SAYANIKA SAIKIA

Assistant Professor

Department of Chemistry,
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AREA OF SPECIALISATION

- Inorganic Chemistry
- Material Sciences
- Heterogeneous catalysis
- Photocatalysis

EDUCATION

- **HSLC**: 2014
  Titabar Town High School.
- **HSSLC** (Science): 2014-2016
  Pragjyotika Junior College, Titabar.
- **Bachelor of Science** (Chemistry): 2016-2019
  Jagannath Barooah College, Jorhat.
- **Master of Science** (Chemistry): 2019-2021
  Dibrugarh University.
- **Ph.D** (Photocatalysis): 2022-ongoing
  Tezpur University.

AWARDS

- **NE SLET** (2022): Rank 1
- **CSIR JRF** (June 2021): AIR 84
- **GATE** (2022): AIR 955
- **IIT JAM** (2019)
- **Best poster award** at National seminar on "Science, Technology & Innovation-II, 2024"

CERTIFICATION

1. Faculty Induction Programme on "***NEP-2020 and Higher Education in India, with Special Reference to 21st-Century Teaching, Learning, and Evaluation Skills"*** organized by the UGC-MMTTC, Assam University, Silchar during **July 21st to August 20th, 2025.**

RESEARCH EXPERIENCE

Research articles

1) **Saikia, Sayanika**, Manoshi Saikia, Salma A. Khanam, Seonghwan Lee, Young-Bin Park, Lakshi Saikia, Gautam Gogoi, and Kusum K. Bania. "Cobalt oxide decked with inorganic-sulfur

containing vanadium oxide for chromium (vi) reduction and UV-light-assisted methyl orange degradation." Materials Advances 4, no. 23 (2023): 6244-6258.

2) **Saikia, Sayanika**, Lakshi Saikia, Seonghwan Lee, Young-Bin Park, Rafikul Ali Saha, Salma A. Khanam, Magdi EA Zaki, and Kusum K. Bania. "Cu (I/II)-Co (II/III) photocatalyst with intrinsic electron transport centre for photoreduction of chromium (VI) and photodegradation of methyl violet." Journal of Environmental Chemical Engineering 12, no. 2 (2024): 112344.
3) **Saikia, Sayanika**, Salma A. Khanam, Priyanuj Kandali, Ankur Kanti Guha, and Kusum K. Bania. "Photodegradation of berberine hydrochloride at the interface of 1D–2D nanohybrid of nickel ferrite supported on reduced graphene oxide." RSC Sustainability 3, no. 1 (2025): 510-525.
4) Gogoi, Gautam, **Sayanika Saikia**, Abhijit Das, Simashree Saikia, Nazimul Hoque, Subir Biswas, Mrityunjoy Dey, Pabitra Kumar Kalita, and Kusum K. Bania. "Iron and copper catalysts derived from inorganic waste for dye degradation." ChemistrySelect 8, no. 27 (2023): e202300279.
5) Khanam, Salma A., **Sayanika Saikia**, Seonghwan Lee, Young-Bin Park, Magdi EA Zaki, and Kusum K. Bania. "Interfacial Effect-Induced Electrocatalytic Activity of Spinel Cobalt Oxide in Methanol Oxidation Reaction." ACS omega 8, no. 47 (2023): 44964-44976.
6) Khanam, Salma A., Kangkan Sarmah, Ankur Kanti Guha, Seonghwan Lee, Young-Bin Park, Lakshi Saikia, **Sayanika Saikia**, Rafikul Ali Saha, and Kusum K. Bania. "Oxidizing methanol at cubic-hexagonal junction of NiO-ZnO at low onset potential." Electrochimica Acta 498 (2024): 144641.
7) Devi, Arpita, Abhilekha Borah, **Sayanika Saikia**, Lakshi Saikia, Magdi EA Zaki, and Kusum K. Bania. "Impact of halloysite nanotube on the catalytic activity of transition metal oxides in benzyl alcohol oxidation." Inorganic Chemistry Communications (2025): 113962.
8) **Saikia, Sayanika**, Sumit Sarkar, Swagata Hazarika, Sritam Biswas, Pabitra Nath, Donguk Kim, Young-Bin Park, Ankur Kanti Guha, and Kusum Kumar Bania. "Chromium (VI) Reduction and Methyl Violet Degradation Using Light Harvesting Silver Nanoparticle Decorated at Polyoxovanadate-Reduced Graphene Oxide." *ChemNanoMat*: 202500251.

Book Chapter

1. Khanam, Salma A., **Sayanika Saikia** and Kusum K. Bania. Books, Engineering & Technology, Materials Science, Newly Published Books, Nova, Science and Technology, Technology and Engineering, 2024, ISBN: 979-8-89113-978-7.
2. Khanam, Salma A., Magdi EA Zaki, Shamim Islam, **Sayanika Saikia**, and Kusum K. Bania. "Green Chemistry Approaches for Sustainable Synthesis of Inorganic Nanomaterials." In *Nanomaterial Green Synthesis*, pp. 255-284. Cham: Springer Nature Switzerland, 2025.
3. **Sayanika Saikia,** Salma A. Khanam. Metal chalcogenides nanomaterials as photocatalyst for organic pollutants degradation: A comprehensive review. ISBN-13(15): 978-93-48091-48-2.

CONFERENCES ATTENDED

1. International conference **SusChemHeca-2024** at Tezpur University.
2. National Seminar on **Science, Technology & Innovation-II (March 22-23, 2024)** at Arya Vidyapeeth College (Autonomous), Guwahati.

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