CURRICULUM VITAE

RATAN HALDER

Nationality : **Indian**

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ECADEMIC QUALIFICATION:

- **2021- Present : Ph.D in Polymer Chemistry**
  Department of Chemical Science- **IISER Kolkata**

- **2018 - 2020 : M.Sc in Chemistry**
  Department of Chemistry- **IIT(ISM) Dhanbad**

- **2014 -2018 : B.Sc in Chemistry (Honours)**
  University of North Bengal

- **2012 -2014 (WBCHSE) : 10+2**
  Maynaguri High School

- **2012 (WBBSE) : 10th Standard**
  Barnesh High School

RESEARCH EXPERIENCE:

Master's Thesis in **Organic *polymer chemistry*** [Department of Chemistry], IIT(ISM) DHANBAD, 2019-2020

TOPIC - **Synthesis and characterization of cross linked super absorbent hydrogel**

Supervised by **Dr. Sagar pal (professer, department of chemistry, IIT(ISM) Dhanbad)**

A Biodegradable, Biocompatible, Covalently cross-linked hydrogel Based on Dextrin, Poly(Styrene sulfonate) and Poly(MAPTAC) was synthesised and characterised by various technique such as FTIR spectroscopy, 1H-NMR, rehology study, FESEM analysis and finally water absorptivity was investigated by measuring rate of swelling with time.

Research Skills:

- **Synthesis Techniques:** General synthesis techniques, Crystallisation, Extraction and Separation, Distillation, TLC , Column Chromatography, Gravimetric and Volumetric estimations.
- **Characterisation Techniques:** NMR(^{1}H, ^{13}C), Mass Spectrometry, UV Spectroscopy, FTIR Spectroscopy, XRD
- **Instrumentations:** Colorimetry, Potentiometry, pH-metry, Conductometry, viscometer, Cyclic Voltametry, Photoluminiscence
- **Software:** Origin Software, ChemDraw, Mastrenova Software (NMR)

RESEARCH INTERESTS:

- Synthetic polymer chemistry
- Polymers for biomedical applications
- Stimuli responsive polymers
- Polymers in targeted drug delivery applications
- Development of polymers for bio-sensing
- Bio-inspired polymers

Objective:

- To develop polymers by specific functionalities and explore them in the field of targeted drug delivery

SCHOLASTIC ACHIEVEMENTS:

- **UGC Fellowship Through The June 2020 Joint CSIR-UGC NET**
- **Qualified Joint CSIR – UGC NET, June 2020**
- **Qualified GATE Examination, 2021**
- **Qualified IIT-JAM Examination, 2018**

Extra skills:

Languages- **English, Hindi, Bengali (Mother Tongue)**