Blodgett method	AIP Proceedings	Refereed, Peer Reviewed	15/04/2019	https://doi.org/10.1063/1.5097110
Chemically Synthesized TiO2 and PANI/TiO2	Materials Research Express	Refereed, Peer	07/02/2018	10.1088/2053-1591/aaa9f1

Thin Films for Ethanol Sensing Applications.		Reviewed		
Spectroscopic interaction studies of substituted and unsubstituted copper phthalocyanine with adsorbed organic vapours	AIP Proceedings	Refereed, Peer Reviewed	08/05/2018	https://doi.org/10.1063/1.5032507
Comparison of interaction mechanisms of copper phthalocyanine and nickel phthalocyanine thin films with chemical vapours	Journal of Physics and Chemistry of Solids	Refereed, Peer Reviewed	13/12/2017	https://doi.org/10.1016/j.jpcs.2017.10.046
Study of interaction mechanism of metal phthalocyanines dispersed sol-gel glasses with chemical vapours	Sensors and Actuators B	Refereed, Peer Reviewed	19/09/2017	https://doi.org/10.1016/j.snb.2017.08.213
Sensing of Organic Vapours by Sulfonated Copper Phthalocyanine Salt Thin Films	Materials Focus	Refereed, Peer Reviewed	04/08/2017	https://doi.org/10.1166/mat.2017.1418
Sensing of volatile organic compounds by copper phthalocyanine thin films	Materials Research Express	Refereed, Peer Reviewed	14/02/2017	https://iopscience.iop.org/article/10.1088/2053-1591/aa54d1
Sensing response of copper phthalocyanine salt dispersed glass with organic vapours	AIP Proceedings	Refereed, Peer Reviewed	10/05/2016	https://doi.org/10.1063/1.4946341
Synthesis and characterization of Bi-Te-Se thermoelectric materials	AIP Proceedings	Refereed, Peer Reviewed	31/08/2015	https://doi.org/10.1063/1.4929230
Radiation Induced Effects on Properties of Semiconducting Nanomaterials	Solid State Phenomena	Refereed, Peer Reviewed	20/08/2015	**https://doi.org/10.4028/www.scientific.net/SSP.239.1**
Chemical sensing of copper phthalocyanine sol-gel glass through organic vapors	AIP Proceedings	Refereed, Peer Reviewed	18/05/2015	https://doi.org/10.1063/1.4915460
Determination of Trap Depth in nc-CdSe:Cu Thin Films Using Thermally Stimulated Current Measurements	AIP Proceedings	Refereed, Peer Reviewed	17/02/2015	https://doi.org/10.1063/1.4872564
Study of the effect of methanol vapours on copper phthalocyanine salt sol-gel glass	Journal of Basic and Applied Engineering Research	Refereed, Peer Reviewed	26/10/2014	http://www.krishisanskriti.org/
Preparation and Characterization of	AIP Proceedings	Refereed, Peer	03/06/2013	https://doi.org/10.1063/1.4810135

Bismuth Telluride (Bi2Te3) - Polyaniline (PANI) Nanocomposite		Reviewed		

Books Published/ Book Chapters

Title	Publisher	ISBN	Year of Publication
Study of interaction mechanism of chemical vapors in Copper Phthalocyanine sol-gel glass in Book: Nanotechnology: Novel Perspectives and Prospects	Tata-McGraw	13: 978-93-39221-09-6	2015
Brief review on Gallium oxide (Ga2O3), its properties and applications in Book: : A technical bulletin of Solid State Laboratory, DRDO, Delhi	SSPL, DRDO	2454-6925	2019
Semiconductor oxide nanomaterials Chemresistors in Book: Carbon Nanomaterials and their Nanocomposite-Based Chemiresistive Gas Sensors	Elsevier	In Press	2022

Research Paper Presented and Published in International Conferences

1. Amendment in Sensing Response of Single Walled Carbon nanotube (SWCNT) towards ammonia gas with Copper Phthalocyanine functionalization: **Paper presented in International Conference on Aspects of Materials Science and Engineering" at Panjab University, Chandigarh, India on 29th – 30th May 2020.**
2. Study of sensing behavior of Metal Phthalocyanine functionalized Single Walled Carbon Nanotubes towards Ammonia gas: **Paper presented in an International Conference on "Emerging Advances in Science and Technology" ICEAST 2019 in SSPL, DRDO on 4th September, 2019.**
3. Study of interaction mechanism of chemical vapours with Metal Phthalocyanines sol-gel glass: **Paper presented in International Conference NanoSciTech 2013 at Panjab University, Chandigarh on 14th February, 2013.**
   (Achieved Best Research paper Poster Presentation Award)

4. Comparison of sensitivities of substituted and unsubstituted Copper Phthalocyanine thin films towards Benzene vapours: **Paper presented in IEEE Conference ICAER'16 at U.I.E.T., Panjab University, Chandigarh on 22nd October, 2016.**
   (Achieved Best Research Paper Oral Presentation Award)
5. Chemical sensing of copper phthalocyanine sol-gel glass through organic vapors**: Paper presented in an International Conference ICCMP 2014 held in Himachal University, Shimla on November 4-6, 2014.**
   (Achieved Best Research Paper Poster Presentation Award).
6. Study of the effect of methanol vapours on copper phthalocyanine salt sol-gel glass**: Paper presented in 4th International Conference On "Innovative Research in Applied Physical, Mathematical/Statistical, Chemical Sciences, Environmental Dynamics, Integration of Life Sciences and Engineering" held in Jawaharlal Nehru University (JNU), New Delhi, India on 27th December, 2014.**

Awards and Recognitions

S.No.	Details
1.	Achieved Young Women in Science Award by Venus International Foundation in 2019
2.	M Tech Gold medalist from Panjab University Chandigarh in 2012
3.	DST Inspire Fellow Award from Department of Science and Technology, Delhi in 2013
4.	Gate Qualified with 89.6 percentile.
5.	Awarded U.T. scholarship on the basis of B.Sc. (Hons. in Physics) result from 2008-2010
6.	Achieved best research paper awards in **two international and one national conferences**
7.	Served as a Coordinator of an International Conference on "Beyond the Contemporary Sciences" organized by Department of Physics, MCM DAV College and Amrita Vishwa Vidyapeetham, Mysuru on18th -19th November, 2022.
8.	Served as a Judge in an Inter District Science Exhibition 2022-23 in Government College, Raipur Rani, Panchkula on 3rd December, 2022
9.	Served as an organizer of an International Conference ICEAST 2019 in SSPL, DRDO on 4th and 5th September 2019
10.	Served as an organizer of a National Seminar on Recent Advances in Materials Science in GGDSD College, Sector-32, Chandigarh on 30th September 2022 organized by Department of Physics, GGDSD College, Sector-32, Chandigarh
11.	Served as Sub- Editor of Science section in Campus Reporter of session 2013-14, Panjab University, Chandigarh
12.	Served as a Student Editor in the Department of Physics, Wall Magazine in the year 2008-09.
13.	Served as class representative (C. R) in M Tech (Nanoscience and Nanotechnology) 1st year
14.	Served as a volunteer in Youth United, NGO and Nehru Yuva Kendra, Chandigarh from 2012-2014