

CURRICULUM VITAE

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Current Affiliation:

Associate Fellow June 2023-present
The Energy and Resources Institute, New Delhi, India

Research Associate January 2021- June 2023
The Energy and Resources Institute, New Delhi, India
The research work is funded by Department of Biotechnology, Government of India. The title of the project is “*Development of Value-Added Biocommodities - Production of acrylate polymers/bioplastic from glycerol*” which involves the conversion of glycerol obtained from biodiesel process (esterification or trans-esterification) into acrylic acid via allyl alcohol routes.

Past Affiliations:

• **Junior Research Fellow and Senior Research Fellow** August 14 to December 16
NIIT University, Neemrana, Rajasthan-301705, India
The research work is funded by Department of Science and Technology, Government of India. The title of the project was “*Selective Hydrogenation of CO₂ by Ionic Liquid Supported Ru on TiO₂*”. A number of ionic liquids and supported nanocatalysts were synthesized and followed by their characterization. Further applied for the hydrogenation of CO₂ to obtain platform molecule like formic acid.

• **Visiting Assistant Professor** July 13 to July 14
Vidyalankar Institute of Technology, University of Mumbai, Mumbai, Maharashtra-400037, India
I conducted Applied Chemistry classes of B.Tech first year students for one year, apart from that I was part of examination duty.

Educational qualifications:

Examination	Passing year	Board/University	Percentage/CGP
Ph.D. Chemistry	2019	NIIT University	
M.Sc. Chemistry	2011	Sub-centre Ratnagiri, University of Mumbai	61.60%
B.Sc. Chemistry	2008	B. N. Bandodkar College of Science, University of Mumbai	62.50%
H.S.C. Science	2005	Maharashtra State Board	63.67%
S.S.C.	2003	Maharashtra State Board	67.46%

Publications:

- **Research Articles:**
- 1) **Praveenkumar Ramprakash Upadhyay**, Prashant Gautam, Vivek Srivastava: *Magnetic organic-silica hybrid supported Pt nanoparticles for carbon sequestration reaction*. Chemical Papers **2019**, 73(9); DOI:10.1007/s11696-019-00773-2
 - 2) Prashant Gautam, **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Selective Hydrogenation of CO₂ to Formic Acid over Alumina-Supported Ru Nanoparticles with Multifunctional Ionic Liquid*. Catalysis Letters **2019**, 149(6); DOI:10.1007/s10562-019-02773-z
 - 3) **Praveenkumar Ramprakash Upadhyay**, Prashant Gautam, Vivek Srivastava: *Magnetic Organic-Inorganic Hybrid Nano System Anchored Platinum Nanoparticles for Carbon Sequestration Reaction*. Letters in Organic Chemistry **2019**, 16(1); DOI:10.2174/1570178616666190228141754
 - 4) Prashant Gautam, **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Preparation, Characterization, and Application of Ru-Silica-Ionic Liquid System for CO₂ Hydrogenation Reaction*. Letters in Organic Chemistry **2019**, 16(1); DOI:10.2174/1570178616666190429150333
 - 5) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Ionic Liquid Mediated In Situ Synthesis of Ru Nanoparticles for CO₂ Hydrogenation Reaction*. Catalysis Letters **2017**; DOI:10.1007/s10562-017-1995-7

- 6) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Selective Hydrogenation of CO to methane over TiO₂-supported Ruthenium nanoparticles*. *Materials Today: Proceedings* **2016**; 3(10), DOI:10.1016/j.matpr.2016.11.079
- 7) **Praveenkumar Upadhyay**, Vivek Srivastava: *Carbon Sequestration: Hydrogenation of CO₂ to Formic Acid*. *Present Environment and Sustainable Development* **2016**; 10(2), DOI:10.1515/pesd-2016-0022
- 8) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Clays: An Encouraging Catalytic Support*. *Current Catalysis* **2016**, 5(3); DOI:10.2174/2211544705666160624082343
- 9) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Selective Hydrogenation of CO₂ Using Ruthenium Nanoparticles Intercalated Montmorillonite Clay*. *Letters in Organic Chemistry* **2016**, 13(6); DOI: 10.2174/1570178613666160815095733
- 10) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Silica Tethered Ruthenium Catalyst for the Hydrogenation of CO₂ Gas*. *Letters in Organic Chemistry* **2016**, 13(5); DOI: 10.2174/1570178613666160303002129
- 11) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Titanium dioxide supported ruthenium nanoparticles for carbon sequestration reaction*. *Nanosystems: Physics, Chemistry, Mathematics* **2016**; DOI:10.17586/2220-8054-2016-7-3-513-517
- 12) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Heterogeneous Silica Tethered Ruthenium Catalysts for Carbon Sequestration Reaction*. *Catalysis Letters* **2016**; DOI:10.1007/s10562-016-1772-z
- 13) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Selective hydrogenation of CO₂ gas to formic acid over nanostructured Ru-TiO₂ catalysts*. *RSC Advances* **2016**; 6(48); DOI:10.1039/C6RA03660K
- 14) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava: *Recyclable graphene supported palladium nanocomposites for Suzuki coupling reaction*. *Green Processing and Synthesis* **2016**; 5(2); DOI:10.1515/gps-2015-0112
- 15) **Praveenkumar Upadhyay**, Vivek Srivastava: *Synthesis of Monometallic Ru/TiO₂ Catalysts and Selective Hydrogenation of CO₂ to Formic Acid in Ionic Liquid*. *Catalysis Letters* **2015**; 146(1); DOI:10.1007/s10562-015-1654-9
- 16) **Praveenkumar Upadhyay**, Vivek Srivastava: *Synthesis of Supported Ru-Nanoparticles for Selective Hydrogenation of Carbonyl Compounds*. *Letters in Organic Chemistry* **2015**; 12(8); DOI:10.2174/157017861208150826112807
- 17) **Praveenkumar Upadhyay**, Vivek Srivastava: *Ruthenium nanoparticle-intercalated montmorillonite clay for solvent-free alkene hydrogenation reaction*. *RSC Advances* **2015**; 5(1); DOI:10.1039/C4RA12324G

• **Book Chapters:**

- 1) **Praveenkumar Ramprakash Upadhyay**, Piyali Das, “*Catalytic Materials for Green Diesel Production*” In: Aslam., M., Maktedar, S.S., Sarma, A.K. (Eds), “*An Alternative to Biodiesel and Petrodiesel*” under Publication by Springer Nature, Singapore, **2022**, https://doi.org/10.1007/978-981-19-2235-0_3
- 2) **Praveenkumar Upadhyay**, Vivek Srivastava: *Synthesis of Ionic Liquid Mediated Nanoparticle Synthesis*. *Nanomaterials Physical, Chemical, and Biological Applications*, Edited by Nandakumar Kalarikkal, Sabu Thomas, Obey Koshy, Apple Academic CRC Press, **2017**, ISBN:9781771884624
- 3) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava, *Synthesis and Application of Pd-Graphene Nano-Composite*. *Research and Innovation in Carbon Nanotube-Based Composites*, Edited by Dr. Brahim Attaf, The World Academic Publishing Co. Ltd., **2015**, ISBN:978-0-9889190-1-3
- 4) **Praveenkumar Ramprakash Upadhyay**, Vivek Srivastava, *Titanium Dioxide Supported Ruthenium Nanoparticles for Carbon Sequestration Reaction*. *Application of Nanostructured Materials for Energy and Environmental Technology*, Edited by V Rajendran, Bloomsbury Publication, India, **2015**, pp. 265-270, ISBN:9789385436918

• **Conference Proceedings Articles:**

- 1) **Praveenkumar Upadhyay**, Vivek Srivastava: *Synthesis of Ruthenium Metal Doped Titanium Dioxide Nanoparticles for CO₂ Hydrogenation*. 5TH NATIONAL CONFERENCE ON THERMOPHYSICAL PROPERTIES: (NCTP-09); 04/2016, DOI:10.1063/1.4945194
- 2) Vivek Srivastava, **Praveenkumar Upadhyay**: *Monometallic TiO₂-Ru Catalyst for the Selective Hydrogenation of CO₂ to Formic Acid*. *Proceedings of the International Conference on Nanotechnology for Better Living*; 01/2016, DOI:10.3850/978-981-09-7519-7nbl16-rps-40

Conferences Attended:

- 1) **Praveenkumar Upadhyay**, Vivek Srivastava, “*Selective Hydrogenation of CO to Methane Over TiO₂-Supported Ruthenium Nanoparticles*” International Conference on Materials Research and Applications (ICMRA-2016), March 11-13 **2016** at CMR Technical Campus, Hyderabad, Telangana, India.
- 2) **Praveenkumar Upadhyay**, Vivek Srivastava, “*Carbon Sequestration by Task Specific ILs Mediated TiO₂*

Supported Ruthenium Nanoparticles” International Conference on Nanoscience, Nanotechnology & Advanced Materials (NANOS 2015), December 14-17 **2015** at GITAM University, Visakhapatnam, India.

- 3) **Praveenkumar Upadhyay**, Vivek Srivastava, “*Titanium Dioxide Supported Ruthenium Nanoparticles for Carbon Sequestration Reaction*” International Conference on Nanomaterials and Nanotechnology (NANO 2015), December 07-10 **2015** at Centre for Nanoscience and Technology K.S.R. College of Technology, Tiruchengode, Tamil Nadu, India.
- 4) **Praveenkumar Upadhyay**, Vivek Srivastava, “*Synthesis of Ruthenium Metal Doped Titanium Dioxide Nanoparticles for CO₂ Hydrogenation*” Second International Conference on Emerging Technologies: Micro to Nano (ETMN 2015), October 24-25 **2015** at Manipal University, Jaipur, India.
- 5) **Praveenkumar Upadhyay**, Vivek Srivastava, “*In Situ Synthesis of Ru Nanoparticles to Catalyze Hydrogenation of CO₂ to Formic acid*” 17th CRSI National Symposium in Chemistry and 9th CRSI-RSC Symposium February 06-08, **2015** at NCL Pune, Maharashtra, India.
- 6) **Praveenkumar Upadhyay**, Vivek Srivastava, “*Ruthenium Nanoparticles Exchanged Montmorillonite Clay Catalyzed Selective Alkene Hydrogenation*” Second International Conference on Nanostructured Materials and Nanocomposites (ICNM 2014), December 19-21 **2014** at Mahatma Gandhi University, Kottayam, Kerala, India.

Workshops and Training:

- 1) **SHORT TERM QIP COURSE ON TEM and HRTEM in Materials Characterization** (TEM/HRTEM-2017) September 18th-22nd, 2017, Department of Materials Science & Eng., **Indian Institute of Technology Kanpur**.
- 2) In-plant training in **Urea Plant** for 21 days at **Rashtriya Chemicals & Fertilizers Limited** (NFL, a Schedule ‘A’ & a Mini Ratna (Category-1) Company), Chembur, Mumbai-400074, (1st Nov. 2010 to 21st Nov. 2010).

Awards and Achievements:

- 1) Awarded “**PhD Scholarship**” (25K per month) by NIIT University from August 2015- February 2019.
- 2) Recipient of “**NANO Trip-China**” 2017 an academic forum for international graduate students and got scholarship of USD \$600 from the organizer National Centre for Nanoscience and Technology, China.
- 3) Awarded with “**Certificate of Excellence**” 2017 by NIIT University for my contribution toward community connect program during my PhD.

Extracurricular activities:

- Participated as a **Photography Club member** during my PhD at NIIT University.

Area of interests:

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| • Ionic Liquids | • Organometallics | • Carbon Sequestration |
| • Organic Synthesis | • Nanocatalysts | • Renewable fuels |

Personal information:

- Languages known: English, Hindi, and Marathi
- Hobbies: Nature Photography, Travelling, Gardening, Painting, and Gym