



**TAPENDU SAMANTA**  
PH.D. (CHEMICAL SCIENCES)

## OBJECTIVE

Looking for Post-Doctoral position in Chemistry/Polymer Chemistry.

## CONTACT DETAILS

Mobile-7908347806/9804078469

Email- [totapendu@gmail.com](mailto:totapendu@gmail.com)

## HOBBIES

Travelling, Cooking, Nature photography, Playing cricket and football.

## RESEARCH EXPERIENCE

- Design, synthesis and application of several type of chromogenic and fluorogenic systems in both monomeric and polymeric level for sensing and drug delivery purpose.
- Developed several small molecules with their unique emissive natures.
- Stimuli responsive polymer synthesis for imaging and drug delivery in cancer cell.
- Worked in industrial collaborative project with ADO Additives Mfg. Pvt. Ltd. for polymer-based in-field arsenic detection system in water.

## ACADEMIC QUALIFICATION

### PhD in Chemical Sciences, 2020

Indian Institute of Science Education and Research Kolkata, West Bengal, India.

Thesis title: “*Design, Synthesis and Technology Development of Polymer Sensors for the Efficient Heavy Metal and Anion Sensing*”.

Supervisor: Prof. Raja Shunmugam, Polymer Research Center, IISER Kolkata.

### M.Sc. in Chemistry, 2013 (with 1<sup>st</sup> class)

West Bengal State University, Kolkata 700126, India.

**M. Sc. project title:** “*Synthesis of BTCA-PANI nanofiber and it's dye adsorption property towards anionic dyes*”.

**Supervisor:** Prof. Sudip Malik, Indian Association for Cultivation of Science, Kolkata.

### B.Sc. in Chemistry, 2011 (with 1<sup>st</sup> class)

Ramakrishna Mission Vivekananda Centenary College, Kolkata 700118, India.

## CURRENT AREA OF INTEREST

- ✚ Biomedical fluorescent imaging
- ✚ Tracking and imaging of over-expressed enzymes in cancer cells
- ✚ Drug delivery
- ✚ Solid state emissive material synthesis and their applications

## AWARDS AND ACHIEVEMENTS

- IISER KOLKATA institute research fellowship

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## TAPENDU SAMANTA

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- Best poster in SMART MATERIALS: Methods and applications organized by CAFM IISER Kolkata
- Best performing student of the year 2018 in IISER Kolkata
- Third prize (Best poster), workshop on “Innovation & Entrepreneurship” by TePP Outreach cum Cluster Innovation Centre (IIT-Kharagpur, CSIR-CGCRI and CSIR-CMERI), sponsored by DSIR-PRISM.

### LANGUAGES

- ✚ Bengali
- ✚ English
- ✚ Hindi

### REFERENCES

1. **Prof. Raja Shunmugam**, Polymer Research Center, Indian Institute of Science Education and Research- Kolkata, Mohanpur, Dist: Nadia, West Bengal, India- 741246. **Email - [sraja@iiserkol.ac.in](mailto:sraja@iiserkol.ac.in) / [polyraja@gmail.com](mailto:polyraja@gmail.com)**
2. **Prof. Priyadarsi De**, Polymer Research Center, Indian Institute of Science Education and Research- Kolkata, Mohanpur, Dist: Nadia, West Bengal, India- 741246. **Email- [p\\_de@iiserkol.ac.in](mailto:p_de@iiserkol.ac.in)**
3. **Prof. Prasun K. Mandal**, Room no. : G06, Research Complex, IISER Kolkata, Mohanpur, Dist: Nadia, West Bengal, India- 741246. **Email- [prasunchem@iiserkol.ac.in](mailto:prasunchem@iiserkol.ac.in)**

### BOOK CHAPTERS, PATENT, PUBLICATION LIST:

#### ➤ Publication:

- (1) **Samanta, T.**; Das, N.; Singha, J.; Shunmugam, R. *Analytical Methods*, 2020. 12, 4159-4165. (10.1039/D0AY00505C)
- (2) **Samanta, T.**; Shunmugam, R., *Mater. Adv.*, 2021, 2, 64-95. (10.1039/D0MA00521E)
- (3) **Samanta, T.**; Das, N.; Patra, D.; Kumar, P.; Sharmistha, B; Shunmugam, R. *ACS Sustainable Chemistry & Engineering* (<https://doi.org/10.1021/acssuschemeng.1c00437>).
- (4) Singha, J.; **Samanta, T.**; Shunmugam, R., 2020. *Mater. Adv.*, 2020, 1, 2346-2356. (10.1039/D0MA00092B)

#### ➤ Book chapter:

Hussain, A.; Raveendran, V.A.; Kundu, S.; **Samanta, T.**; Shunmugam, R.; Pal, D.; Sarma, J.D.; Mechanisms of Arsenic-Induced Toxicity with Special Emphasis on

➤ **Patent:**

As Sensor and trapper; Sanjib Pariyal, Rajan Kumar, **Tapendu Samanta**, Pawan Kumar, Raja Shunmugam *TEMP/E-1/46586/2018-KOL (2019)*.

➤ **Manuscript submitted/ Under preparation:**

- (1) **Samanta, T.**; Das, N.; Kumar, P.; Patra, D.; Shunmugam, R. Reaction induced ESIPT active bromophenol derivative for ultrafast detection of  $\text{Hg}^{2+}/\text{CH}_3\text{Hg}^+$  with high selectivity and sensitivity in both solution and biological system. (**Submitted**)
- (2) **Samanta, T.**; Das, N.; Shunmugam, R. Norbornene coupled 2,4-dinitrophenyl hydrazine derivative and its homopolymer: Potential colorimetric sensors for selective and sensitive detection of fluoride ion through ICT process. (**Submitted**)
- (3) Kumar, P.; Patra, D.; **Samanta, T.**; Shunmugam, R. Coumarin as Fluorescent Probe for Chlorambucil Drug Delivery using Cyclopolymerization. (Under preparation)
- (4) **Samanta, T.**; Das, N.; Shunmugam, R. pH responsive polymeric material for efficient delivery of nonfluorescent drug with simultaneous imaging in cancer cell. (Under preparation)

## **INSTRUMENTATION KNOWLEDGE**

**NMR, ESI-MS, Circular Dichroism, DLS, APC, UV-Vis, Fluorescence spectroscopy, FT-IR, CLSM**

## **SOFTWARE SKILLS**

**MS office, Chem draw, Origin Lab**