

Dr. Nabendu Bikash Pramanik

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Websites, Portfolios, Profiles

- <https://scholar.google.com/citations?user=m5gj8GoAAAAJ&hl=en>
- <https://www.scopus.com/authid/detail.uri?authorId=55736404100>
- <https://nabenduchemist.wixsite.com/mysite>

Summary

Ambitious professional with over 10 years of experience as a researcher. Gifted individual with student-centered approach driving learning through unique projects and focused classroom discussions. Committed with years of experience in academic landscape, including student evaluation and creative teaching methods implementation. Eager contributions to efforts to assist student development. Hands-on approach to cultivating curriculum and challenging in-classroom projects.

Skills

Technical Skills:

Hands-on experiences in NMR, GPC, FT-IR, Ellipsometry, UV-VIS, GC, DLS, SEM, TEM, AFM, XRD, MALDI-TOF, DSC, TGA, Goniometer etc.

Acting as an Editor/Reviewer for Scientific Journals:

Acting as a Review Editor of Polymer Chemistry for the Frontiers in Chemistry Journal

Acted as a Reviewer for Advanced Powder Technology by Elsevier (done 2 reviews)

Acted as a Reviewer for Bulletin of Materials Science by Springer (done 3 reviews)

Experience

ASSISTANT PROFESSOR | 12/2021 - Current

ICT-IOC Bhubaneswar - Bhubaneswar, India

- Adapted teaching methods and materials to meet students' varying needs and interests.
- Evaluated student progress, graded assignments and provided students with feedback.
- Supervised dissertational research work to assist research publication process.
- Performed research in Polymer and Materials Science and published papers in International journals.
- Designed and updated courses and materials based on developments in industry research.

POSTDOCTORAL RESEARCH ASSOCIATE | 12/2020 - 11/2021

University of California Santa Barbara, USA - Santa Barbara, USA

- Synthesis of bottlebrush polymers as ultra-soft elastomers for soft actuators and haptic sensors via Ring Opening Metathesis Polymerization (ROMP)
- Conducted research into Advanced Polymeric Materials and published papers in multiple peer-reviewed journals.

POSTDOCTORAL RESEARCH ASSOCIATE | 12/2017 - 11/2020

Lehigh University - Bethlehem, USA

- Conducted research into hyperthin polymeric membranes for CO₂ gas separation applications and published papers in multiple peer-reviewed journals.
- Prepared scientific reports, outcome findings and scientific manuscripts. Collected, input, analyzed and presented results of research.

POSTDOCTORAL RESEARCH ASSOCIATE | 12/2016 - 11/2017

City University of New York City College – New York, USA

- Conducted research into hydrogels, small molecular gelators, CO₂-philic polymers for fracking applications and published papers in multiple peer-reviewed journals.
- Prepared scientific reports, outcome findings and scientific manuscripts. Collected, input, analyzed and presented results of research.

POSTDOCTORAL RESEARCH ASSOCIATE | 09/2016 - 11/2016

The Hebrew University of Jerusalem - Jerusalem, Israel

- Conducted research into 3D printing polymer for biomedical applications.
- Prepared scientific reports, outcome findings and scientific manuscripts.

Education

IIT Kharagpur - Kharagpur, West Bengal, India | Ph.D.

Polymer Science, 05/2016

Topic: Organic Polymeric Materials

Dissertation: Thermoreversible, self-healing polymeric materials via RAFT polymerization of furfuryl methacrylate and Diels-Alder Click chemistry

Supervisor: Prof. Nikhil K Singha

Vidyasagar University - Medinipur, West Bengal | Master of Science

Organic Chemistry, 08/2010

Vidyasagar University - Medinipur, West Bengal | Bachelor of Science

Chemistry Major, 06/2008

Scientific Publications in Journals

- (1) Madhabi Bhattacharjee, Shyam Goswami, Pranab Borah, Mousmi Saikia, Jayanta Barman, Nabendu B. Pramanik, Dhruva J. Haloi. Preparation, characterization and antimicrobial activity of Chitosan/Kaolin clay biocomposite films. **Macromolecular Chemistry and Physics** 2023 (Just Published), **10.1002/macp.202300008, IF: 2.527.**
- (2) Renxuan Xie, # Intanon Lapkriengkri, # **Nabendu B. Pramanik**, Sanjoy Mukherjee, Jacob R. Blankenship, Kaitlin Albanese, Hengbin Wang, Michael L. Chabiny, Christopher M. Bates (#author contributed equally). Hydrogen-Bonding Bottlebrush Networks: Self-Healing Materials from Super-Soft to Stiff. **Macromolecules** 2022, 55, 10513 - 10521, **IF: 6.057.**
- (3) **Nabendu B Pramanik**, Vidyasagar Adiyala, Weipeng Wang, Feng Liang, Pulickel Ajayan,

- George John. PEG-based Polymer Coated Proppants in Supercritical CO₂: A New Approach in Current Fracturing Protocols. **Journal of Applied Polymer Science** 2022, 140, e53246, IF: **3.152**.
- (4) **Nabendu B Pramanik**, Sayali Shaligram, Steven L Regen. Defect Repair of Polyelectrolyte Bilayers using SDS: The Action of Micelles Versus Monomers. **Langmuir** 2021, 37, 5306 – 5310. IF : **4.331**.
 - (5) **Nabendu B Pramanik**, Steven L Regen. Clicking the surface of poly(trimethylsilyl propyne) via a thiol-ene reaction; Unexpected CO₂/N₂ permeability. **Langmuir** 2020, 36, 1768-1772, IF : **4.331**.
 - (6) Madhabi Bhattacharjee, **Nabendu B. Pramanik**, Nikhil K. Singha, Dhruva J. Haloi **Recent advances on RDRP modified chitosan: a review on their synthesis, properties and applications. Polymer Chemistry** 2020, 11, 6718-6738, IF : **5.364**.
 - (7) **Nabendu B Pramanik**, Steven L Regen. Hyperthin membranes for gas separations via layer-by-layer assembly. **The Chemical Record** 2020, 20, 163-173, IF : **6.935**.
 - (8) **Nabendu B Pramanik**, Steven L Regen. Layer-by-Layer Assembly of a Polymer of Intrinsic Microporosity: Targeting the CO₂/N₂ Separation Problem. **Chemical Communications** 2019, **55**, 4347- 4350, IF : **6.065**.
 - (9) **Nabendu B Pramanik**, Chengshuo Tian, Erwin R Stedronsky, Steven L Regen. Layer-by-Layer Assembly Modulated by Host–Guest Binding. **ACS Applied Polymer Materials** 2019, 1, 141-144, IF : **4.855**.
 - (10) Julian R. Silverman, Qize Zhang, ‡ **Nabendu B Pramanik**, ‡ Malick Samateh, Travis M. Shaffer, Sai Sateesh Sagiri, Jan Grimm, George John (**‡Authors contributed equally**). Radiation-Responsive Esculin-Derived Molecular gels as Enhancers for Optical Imaging. **ACS Applied Materials and Interfaces** 2017, 9, 43197-43204, IF : **10.383**.
 - (11) **Nabendu B Pramanik**, Prantik Mondal, Rabibrata Mukherjee, Nikhil K Singha. A new class of self-healable hydrophobic materials based on ABA triblock copolymers via RAFT polymerization and Diels-Alder click chemistry. **Polymer** 2017, 119, 195-205, IF : **4.432**.
 - (12) Nikhil K Singha, ‡ **Nabendu B Pramanik**, ‡ Prasanta K Behera, Arindam Chakrabarty, Jimmy Mays (**‡Authors contributed equally**). Tailor-made thermoreversible functional polymer via RAFT polymerization in an ionic liquid: a remarkably fast polymerization process. **Green Chemistry** 2016, 18, 6115-6122, IF : **11.034**.
 - (13) **Nabendu B Pramanik**, Nikhil K Singha. Amphiphilic Functional Block Copolymers Bearing Reactive Furfuryl Group via RAFT Polymerization; Reversible Core Cross-linked Micelles via Diels-Alder Click Reaction. **RSC Advances** 2016, **6**, 2455-2463, IF : **4.036**.
 - (14) Beom-Goo Kang, **Nabendu B Pramanik**, Nikhil K Singha, Jae-Suk Lee, Jimmy Mays. Precise synthesis of thermoreversible block copolymers containing reactive furfuryl groups via living anionic polymerization: the counteraction effect on block copolymerization behaviour. **Polymer Chemistry** 2015, 6, 6732–6738, IF : **5.364**.
 - (15) **Nabendu B Pramanik**, Nikhil K Singha. Direct functionalization of multi-walled carbon nanotubes (MWCNTs) via grafting of poly(furfuryl methacrylate) using Diels–Alder click chemistry and its thermoreversibility. **RSC Advances** 2015, 5, 94321–94327, IF : **4.036**.
 - (16) **Nabendu B Pramanik**, Golok B Nando, Nikhil K Singha. Self-healing polymeric gel via RAFT polymerization and Diels-Alder click chemistry. **Polymer** 2015, 69, 349-356, IF : **4.432**.

- (17) **Nabendu B Pramanik**, Dibyendu S Bag, Sarfaraz Alam, Golok B Nando, Nikhil K Singha. Thermally amendable tailor-made functional polymer by RAFT polymerization and Click Reaction. **Journal of Polymer Science, Part A: Polymer Chemistry** 2013, 51, 3365-3374 (has been selected as the **Editor's spotlight article**), IF : 3.064.
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Book Chapter

- (1) **Nabendu B. Pramanik**, Prantik Mondal, Dhruba J. Haloi, Nikhil K. Singha (2019). Designing Macromolecular Architecture via Reversible Deactivation Radical Polymerisation and Diels–Alder Reaction. **Ed.** Nikhil K Singha & Jimmy W Mays. Reversible Deactivation Radical Polymerization: Synthesis and Applications of Functional Polymers (pp 161-182). Walter de Gruyter GmbH, Berlin/Boston. (ISBN : 978-3-11-064369-5), DOI : 10.1515/9783110643695-005.
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Teaching

@ICT Mumbai IOC Bhubaneswar

- BST3104, Chemistry II (Organic chemistry) (UG Level)
 - Inorganic & Physical Chemistry Laboratory (UG Level)
 - SMT3404, Polymer Science and Technology II (UG Level)
 - SMT3405, Technology of Elastomers (UG Level)
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Awards

- **National Eligibility Test (NET)** qualified in Chemical Science (2010) by Council of Scientific and Industrial Research (CSIR), New Delhi, India.
 - **CSIR Research Fellowship (JRF & SRF)** from 2011-2016 by Council of Scientific and Industrial Research (CSIR), New Delhi, India.
 - **Received Consultancy Research Project** of INR 6 Lakhs in 2023 from Nayam Innovations Pvt Ltd, Pune, India
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Conferences attended

Invited Talk

- (1) Nabendu B Pramanik, Steven L Regen, Hyperthin polymeric membranes for the separations of CO₂ from flue gas via layer-by-layer assembly of polyelectrolytes: an approach to fight against global warming, Green & Sustainability in Polymers and Functional Materials (GSPFM): **Opportunity & Challenges**, February 7-8, 2020, IIT Kharagpur, India.

Presentation

- 1) **International Symposium on Polymer Science and Technology (MACRO 2015)** organized by Society of Polymer Science, India, at Indian Association of Cultivation of Science, Jadavpur, Kolkata on Jan 23-26, 2015.
- 2) **International Conference on Functional Materials (ICFM-2014)** organized by Materials Science Centre, IIT Kharagpur on February 5-7, 2014.
- 3) **International Conference on Rubber and Rubber-like Materials (ICRRM-2013)** organized by Rubber Technology Centre, IIT Kharagpur on March 6-9, 2013. (**Awarded third prize in poster presentation**)

- 4) **International Conference on Advances in Polymeric Materials & Nanotechnology (PolyTech-2012)** organized by Bharati Vidyapeeth University & National Chemical Laboratory, Pune on Dec. 15-17, 2012.
 - 5) **'UGC sponsored International symposium on Recent Trends of Research in Chemistry'** organized by Dept. of Chemistry, Midnapore College on Nov. 1-2, 2011. (**Awarded first prize in poster presentation**)
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