Curriculum Vitae

Dr. Ritambhara Jangir

Assistant Professor

Department of Chemistry

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Google Scholar Profile link:

https://scholar.google.co.in/citations?user=yvpJeKcAAAAJ&hl=en

Date of Birth: November 2, 1987

Marital Status: Married

EDUCATION

2016	Postdoctoral Research Associate, Indian Institute of Technology-Bombay, Mumbai, India. Project: Functional Model for Copper Amine Oxidase Enzyme (PI: Professor R. Murugavel).
2010-2016	Ph. D. Chemistry (Entitled "Inorganic, Bio-inorganic and Materital Chemistry Aspects of Tetraisopropylbenzidine Derivatives") Indian Institute of Technology-Bombay, Mumbai, India Thesis Supervisor: Professor R. Murugavel
2008-2010	M.Sc. Chemistry, Specialization in Physical Chemistry University of Rajasthan, Jaipur, India
2005-2008	B. Sc. Chemistry, Botany and Zoology University of Rajasthan, Jaipur, India

RESEARCH INTEREST

- Development of highly porous hybrid materials based on Covalent-organic Frameworks (COFs), Metal-organic Frameworks (MOFs), Polyoxometalates and Organophosphates.

- Fabrication of thin membranes using COFs and MOFs for waste water treatment.
- Biomimicking of enzymes.
- Crystal Engineering.
- Development of metal complexes (organometallic and transition metal complexes) as catalysts for various organic synthesis reactions.
- Designing new composite materials for various applications.

CURRENT POSITION

Working as an Assistant Professor at Sardar Vallabhbhai National Institute of Technology, Surat, since Sept 2019.

LIST OF PUBLICATIONS

❖ Pardiwala, S. Kumar, **R. Jangir*** "Insights into Organic–inorganic Hybrid Molecular Materials: Organoimido Functionalized Polyoxomolybdates" *Dalton Trans.*, **2022**, *51*, 4945-4975 **(Impact Factor: 4.39).**

❖ K. Maru, S. Kalla, **R. Jangir*** "Dye Contaminated Waste Water Treatment through Metal-Organic Frameworks (MOFs) based Materials" *New Journal of Chemistry*, **2022**, *46*, 3054-3072 **(Impact Factor: 3.59).**

❖ S. Kumar, V.V. Kulkarni, **R. Jangir*** "Covalent-Organic Framework Composites: A Review Report on Synthesis Methods" *ChemistrySelect*, **2021**, 6 (41), 11201-11223 **(Impact Factor: 2.10).**

❖ S. Kumar, B. Z. Dholakiya, **R. Jangir*** "Role of organometallic complexes in olefin polymerization: a review report" *Journal of Organometallic Chemistry*, **2021**, 953, 122066 **(Impact Factor: 2.36).**

❖ **R. Jangir**, M. Palaniandavar, and R. Murugavel* "Genesis and Catalytic Activity of a Novel Functional Model for Copper Amine Oxidase Enzyme" *ACS Catalysis*, **2019**, 9, 10940-10950 (**Impact Factor: 12.35**).

- **R. Jangir**, Dhananjayan Kaleeswaran, and R. Murugavel* "2,2',6,6'-Tetraisopropylbenzidine Based Sterically Encumbered Ditopic C_2-Symmetric Ligand Systems and Supramolecular Building Blocks" *ChemistrySelect*, **2018**, 3, 8082–8094 (**Impact Factor: 2.10).**
- **R. Jangir**, A. C. Kalita, Dhananjayan Kaleeswaran, Sandeep K. Gupta,and R. Murugavel* "A [4++2] Condensation Strategy to Imine-Linked Single-Crystalline Zeolite-Like Zinc Phosphate Frameworks" *Chem. Eur. J.* **2018**, *24*, 6178 – 6190 (**Impact Factor: 5.23)**.
- **R. Jangir**, R. Antony and R. Murugavel* "New sterically encumbered arylimido hexamolybdates for organic oxidation reactions" *New J. Chem.* **2016**, *40*, 1004-1013 (**Impact Factor: 3.59)**.
- A. C. Kalita, N. Gogoi, **R. Jangir**, S. Kuppuswamy, M. G. Walawalkar and R. Murugavel* "Ab Initio Chemical Synthesis of Designer Metal Phosphate Frameworks at Ambient Conditions" *Inorg. Chem.* **2014**, *53*, 8959−8969 (**Impact Factor: 5.1)**.

RESEARCH PROJECTS

SVNIT Seed Grant (10 Lakhs), Project No.: 2020-21/seed money/25, Role: Principal Investigator, Duration: 2020-2022, Status: Ongoing

SERB-SRG (28.5 Lakhs), Project No.: SRG/2021/000020, Role: Principal Investigator, Duration:2021-2023, Status: Ongoing

GUJCOST (25.2 Lakhs), Project No. GUCOST/STI/2021-22/3877, Role: Principal Investigator, Duration: 2022-2025, Status: Ongoing

CONFERENCES AND WORKSHOPS ORGANISED

- National Conference on "Environmental Pollution and its Control-2018" held on 9-10th March, 2018 at GEC Banswara, Rajasthan [Role: Convener]
- One weak STTP on "Advanced Analytical Techniques in Chemistry (AATC-2020)" Organized at Department of Chemistry, SVNIT Surat [Role: Coordinator]

- Two days “Virtual International Conference on Physical Sciences (ICPS-2021)” Organized at Department of Chemistry, SVNIT Surat [Role: Organizing Secretary]

- ~~One weak~~ STTP on “Organic-Inorganic Hybrid Materials (OIHM-2021)” Organized at Department of Chemistry, SVNIT Surat [Role: Coordinator]

CONFERENCES-INTERNATIONAL ATTENDED

- Presented poster titled as “*Coordination Polymers formed by Ditopic N,N' Donor Schiff base Ligands*” at “5th Asian Conference on Coordination Chemistry (ACCC5)” being held at Hong Kong, July **2015**.

CONFERENCES AND WORKSHOPS-NATIONAL ATTENDED

- Presented poster titled “*Synthesis and Characterization of Hybrid Polyoxometalates and Schiff-base building blocks of 2,2',6,6'-Tetraisopropylbenzidine*” at In-house Symposium, Department of Chemistry, IIT Bombay, Mumbai, India; September, **2012**.
- Presented poster titled “*Synthesis of organoimido derivatives of polyoxometalates*” at In-house Symposium, Department of Chemistry, IIT Bombay, Mumbai, India; September, **2013**.
- Presented poster titled “*1-D and 2-D Coordination Polymers formed by Ditopic N,N'-Schiff-base Donor Ligands*” at Chemical Frontiers (CF), Goa, India; August, **2014**.
- Volunteered and attended “Research Scholar and Alumni symposium-2014” at IIT Bombay, Mumbai, India; March, **2014**.
- Volunteered and attended “16th CRSI National Symposium in Chemistry” at IIT Bombay, Mumbai, India; Feb., **2014**.
- Oral presentation titled “*Genesis and Catalytic Activity of a Novel Functional Model for Copper Amine Oxidase Enzyme*” at In-house Symposium, Department of Chemistry, IIT Bombay, Mumbai, India; April, **2016**.
- Volunteered National Conference on “Acquisition of Vocational Communication Competence” held on 23rd Feb, 2018 at GEC Banswara.

- Served as a Convener of a National Conference on "Environmental Pollution and its Control-2018" held on 9-10th March, **2018** at GEC Banswara.
- Presented paper entitled "Sterically Encumbered Ligands in Coordination Chemistry" in the National Conference on "Environmental Pollution and its Control-2018" held on 9-10th March, **2018** at GEC Banswara.
- Attended Faculty Induction Program of NPIU under TEQIP-III at Indian Institute of Technology, Ganghi Nagar from 05-02-2018 to 09-02-2018.
- Worked as a Jury member in awarding the best presentations at IC^2S^2TD-2020 organized by the Applied Chemistry Department, S. V. National Institute of Technology, Surat, Gujarat, during 1-3 Dec, 2020.
- Attended faculty induction programme "Pedagogy and Research Methodology" from 18/11/2019 to 22/11/2019 at SVNIT, Surat, India.
- Acted as chairman in international conference on "Molecules to Materials (MTM – 2021)" from 17/12/2021 to 18/12/2021 at SVNIT, Surat, India.
- Attended Virtual International Symposium on "Aspiring Safer And Healthier Workplaces" (SASHW-2021)" from 22/10/2021 to 23/10/2021at SVNIT, Surat, India.
- Attended Virtual International Symposium on "Recent Advances in Catalysis Science & Engineering (RACSE)" from 26/10/2021 to 28/10/2021 at National Institute of Technology (NIT) Jamshedpur.

SKILLS AND EXPERTISE

Synthetic Chemistry:

- Performing air and moisture sensitive reactions using Schlenk line and Glove box.
- Design and synthesis of small organic ligands.
- Synthesis of porous MOFs and COFs under solvothermal and microwave conditions.

Analysis - Characterization:

- X-ray data collection, cell indexing, structure solution and refinement.
- NMR spectroscopy (^1H, ^{13}C and ^{31}P).
- Gas sorption data collection, analysis of isotherms (BET and Langmuir) and pose size distribution.

- Absorption and emission spectroscopy.
- Other: TGA, DSC, FT-IR spectroscopy and Mass spectrometry.

Instrument Handling:

- Single crystal X-ray diffractometer (Ragaku, Japan)
- Q-TOF micromass (YA-105) and Bruker Maxis Impact spectrometers
- 400 & 500 MHz Bruker and 400 MHz Varian NMR spectrometers
- UV-Vis spectrophotometer (Varian)
- UV-3600 Plus UV-VIS-NIR Spectrophotometer (Shimadzu)
- Fluorescence spectrophotometer (Varian & Perkin Elmer)
- FT-IR spectrometer (Perkin Elmer)
- Thermogravmetric analysis (Perkin Elmer)
- Microwave reactor (CEM Discover)

Computer Skills:

- Special Software: Diamond, Crystal Clear, Crystal Structure (Rigaku), Shelxtl, WinGX, EndNote.
- General software: Microsoft Office, Origin, Adobe Photoshop, Adobe Illustrator, ChemDraw.
- Operating System: Windows XP/7/8/10.

Language Skills: English (fluent) and Hindi (fluent).

TEACHING EXPERIENCE

- Taught CH-117 (undergraduate course at IITB) for three semesters.
- Taught CH-103 (undergraduate course at IITB) for one semester.
- Worked as Guest Faculty for one semester (July 2016-Dec 2016) at Materials Research Centre, Malaviya National Institute of Technology, Jaipur (taught materials science courses to M.Tech students).
- Taught Engineering Chemistry (CY-102) as Assistant Professor to B.Tech-Ist year students at Government Engineering College, Banswara-Rajasthan (Jan 2018 to October 2018).
- Taught B.Sc. (Chemistry Hons.), B.Tech and M.Sc. (Chemistry) students at Mody University Laxmangarh, Sikar (August 2018-Sept 2019).

- Taught various UG courses (Applied Chemistry, Branch Specific Course-I, PHYSICAL CHEMISTRY-II, Computers in Chemistry, States and Properties of Matter, Chemistry Lab-I, Solid State Chemistry and Spectroscopy, Inorganic Chemistry-I, Organic Chemistry-I, Inorganic Chemistry-III, Branch Specific Course-II, *etc*.) at SVNIT Surat.
- Taught various PG courses (Thermal Radio and electrochemical Techniques, Advanced Physical Chemistry-I, Advanced Inorganic Chemistry-I, Spectroscopic Methods-II, *etc.*) SVNIT Surat.

SCHOLARSHIPS AND AWARDS

- CSIR- Junior (All India Rank -58) and Senior Research Fellow, 2010-2015.
- Graduate Aptitude Test for Engineering (GATE)-2010, All India Rank-520.
- All India 18th rank in M. Sc. Chemistry Pre Entry Test-2008, University of Rajasthan-Jaipur, India.
- Ist rank in undergraduate course in all over the college (SNKP Govt. College, Neem ka Thana).
- Ist rank in 10+2 (Govt. School, Neem ka Thana).

RESEARCH GUIDED

- M.Sc. Dissertation entitled “A Study of Interactions in Co-crystals” completed by Ms. Kiran Chaudhary under the guidance of Dr. Ritambhara Jangir in 2019.
- M.Sc. Dissertation entitled “Synthesis of 4,4’-bptz based MOFs and Coordination Polymers for CO_2 Adsorption” completed by Mr. Omshankar Nagar under the guidance of Dr. Ritambhara Jangir in 2021.

RESEARCH GROUP

	Name : Shubham Kumar PhD Category : FIR Qualification : B. Sc. Honours from Delhi University (2016), M. Sc from Gurukula Kangri Vishwavidyalaya Haridwar (2018), Gate qualified. Research Interest: Synthesis of COFs Composites and their applications PhD Status : Ongoing
	Name : Maru Ketan Keshavbhai PhD Category : FIR Qualification : B.Sc.-Chemistry (Navyug science college, VNSGU-SURAT), M.Sc. - Organic chemistry (Sir PT science college, VNSGU-SURAT). CSIR NET-JRF (2016), GATE (2017). Research Interest: Synthesis of Metal-organic Frameworks (MOFs) and their applications. PhD Status : Ongoing
	Name : Pardiwala Ankita Jitendrabhai PhD Category : FSF Qualification : B.Sc.-Chemistry (Sir PT science college, VNSGU-SURAT), M.Sc. - Organic chemistry (Sir PT science college, VNSGU-SURAT). Research Interest: Synthesis of hybrid Polyoxometalates (POMs) materials and their applications. PhD Status : Ongoing
	Name : Divya Current Position :Junior Research Fellow (JRF) Qualification : B.Sc.-Chemistry (SPRC, PG College-Baghpat, Meerut), M.Sc. - Organic chemistry (CCSU Meerut), Gate (2021) Research Interest: Dye Separation from Waste Water through Molecular Sieving Membranes of Covalent-Organic Frameworks.