

Curriculum Vitae

Sagar Pal

Professor and Head, Department of Chemistry & Chemical Biology
Tata Steel Chair Professor
IIT(ISM), Dhanbad
Jharkhand, India-826004.

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Personal Details

Date of Birth: 10th June 1977
Mother's name: Renuka Panda Pal.
Father's Name: Late Shyamaapada Pal.
Permanent Address: Vill+P.O. – Bahurupa, Dist. – Paschim Medinipur, West Bengal, India - 721437.
Official address: Sagar Pal, PhD
Professor, Department of Chemistry & Chemical Biology
IIT(ISM) Dhanbad
Jharkhand, India– 826004
Nationality: Indian
Religion: Hinduism
Sex: Male
Family Status: Married, with two sons.
Language Known: English, Hindi and Bengali.

Educational Qualification:

• Secondary	WBBSE	1993	73.55 %
• Higher Secondary	WBCHSE	1995	67.8 %
• BSc Chem (Hons)	Midnapore College (VU)	1998	62.25 %
• MSc (Organic Chem)	Vidyasagar University	2000	76.1 %
• PhD	IIT Kharagpur	2006	--

Title of PhD Thesis: *Synthesis, characterization, flocculation and rheological characteristics of cationic polysaccharides.*

Professional Career:

• Professor	IIT(ISM) Dhanbad	12.04.2021 to date
• Associate Professor	IIT(ISM) Dhanbad	12.08.2012 - 11.04.2021
• Assistant Professor	IIT(ISM) Dhanbad	12.08.2009 - 11.08.2012
• Lecturer	BIT Mesra, Ranchi	01.11.2006 - 11.08.2009
• Scientist (R&D)	Hindustan Gum & Chemicals Ltd. Bhiwani, Haryana.	17.11.2004 - 30.09.2006

Research Interest

- Design and synthesis of stimuli responsive polymeric self-assembly.
- Physically/chemically crosslinked gels.
- Polymeric flocculant and photocatalyst.

Research Records & Citations

[ORCHID ID: 0000-0002-3425-7010](#)

h-index: 52; i10-index: 108; Citations: >8200 ([google Scholar](#))

Articles/Communications: 121; Patents: 14; Book Chapters: 5.

Awards & Honours

- **Erasmus+ Fellow**, University of Coimbra, Portugal (November **2025**).
- **Tata Steel Chair Professor**, 1st May **2025** to date
- **Visiting Professor**, Dept. of Chemistry & Biology, University of Siegen, Germany (May, **2025**).
- **MRSI Medal**, 2023.
- **Professor R. D. Desai 80th Birthday Commemoration Award-2021**, Indian Chemical Society, Kolkata.
- **Fellow, The Royal Society of Chemistry (FRSC)**.
- **Council Member**, International Council on Materials Education (ICME), USA.
- **Visiting Scientist**, National Centre for Nanostructured Materials, Council for Scientific and Industrial Research (CSIR), Pretoria, South Africa (June, **2017**).
- **DAAD Fellow**, University of Siegen, Germany, **2012**.
- **Young Scientist** (under DST FAST-TRACK Scheme), Department of Science & Technology, New Delhi, Govt. of India, **2010**.
- **Fellow**, Indian Chemical Society, **2009**.

Administrative Responsibilities

- **Head**, Dept. of Chemistry and Chemical Biology, IIT(ISM) Dhanbad. 15th May 2026 to date
- **Dean (Research & Development)**, IIT(ISM) Dhanbad. 16th August 2022 to 15th August 2025.
- **Associate Dean: R&D-Research Infrastructure**, IIT(ISM) Dhanbad. 1st April 2020 to 18th October 2023.
- **Head**, Central Research Facility, IIT(ISM) Dhanbad. 6th September 2018 to 15th August 2022.
- **Faculty-in-Charge**, Central Research Facility, IIT(ISM) Dhanbad. 1st July 2014 – 5th September 2018.
- **Faculty Coordinator**, Concetto-2017, IIT(ISM) Dhanbad.
- **Faculty Co-coordinator**, Concetto-2016, IIT(ISM) Dhanbad.
- **Faculty Coordinator - PhD**, Department of Chemistry, IIT(ISM) Dhanbad. 1st July 2018 to 30th June 2021.

Member, National-Level Expert Committees

- Member, NPDF Expert Committee for Chemical Sciences, ANRF, **May 2026** to date.
- Member, Research Project Appraisal Committee, Steel Research & Technology Mission of India (SRTMI), **April 2025** to date.
- Member, PERC, Ministry of Mines, **Sept 2025** to date.
- Member, ANRF Search cum Selection Committee for Ramanujan Fellowship, **2025**.

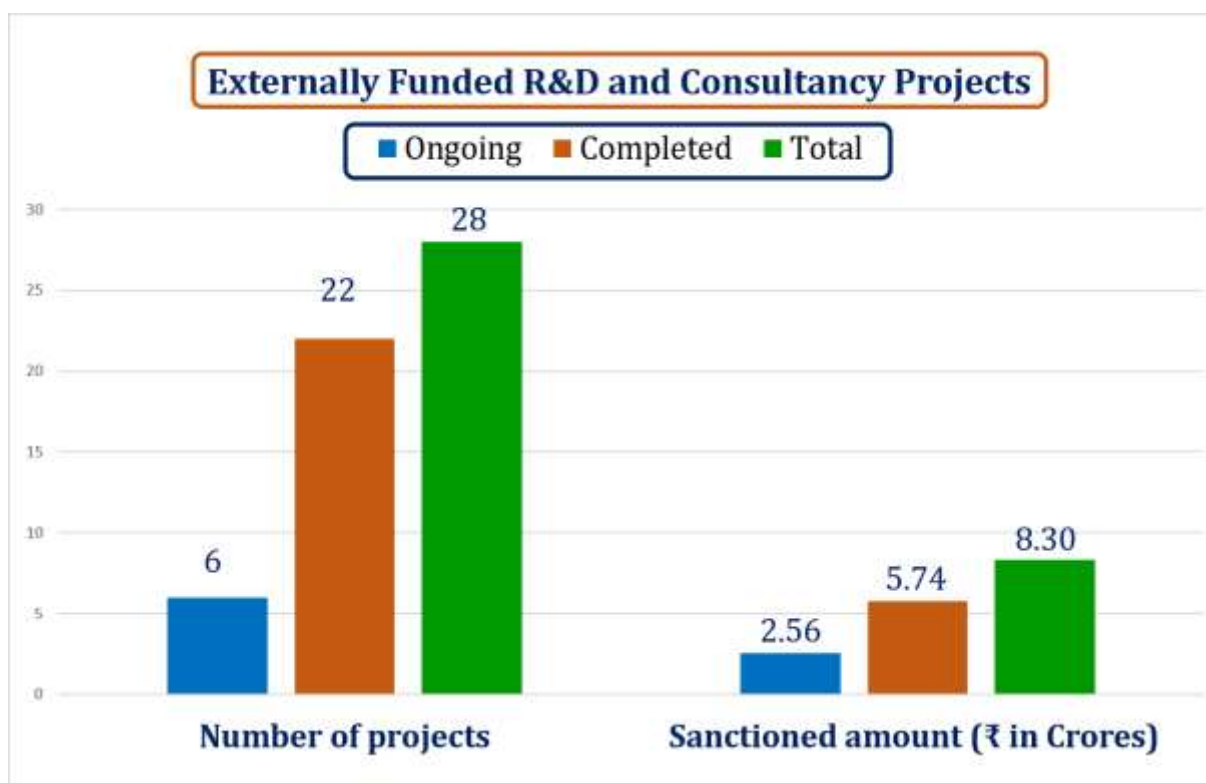
Membership of Professional Bodies

- **Life Member**, The Society for Polymer Science, India.
- **Life Member**, Materials Research Society of India.
- **Life Member**, Chemical Research Society of India.
- **Life Member**, Indian Chemical Society

Coordinator/PIC in the Externally Funded CoEs

- **Coordinator & Head**, "Wadhvani Innovation Network-Centre of Excellence (WIN CoE)", IIT(ISM) Dhanbad. 12th February 2025 to 11th February 2030 (**Sanctioned budget: ₹ 42.77 Crores**).
- **Professor-in-Charge**, "Tata Steel Innovation Centre on Mining and Mineral Research", IIT(ISM) Dhanbad. 2nd March 2023 to 1st March 2028 (**Sanctioned budget: ₹ 23.15 Crores**).

Externally Sponsored Projects as Principal Investigator



R&D Projects as Principal Investigator

Recommended for financial support

Sl. No	Title of the Project	Funding agency	Duration	Sanctioned amount (₹ in Lakh)	Role
1	Establishing a Rational in Designing Reagents to Improve Process Efficiency based on Fundamental Understanding of Reagent-Mineral Interaction	Tata Steel, Jamshedpur	2 Years	59.71	PI
1	Development of carbon dots embedded biopolymeric nanocomposite hydrogel as transdermal drug carrier.	CSIR, New Delhi	3 Years	31.70	PI

Ongoing: 02

Sl. No	Title of the Project	Funding agency	Duration	Sanctioned amount (₹ in Lakh)	Role
2	Next generation copolymeric reagent for cost-efficient beneficiation of low-grade iron ore.	Ministry of Mines, Govt. of India.	18.11.25 to 17.11.27	53.05	PI
1	Recovery of high-grade Iron ore from low grade Goethitic ore by Innovative Exfoliation Technique.	Tata Steel Ltd, Jamshedpur	11.08.25 to 10.02.28	31.10	PI

Completed: 20

Sl. No	Title of the Project	Funding agency	Duration	Sanctioned amount (₹ in Lakh)	Role
20	Polysaccharide based copolymeric hydrogels for biomedical applications.	ANRF, New Delhi	09.05.23 to 08.05.26	26.22	PI
19	Development of novel high-performance polymeric admixture for concrete and thereof.	JSW Cement Ltd, Mumbai	01.09.24 to 31.03.26	15.75	PI
18	Effective utilization and life enhancement of tailing pond at West Bokaro.	Tata Steel Ltd, Jamshedpur	02.06.24 to 01.09.25	27.26	PI
17	AI-driven synthesis of green flocculant and its application towards the treatment of mine process effluent.	TEXMiN Foundation, Dhanbad	24.04.24 to 23.04.25	19.94	PI
16	STUTI IIT(ISM) Dhanbad - 2021.	DST, New Delhi	09.02.22 to 31.08.23	224.47	PI
15	Novel polymeric flocculants towards selective removal of iron ore particles with enhanced efficiency.	Tata Steel Ltd, Jamshedpur	19.10.20 to 31.03.23	9.44	PI
14	Modification of polysaccharides for various commercial applications.	Hindustan Gum & Chemicals Ltd., Bhiwani	26.11.19 to 25.11.22	10.08	PI

13	Novel Organic Binder Synthesis and Characterization for Iron Ore Palletization.	Tata Steel Ltd, Jamshedpur	19.10.20 to 18.10.22	8.85	PI
12	Rational design of amphiphilic self-assembled graft copolymers as drug carriers: experimental and theoretical approach.	SERB, New Delhi	12.03.19 to 11.03.22	27.87	PI
11	Studies on different flocculants for solid-liquid separation processes of coal preparation plant Tailings.	Tata Steel Ltd, Jamshedpur	01.08.18 to 31.03.21	11.50	PI
10	Titanate nanosheet/cationically modified dextrin through in-situ exfoliation: Development and application towards enhanced dye adsorption and photodegradation property.	CSIR, New Delhi	15.07.17 to 14.07.20	11.00	PI
9	Development of ternary nanocomposite hydrogel derived from functionalized biopolymer amylose/TiO ₂ -AgNPs and its potential application towards treatment of wastewater.	DST, New Delhi (Under WTI Scheme)	18.03.17 to 30.06.20	23.90	PI
8	Selection, detailed characterization and optimization of commercial flocculants towards the treatment of major water consuming unit of steel plant.	Tata Steel Ltd, Jamshedpur	01.04.17 to 31.12.18	12.65	PI
7	Novel modified biopolymer-based hydrogels and nanogels: synthesis, characterization and application.	SERB, New Delhi	22.06.15 to 21.06.18	35.26	PI
6	Detailed Characterization and Analysis of Commercial Flocculants for Flocculation of Iron Ore.	Tata Steel Ltd, Jamshedpur	01.05.16 to 31.03.17	8.0	PI
5	High performance multifunctional guar gum for wastewater and industrial effluent treatment.	DST, New Delhi (Under WTI Scheme)	20.06.13 to 19.06.16	28.48	PI
4	Polyacrylamide grafted hydroxypropyl methyl cellulose (HPMC-g-PAM): Development and application as an efficient polymeric flocculant and viscosifier.	DST, New Delhi (Under Young Scientist Scheme)	21.09.10 to 20.03.14	17.75	PI
3	Amphoteric xanthan gum (AXG): Synthesis, characterization and application as a novel polymeric flocculant for the treatment of industrial wastewater.	DST, New Delhi (Under TSD Programme)	Oct, 10 to 31.03.14	15.45	PI
2	Synthesis and application of a novel polymeric biomaterial based on polyacrylamide grafted carboxymethyl guar gum (CMG-g-PAM).	UGC, New Delhi	May, 09 to April, 12	22.60	PI
1	Development and applications of hydrolyzed and unhydrolyzed polyacrylamide grafted tamarind kernel powder (TKP) as flocculants for wastewater treatment.	DST, New Delhi (Under Technology System Group)	30.04.08 to 11.08.09	8.10	PI

Consultancy Projects as CI and Co-CI

Ongoing: 02

Sl. No	Title of the Project	Funding agency	Duration	Sanctioned amount (₹ in Lakh)	Role
1	Integrated support for reagent synthesis, material characterization, and data interpretation.	Tata Steel Ltd, Jamshedpur	05.02.26 to 04.08.29	47.20	CI
2	Adequacy assessment of zero liquid discharge (ZLS) at Tata Steel Jamshedpur Works.	Tata Steel Ltd, Jamshedpur	04.05.26 to 31.12.26	33.04	Co-CI

Completed: 02

Sl. No	Title of the Project	Funding agency	Duration	Sanctioned amount (₹ in Lakh)	Role
1	Synthesis of Graphene Quantum Dot from Coal Tar using Microwave Irradiation.	Tata Steel Ltd, Jamshedpur	01.11.23 to 31.12.25	22.72	CI
2	Detailed analysis and in-depth interpretation of various polymeric and inorganic materials.	Tata Steel Ltd, Jamshedpur	01.10.23 to 30.09.24	5.90	CI

PhD Guidance: ongoing - 8

- **Mr. Suman Bera**, JRF, Project Fellow
MSc (Chemistry): Vidyasagar University, India.
Joining: January 2026.
- **Mr. Nikhil Bera**, JRF, Institute Fellow
MSc (Chemistry): IIT(ISM) Dhanbad, India.
Joining: July 2025.
- **Mr. Suvamay Maity**, JRF, Institute Fellow
MSc (Chemistry): Vidyasagar University, India.
Joining: December 2024.
- **Mr. Sourav Batabyal**, JRF, Institute Fellow
MSc (Chemistry): Burdwan University, India.
Joining: July 2024
- **Mr. Subha Samanta**, JRF, Institute Fellow
MSc (Chemistry): IIT(ISM) Dhanbad, India.
Joining: January 2024.
- **Mr. Sanjib Ghosh**, JRF, Project Fellow
MSc (Chemistry): Vidyasagar University, India.
Joining: May 2023.

- **Mr. Padmapani Pradhan**, JRF, Institute Fellow
MSc (Chemistry): Vidyasagar University, India.
Joining: August 2022.
- **Mr. Argha Oja**, SRF, Institute Fellow (Joint Supervisor)
MSc (Chemistry): IIT(ISM) Dhanbad, India.
Joining: August 2022.

PhD Guidance: Completed - 17

17. **Dr. Shaon Dey (2019-2025)**
Thesis title: Tailored design of polymeric materials and nanocomposites for sustainable environmental remediation.
Degree received: November 2025.
Present Status: Research Associate, IIT(ISM) Dhanbad.
16. **Dr. Kalipada Manna (2019-2025)**
Thesis title: Rational design and application of stimuli-responsive amphiphilic self-assembled copolymers.
Degree received: September 2025.
Present Status: Research Associate, IIT(ISM) Dhanbad.
15. **Dr. Kaushik Singha (2017-2024)**
Thesis title: Rational design of polymeric materials for wastewater remediation in a sustainable manner.
Degree received: November 2024.
14. **Dr. Abanindra Nath Sarkar (2017-2023)**
Thesis title: β -Cyclodextrin based biocompatible hydrogels/nanogels and their application in controlled/targeted drug delivery.
Degree received: June 2023
Present Status: Assistant Manager (R&D), Black Rose Industries Ltd., India.
13. **Dr. Arpita Roy (2016-2022)**
Thesis title: β -Cyclodextrin based biocompatible hydrogels/nanogels and their application in controlled/targeted drug delivery.
Degree received: July 2022
Present Status: Post-Doctoral Research Fellow, University of Michigan, USA.
12. **Dr. Puja Das Karmakar (2016-2022)**
Thesis title: Synthesis of amphiphilic graft and graft-block copolymers and their potential applications.
Degree received: February 2022.
Present status: JSPS fellow at Kyoto University, Japan.
11. **Dr. Priyapratim Patra (2014-2020)**
Thesis title: Novel modified biopolymer-based hydrogels and nanogels: synthesis, characterization and application
Degree received: August 2020
Present status: Manager (R&D), JSW Cement Ltd., Vijaynagar Works, Karnataka.
10. **Dr. Lipi Midya (2014-2019)**
Thesis title: Polymeric Nanocomposites derived from functionalized chitosan: Development and Application
Degree received: December 2019.
Present status: Registering Authority (FSSAI) & Food Safety Officer, West Bengal General Service, Govt of West Bengal, India.
9. **Dr. Barun Mandal (2014-2018)**
Thesis title: Nanofillers incorporated crosslinked carboxymethyl cellulose: Development and application in sustained transdermal drug delivery.
Degree received: March 2018.
Present status: Post Doc Fellow, Presidency University, Kolkata, India.

8. **Dr. Abhay Shankar Patra (2013-2018)**
Thesis title: Multifunctional guar gum derivatives/SiO₂ hybrid nanocomposites: Synthesis, characterization and application as flocculants as well as adsorbents.
Degree received: February 2018.
Present status: Principal Researcher, Raw Materials Research group, Research & development, Tata Steel Ltd.
7. **Dr. Amrita Biswas (2013-2018) (Joint Supervisor)**
Thesis title: Studies on some grafted or modified natural polymers as corrosion inhibitor for mild steel in acidic medium.
Degree received: August 2018.
Present status: Assistant Professor, Manipal University Jaipur, India.
6. **Dr. Aniruddha Pal (2013-2018)**
Thesis title: Development and applications of graft and block copolymers using ATRP/RAFT techniques.
Degree received: January 2018.
Present status: Assistant Professor, Dayananda Sagar University, Bangalore.
5. **Dr. Dipankar Das (2012-2016)**
Thesis title: Development and applications of functionalized dextrin-based hydrogels/nanogels towards controlled/targeted drug delivery.
Degree received: August 2016.
Present status: Assistant Professor, NIPER, Mohali, India.
4. **Dr. Amit Kumar Sarkar (2012-2016)**
Thesis title: Polymeric nanocomposites derived from functionalized amylopectin and layered titanate/nano TiO₂: Development and application.
Degree received: July 2016.
Present status: Senior Scientist, PACT, Cambridge, UK.
3. **Dr. Raghunath Das (2011-2015)**
Thesis title: Hydroxypropyl methyl cellulose based graft copolymers/nanocomposite: Development and application in the field of controlled drug release.
Degree received: April 2015.
Present status: Assistant Manager (R&D), Oriental Carbon & Chemicals Limited, Rewari (Haryana), India.
2. **Dr. Soumitra Ghorai (2010-2015)**
Thesis Title: Modified xanthan gum/silica hybrid nanocomposite: Synthesis, characterization and application.
Degree received: March 2015.
Present status: Principal Researcher (R&D), Tata Steel Ltd., Jamshedpur.
1. **Dr. Gautam Sen (2006-2010)**
Thesis title: Synthesis and characterization of hydrolysed and unhydrolyzed polyacrylamide grafted carboxymethyl starch (CMS-g-PAM) and their applications.
Degree received: August 2010.
Present status: Assistant Professor, Birla Institute of Technology Mesra, Ranchi, India.

Post-doc guidance: 05 (ongoing); 04 (completed)

MPhil project guidance: 02

MTech project guidance: 01 (ongoing); 05 (completed)

MSc project guidance: 03 (ongoing); 49 (completed)

Reviewer of Journals

Advanced Materials; Advanced Functional Materials; ACS Applied Bio Materials; ACS Applied Polymeric Materials; ACS Applied Materials & Interfaces; ACS Applied Energy Materials; ACS Applied Electronic Materials; ACS Omega; ACS Sustainable Chemistry & Engineering; Acta Biomaterialia; Biomacromolecules; Bioresource Technology; Carbohydrate Polymers; Carbon; Cellulose; Chemical Communications; ChemCatChem; Chemical Engineering Journal; Chemical Society Review; Chemosphere; Colloids and Surfaces A: Physicochemical and Engineering Aspects; Industrial & Engineering Chemistry Research; International Journal of Biological Macromolecules; Journal of Applied Polymer Science; Journal of Hazardous Materials; Journal of Materials Chemistry A; Journal of Materials Chemistry B; Journal of Molecular Liquids; Journal of Physical Chemistry; Langmuir; Macromolecular Symposia; Materials Science and Engineering B; New Journal of Chemistry; Polymer Bulletin; Polymer Chemistry; Polymer Engineering and Science; RSC Advances; Scientific Reports; Starch; Water Research.

Invited Lectures/Guest Lectures/Technical Talks/ Session chair

- Invited Lecture: “*Functional Polymers: Designing Materials for Industrial Applications*”, CRVSB – 2026, Salt Lake Guest House, IISER Kolkata, 03-04 July, 2026 (Delivered on 4th July **2026**).
- Invited Lecture: “*Recent Advances in Functional Polysaccharide-Based Materials for Biomedical Applications*”, ICFM-2026, IIT Kharagpur, 5–7 January 2026 (Delivered on 5th January **2026**).
- Invited Lecture: “*Tailored Biopolymeric Materials: From Molecular Design to Biomedical Use*”, SPSI MACRO-2025, IIT Kharagpur Research Park, Kolkata, 15–18 December 2025 (Delivered on 15th December **2025**).
- CERES Talk “*Biopolymer Derived Gels and Micellar Systems for Biomedical Applications*”, at University of Coimbra, Portugal (Delivered on 5th November **2025**).
- Invited Talk: “*Smart Polysaccharide Gels and Micelles: From Molecular Design to Applications*”, POLY-CHAR 2025, University of Mauritius, 1–5 September 2025 (Delivered online on 2nd September **2025**).
- Special Physical Chemistry and Cμ colloquium Talk “*Advancements in Natural Polymer Modification for Biomedical and Environmental Applications*”, at University of Siegen, Germany (Delivered on 27th May **2025**).
- Invited talk: “*A comprehensive review towards development and applications of polymeric hydrogels and micelles*”, in 3rd International Conference on Energy, Functional Materials/Molecules and Nanotechnology (ICEFN), Kumaun University, Nainital, 20-22 March 2025 (Delivered on 20th March **2025**).
- Invited talk: “*Polymeric Gels and Micelles: An Overview from Synthesis to Applications*”, International Conference on Advances in Materials and Chemical Sciences (AMCS-24), BIT, Mesra, Ranchi, 18-20 December 2024 (Delivered on 18th December **2024**).
- Invited talk: “*Biopolymeric Materials: From Development to Applications in Environmental Remediation*”, AICTE-VAANI sponsored seminar on RA2M-SD, HIT, Haldia, 7-9 August 2024 (Delivered on 8th August **2024**).
- Chairperson of Technical Session 4: International Conference on Materials and Membranes for Water and Energy (ICMMWE-2024), CSMCRI, Bhavnagar, 10-12 July **2024**.
- Invited talk: “*Biopolymeric Gels and Micelles for Biomedical Applications*”, in International Conference for Functional Materials and Polymer Technology (ICFMPT-2024), ICT-Mumbai, IOC Bhubaneswar, 14-16 March 2024 (Delivered on 16th March **2024**).
- MRSI Medal Lecture: “*Polysaccharide-based Copolymeric Gels and Micelles for Biomedical Applications*”, 34th AGM of MRSI, IIT(BHU), Varanasi, 12-15 December 2023 (Delivered on 14th December **2023**).

- Invited talk: *"Polysaccharide-Based Reagents for the Treatment of Mine Process Water"*, 4th International Conference on Emerging Smart Materials in Applied Chemistry (ESMAC-2023), KIIT-DU, Bhubaneswar, 18-20 November 2023 (Delivered on 18th November **2023**).
- Invited talk: *"Polysaccharide/oligosaccharide based copolymeric gels for various biomedical applications"*, National Conference on the theme "Science & Technology for Sustainable World", KIIT-DU, Bhubaneswar, 14-15 March 2023 (Delivered on 14th March **2023**).
- Invited talk: *"Biopolymeric materials towards treatment of industrial wastewater"*, Emergent Materials for Energy and Environment (EMEE-2023), IIT Roorkee, 04-05 March 2023, (Delivered on 4th March **2023**).
- Professor R. D. Desai 80th Birthday Commemoration Award Lecture: *"Biopolymeric flocculants: Development and applications"*, International Seminar on Recent Trends in Chemical Science-2022 (RTCS-2022), IIT(ISM) Dhanbad, 16-18 December (Delivered on 18th December **2022**).
- Chairperson of Technical Session 3: International Seminar on Advance Research in Molecular & Material Science - 2022 (ARM2S - 2022), Jointly Organized by Department of Chemistry, Sitananda College, Purba-Medinipur, West Bengal & Sikkim Manipal Institute of Technology, Majhitar, Rangpo, Sikkim in collaboration with Indian Chemical Society, Kolkata, 01-02 March **2022**.
- Invited talk: *"Polysaccharides/oligosaccharide-based gels as drug carriers"*, International Seminar on Recent Advances in Chemistry & Material Sciences -2020 (RACMS-2020) in Commemoration of the birth anniversary of Acharya Prafulla Chandra Ray, organized by Indian Chemical Society, in collaboration with American Chemical Society, (Delivered online on 8th August **2020**).
- Invited talk as Resource Person: *"Modification of biopolymers and their potential applications"*, One-day National WEBINAR on Recent Development of Chemistry, RDC 2020, Kharagpur College (Delivered online on 20th June **2020**).
- Invited talk: *"Modified Polysaccharides as Drugs Carrier"*, POLY-CHAR 2019, Park Village Resort, Kathmandu, 19-23 May 2019 (Delivered on 20th May **2019**).
- Technical Talk: *"Functionalized polysaccharides towards treatment of wastewater"*, International Conference on Application of Supramolecular Chemistry in Water Treatment: An Innovative approach, Tata Steel, Jamshedpur, 4-5 February 2019 (Delivered on 4th February **2019**).
- Invited Lecture: *"Development and applications of biopolymeric hydrogels towards controlled release of model drugs"*, SPSI MACRO-2018, IISER, Pune, 19-22 December 2018 (Delivered on 20th December **2018**).
- Invited Lecture: *"Modified Biopolymeric Composites: Efficient Photocatalysts towards Degradation of Toxic Organic Contaminants"*, Innovation in Materials Science & Technology (IMST-2018), Amity University, Kolkata, 14-16 December 2018 (Delivered on 14th December **2018**).
- Invited Lecture: *"Biopolymeric hydrogels/nanogels/composites: Development and applications"*, at National Centre for Nano-structured Materials, CSIR, Pretoria, South Africa (Delivered on 9th June **2017**).
- Technical Talk: *"Functionalized Biopolymer: Development and Applications"*, Workshop on Synthesis and Characterization of Additives, Tata Steel R&D, Jamshedpur (Delivered on 16th January **2017**).
- Invited Lecture: *"Biopolymeric hydrogels/nanogels: application towards controlled/targeted drug delivery"*, RECENT ADVANCES IN LIFE SCIENCE IN THE LIGHT OF CHEMISTRY, Dept. of Chemistry, Bethune College, Kolkata in collaboration with Royal Society of Chemistry (Eastern India Section) (Delivered on 9th September **2016**).
- Invited Lecture: *"Biopolymer dextrin-based hydrogels/microgels: Application in controlled/targeted drug delivery"*, International Conference on Energy, Functional Materials and Nanotechnology (ICEFN - 2016), Kumaun University, Nainital, 27-29 March 2016 (Delivered on 28th March **2016**).

- Guest Lecture: “*Modified Polysaccharides: Development, characterization and applications*”, TATA STEEL R&D, Jamshedpur (Delivered 9th January **2015**).
- Invited Lecture: “*Modified xanthan gum/SiO₂ hybrid nanocomposite: Efficient adsorbent for removal of toxic dyes and metal ion*”, International Conference and Expo on Recent Advances in Polymer & Rubber Science & Technology (RAPT – 2014), University of Calcutta, 22–24 January 2014 (Delivered on 22nd January **2014**).
- Guest Lecture: “*Modified polysaccharides: Application in wastewater treatment*”, One Day National Seminar on Recent Trends in Macromolecular Science and composite Technology, VIT, Chennai (Delivered on 17th March **2012**).
- Invited Lecture: “*Synthesis, macromolecular characterization and rheological applications of hydrolyzed and unhydrolyzed polyacrylamide grafted carboxymethyl starch (CMS-g-PAM)*”, International Conference ICPPC – 2010, Kottayam, Kerala, 15–17 January 2010 (Delivered on 16th January **2010**).