



Curriculum Vitae

Academic Positions Held

- Professor, IIT (ISM) Dhanbad (*Apr 2026 – Present*)
- Associate Professor, IIT (ISM) Dhanbad (*Apr 2021 – Apr 2026*)
- Assistant Professor (PB4), IIT (ISM) Dhanbad (*Jul 2016 – Apr 2021*)
- Assistant Professor (Grade I), IIT (ISM) Dhanbad (*Jul 2013 – Jul 2016*)
- Professor for Special Appointment, Center for Biomimetic Systems, Ewha Womans University, South Korea (*Apr 2013 – Jun 2013*)
- World Class University Program Postdoctoral Fellow, Ewha Womans University, South Korea (*Apr 2012 – March 2013*)
- MEXT Postdoctoral Fellow, Institute for Molecular Science, Japan (*Dec 2008 – Mar 2012*)

Fellowships and Awards

- World Class University (WCU) Fellowship (*2012–2013*)
- MEXT Postdoctoral Fellow, Japan (*2008–2012*)
- Dr. Radhanath Rath Memorial Scholarships (*1999–2003*)
- National Merit Scholarship (*2002*)

Overseas Visiting Professorships

- Visiting Professor, Kyushu University, Japan (*June–July 2026*)
- Visiting Professor, Lund University, Sweden (*May–June 2026*)
- Visiting Professor, Lund University, Sweden (*May–June 2025*)



- Visiting Professor, Lund University, Sweden (*June 2024*)
- Visiting Professor, Ewha Womans University, South Korea (*December 2023*)
- Visiting Professor, Lund University, Sweden (*May–June 2023*)

Professional Memberships

- American Chemical Society (ACS)
- Chemical Research Society of India (CRSI)
- Indian Council of Chemists (ICC)
- Japan Society for Coordination Chemistry (JSCC)
- Odisha Chemical Society (OCS)

Editorial Roles

- **Royal Society of Chemistry (RSC):** Guest Editor for the RSC Themed Collection titled “*Centenary of IIT(ISM): Innovative Molecular, Catalytic and Polymeric Materials for a Sustainable Future*”, covering the journals: Green Chemistry; Dalton Transactions; Physical Chemistry Chemical Physics (PCCP); Catalysis Science & Technology; Organic & Biomolecular Chemistry; Sustainable Energy and Fuels; and Journal of Materials Chemistry C.
- **Wiley-VCH:** Guest Editor for the Special Issue commemorating the 100-year celebration of IIT (ISM) Dhanbad in *Chemistry – An Asian Journal*, *physica status solidi (RRL) – Rapid Research Letters (pss RRL)* and *Annalen der Physik (AdP)*.

R&D Projects (Ongoing and Completed)

- JST-LOTUS: Green H₂ via NH₃ oxidation, Japan, 2026–2027
- STINT-India Initiation Grant: Electrocatalytic/Photoelectrocatalytic proton & CO₂ reduction, Sweden, 2024–2027
- STINT-India Initiation Grant: Electrocatalytic proton & CO₂ reduction, Sweden, 2023–2024
- CSIR EMR: Molecular catalysts for CO₂ reduction, water oxidation/reduction, 2021–2024

- DST-SERB EMR: H₂ evolution via 1st-row metal complexes, 2017–2020
- TEQIP III: BPI metal complexes for proton reduction, 2018–2020
- DST-SERB: Water splitting by Ru-polypyridyl complexes, 2014–2017
- NAD⁺/NADH model ligand-metal complexes, IIT(ISM) Dhanbad, 2013–2016

Administrative Experience

External

- International Expert and Member, Ph.D. Thesis Evaluation Committee, Lund University, Sweden
- External Ph.D. Thesis Examiner for IIT Madras, IISER Tirupati, NERIST, NEIST, Tezpur University, etc.
- Expert Member, CSIR Research Fellow Evaluation Committees (IIT Hyderabad, CSIR-CIMFR, NIT Rourkela, etc.)
- External Subject Expert for Guest Faculty Selection, Government College of Engineering, Kalahandi, Odisha
- Reviewer for journals published by ACS, RSC, Wiley, Elsevier, Springer Nature, and Taylor & Francis

Institute Level

- Professor-in-Charge, Central Library, IIT (ISM) Dhanbad (*Jul 2026–Present*)
- Head, Department of Chemistry and Chemical Biology (*Jan 2026–Jun 2026*)
- Alumni Coordinator (*Jun 2024–Jan 2026*)
- Warden, JASPER Hostel (*Jul 2020–Jul 2022*)
- Member, Dean's Advisory Council (Academic) (*2019–2020*)
- Member, Training & Placement Cell (*2016–2017*)
- Member, International Relations & Alumni Affairs (IRAA) (*2014–2018*)
- Faculty Coordinator, CONCETTO (*2014–2017*)

Department Level

- Chairman, Department Faculty Selection Committee (DFSC) (*Jan 2026–Present*)
- Coordinator, BS–MS Programme (*Jun 2024–Present*)

- Member, Department Faculty Selection Committee (DFSC) (*Nov 2024–Dec 2025*)
- Member, Department Undergraduate Committee (DUGC) (*Oct 2022–Oct 2024*)
- Training & Placement In-charge (*2017–2026*)
- Convenor, IIT (ISM) Chemical Society (*2015–2026*)
- Convenor & Chairman, Moderation Board for Postgraduate Programmes (*2016–2018*)
- Coordinator & Member, Board of Courses and Studies (*2015*)
- M.Sc. Course Coordinator (*2014–2017*)
- Seminar In-charge (*2014–2017*)

Ph.D. Students Awarded (08)

Sl.	Name	Thesis Title	Year	Role	Current Position
1	Jully Patel	Ru(II)-Polypyridyl Water Oxidation	2017	Guide	Asst Prof, Lebanon Valley College, USA
2	Karunamay Majee	Proton Reduction by 1st-row Metals	2018	Guide	Asst Prof, Galgotias Univ, India
3	Ejaz Ahmad	mer-[M(Tpy) ₂] ²⁺ Proton Reduction	2020	Guide	Asst Prof, JP Univ, India
4	Surabhi Rai	Co & Cu Proton/Water Reduction	2020	Guide	Postdoc, UC Davis, USA
5	Aditi Vatsa	Water Oxidation & Formic Acid Dehydrogenation	2021	Guide	R&D Chemist, SAM ENVIRO
6	Manaswini Raj	Co, Cu, Mn Catalysts for Proton Reduction	2022	Guide	Asst Prof, Presidency Univ
7	Aman Mishra	CO ₂ Hydrogenation & HCOOH Dehydrogenation	2024	Guide	Postdoc, Lund Univ, Sweden
8	Sk Samim Akhter	Electro-catalytic CO ₂ Reduction	2024	Guide	Postdoc, Kumoh National Institute, Korea

M.Phil. Student Awarded

Mr. Sunil Kumar, 2014, "Mimicking of NAD⁺/NADH Model Function in Transition Metal Complexes"

Postgraduate Students Supervised: 37

Outreach Programmes

- Coordinator, **RAMSE-2025**: International Symposium, IIT(ISM) Dhanbad (*13 Dec 2025*)
- Coordinator, **RAMSE-2018**: National Conference, IIT(ISM) Dhanbad (*3–5 Mar 2018*)
- Coordinator, X-ray Crystallography and Electrochemical Workshops for UG/PG Students, IIT(ISM) Dhanbad (*11 Dec 2015*)
- Coordinator, International Travel Grants and Invited Seminar Programme, IIT(ISM) Dhanbad (*16–18 Sep 2017*)

Key Invited Lectures Abroad (Selected)

- **Selective CO₂-to-CO Conversion with Earth-Abundant Molecular Catalysts**
ICR Kyoto–IRCELS Seminar, Kyoto University, Japan (*15 July 2026*)
- **Earth-Abundant Cobalt and Copper Molecular Catalysts for CO₂-to-CO Electrocatalysis**
University of Paris-Saclay, France (*9 June 2026*)
- **Proton vs. CO₂ Selectivity in Cu(II) and Co(II) Electroreduction**
Lund University, Sweden (*2025*)
- **Cu(II)-Driven CO₂ Electroreduction and Proton Competition**
University of Copenhagen, Denmark (*2025*)
- **Homogeneous Catalysts for HCOOH and CO₂ Activation**
University of Southern Denmark, Odense, Denmark (*2024*)
- **Molecular Catalysis for Energy via Small Molecule Activation**
Ewha Womans University, Seoul, South Korea (*2023*)
- **Half-Sandwich and Sandwich-Type Molecular Catalysts: Design and Mechanism**
Lund University, Sweden (*2023*)
- **Plenary Lecture: Electro-Catalytic H₂ Evolution by Polypyridyl Copper Complex**
ICPRS, St. Petersburg, Russia (*2019*)
- **Catalytic Proton Reduction via Pendant Base Effects**
67th JSCC, Hokkaido University, Japan (*2017*)

Selected Publications & Patents

Journal Cover Articles

1. Padhi, S. K.* et al., **Inside Back Cover**, Chem. Commun., 2026, 62, 5991–5991.
2. Padhi, S. K.* et al., **Back Cover**, Dalton Trans., 2026, 55, 7415–7416.
3. Padhi, S. K.* et al., **Back Cover**, Dalton Trans., 2025, 54, 16993–16994.
4. Padhi, S. K.* et al., **Inside Back Cover**, Catal. Sci. Technol., 2025, 15, 7251.
5. Padhi, S. K.* et al., **Inside Back Cover**, Dalton Trans., 2025, 54, 14227–14227.
6. Mishra, A. et al., **Front Cover**, Eur. J. Inorg. Chem., 2025, 28(21), e70000.
7. Akhter, S. Sk. et al., **Cover Feature**, Chem. Eur. J., 2024, 30, e202403321.

Selected Publications from IIT(ISM) Dhanbad as corresponding author

1. Padhi, S. K.* et al., Chem. Commun., 2026, 62, 5880–5884. (**Inside Back Cover**)
2. Padhi, S. K.* et al., Dalton Trans., 2026, 55, 7111-7126.. (**Back Cover**)
3. Padhi, S. K.* et al., Dalton Trans., 2025, 54, 16682–16696. (**Back Cover & HOT Article**)
4. Padhi, S. K.* et al., Catal. Sci. Technol., 2025, 15, 7043–7058. (**Inside Back Cover**)
5. Padhi, S. K.* et al., Dalton Trans., 2025, 54, 13894–13908. (**HOT Article & Inside Back Cover**)
6. Padhi, S. K.* et al., Dalton Trans., 2025, 54, 14227–14227. (**Inside Back Cover**)
7. Padhi, S. K.* et al., Dalton Trans., 2025, 54, 16993–16994. (**Back Cover**)
8. Padhi, S. K.* et al., Eur. J. Inorg. Chem., 2025, 28(21), e202500138. (**Front Cover**)
9. Padhi, S. K.* et al., Chem. Eur. J., 2024, 30, e202487004. (**Cover Feature**)
10. Padhi, S. K.* et al., Dalton Trans., 2024, 53, 1209–1220.
11. Padhi, S. K.* et al., Dalton Trans., 2023, 52, 17797–17809.
12. Padhi, S. K.* et al., Inorg. Chem., 2023, 62, 10993–11008.

13. Padhi, S. K.* et al., Eur. J. Inorg. Chem., 2022, e202200238.
14. Padhi, S. K.* et al., Eur. J. Inorg. Chem., 2022, e202200206.
15. Padhi, S. K.* et al., Inorg. Chem., 2020, 59, 7810–7821.
16. Padhi, S. K.* et al., Electrochim. Acta, 2020, 364, 137277.
17. Padhi, S. K.* et al., Electrochim. Acta, 2020, 354, 136614.
18. Padhi, S. K.* et al., Electrochim. Acta, 2020, 340, 136000.
19. Padhi, S. K.* et al., Dalton Trans., 2017, 46, 14869–14879.
20. Padhi, S. K.* et al., Eur. J. Inorg. Chem., 2017, 3409–3418.
21. Padhi, S. K.* et al., Phys. Chem. Chem. Phys., 2016, 18, 21640–21650.
22. Padhi, S. K.* et al., Dalton Trans., 2015, 44, 920–923.

Patents

Granted Patents

- Roy, T.; Natarajan, M. T.; Jana, S.; Das, P.; Padhi, S. K.* *A Fluoro-Bridged Mixed-Valence Dinuclear Copper Complex: Synthesis, Characterization, and Use in Oxidation Reactions*, Indian Patent Application No. 202531111630, 2025. **(Granted)**
- Natarajan, M. T.; Padhi, S. K.* *Catalyst for Green Hydrogen Generation from Ammonia*, Indian Patent Application No. 202431070872, 2024. **(Granted)**
- Mishra, A.; Padhi, S. K.* *Hydrogenation of Bicarbonate and CO₂ Captured from Air*, Indian Patent Application No. 202431048509, 2024. **(Granted)**
- Tanaka, K.; Padhi, S. K. *Ruthenium Complexes and Their Use for Preparation of Reduced Organic Compounds*, Jpn. Kokai Tokkyo Koho, JP 2011246412 A, 08 Dec 2011. **(Granted)**

Published Patent Applications

- Mishra, A.; Padhi, S. K.* *A Process for the Hydrogenation of Carbon Dioxide (CO₂) to Methanol*, Indian Patent Application No. 202431048508, 2024. **(Published)**