Post Applied for : Assistant Professor in Chemistry

Highlights:
Subject : **M.SC (CHEMISTRY/ Organic Chemistry Specialization)**
Ph.D : **Polymeric Superabsorbents (Applied Chemistry)**
Research Associate: **DMSRDE (DRDO) Kanpur, Uttar Pradesh**
PostDoctoral research: **U.G.C Dr. D.S. Kothari postdoctoral Fellow (29/06/2018-at present)**

RESUME

PERSONAL INFORMATIONS

Name:-Dr. **Ruma Bhattacharyya**

- Sex:- Female
- Date of Birth:- 23.10.1981
- Mobile No:- (0)**9836096573**
- Mail id: ruma1023@gmail.com
- Address: 27A Nandalal Mitra Lane Kolkata, West Bengal,(INDIA) PIN-700040

RESEARCH ACTIVITY TILL DATE:

- **Postdoctoral Research and present Status:** **Selected as UGC-Dr. D.S. Kothari post Doctoral Fellow by** University Grants Commission on **29th JUNE 2018**

Title of the Project:

Natural Polymer-*g*-co-/ter-Polymer Interpenetrating Polymer Network Hydrogels for Drug Delivery Applications: Synthesis and Characterization

Objectives

The primary aim of this project is to design cost-friendly, controlled drug delivery systems, that are capable of delivering drug over an extended period of time to a local

area by using CRG (carrageenans) / guar gum (GG)-*g*-homo-/co-/ter-polymer interpenetrating polymer network (IPN) hydrogels.

Composite hydrogel fabricated via incorporation of functionalized carbon nanotubes (CNTs), gold nanoparticles (GNPs) will also be attempted for an effective drug delivery system.

- **Post PhD Research Associate (2 years 15-12-2015 to 14-12-2017)**

Appointed as **RESEARCH ASSOCIATE** in **DMSRDE(DRDO) Kanpur India.** It is one of the **Defence Research& Development Organisation** of India**. (DRDO**)

Assignments were

Synthesisation of Polyurethane polymer CNT composite materials. Characterising them by TGA, SEM, DSC, RAMAN, FTIR,AFM analysis for different applications.

- **Detail of Published papers:**

Till date I have total nine (**10**) Research papers, published in famous international Journals as described below.

Postdoctoral Publications

1. **Ruma Bhattacharyya,** Pranesh Chowdhury

   Hydrogels of Acryloyl guar gum-*g*-(acrylicacid-*co*-3sulfopropylacrylate) for high-performance adsorption and release of gentamicin sulphate.

   Journal of Polymer Research .doi.org/10.1007/s10965-021-02633-8

Book Chapter

MEMS Applications in Biology and Healthcare > 10.1063/9780735423954_004

Chapter-4 Application of Polymers in Biomems Biomedical Devices and Related Challenges

https://doi.org/10.1063/9780735423954_004

Authors Ruma Bhattacharyya , Geeta Bhatt , Adreeja Basu , *and* Aviru Kumar Basu

Post PhD Publications

1) **Ruma Bhattacharyya**, Sriram Janghela,Amit Saraiya,Debmalya Roy, Kingsuk Mukhopadhyay, and Namburi Eswara Prasad, Effect of Reinforcement at Length Scale for Polyurethane Cellular Scaffolds by Supramolecular Assemblies

   J. Phys. Chem. B, 2018, 122 (9), pp 2683–2693

   The Journal of Physical Chemistry B, American Chemical Society (**Impact factor 3.2**). **cited by-05**

2) Neha Agarwala, **Ruma Bhattacharyya**, Narendra K. Tripathia, Sanjay Kanojiaa, DebmalyaRoy , KingsukMukhopadhyaya and Namburi EswaraPrasad, Derivatization and InterlaminarDebonding of Graphite-IronNanoparticles Hybrid Interfaces Using Fenton's Chemistry

   Physical Chemistry Chemical Physics, 2017,**(19)**, 16329-16336

ROYAL SOCIETY OF CHEMISTRY, Impact Factor: 4.15 cited by-137

Ph.D Publications

I have been awarded my PhD degree on **3rd February 2015** on Applied Chemistry From the **University of Calcutta.**

1) **R.Bhattacharyya**, S. K.Ray, B. Mandal, A systematic method of synthesizing composite superabsorbent hydrogels from crosslink copolymer for removal of textile dyes from water, Journal of Industrial and Engineering Chemistry, 19 (**2013**) 1191–1203. (**Elsevier**)

Impact Factor: 4.421; cited by-31

2)R.Bhattacharyya, S.K. Ray, Kinetic and equilibrium modeling for adsorption of textile dyes in aqueous solutions by carboxymethyl cellulose/ poly (acrylamide-co-hydroxyethylmethacrylate) semi interpenetrating network hydrogel. Polymer Engineering & Science 53 (11)(**2013**) 2439-2453.**Wiley,Impact Factor: 1.719, cited by-25**

3) Ruma Bhattacharyya, Samit Kumar Ray, Enhanced adsorption of synthetic dyes from aqueous solution by a semi-interpenetrating network hydrogel based on starch, Journal of Industrial and Engineering Chemistry, 20(5) (2014)3714-3725 (**Elsevier**)

Impact Factor: 4.421 ;cited by-25

4) Ruma Bhattacharyya, Samit Kumar Ray, Adsorption of industrial dyes by Semi-IPN hydrogels of Acrylic copolymers and sodium alginate, Journal of Industrial and Engineering Chemistry, (**Elsevier**) 10.1016/j.jiec.2014.06.029.Vol.22, 92-102, 2015

Impact Factor: 4.421 ;Cited by-15

5)RumaBhattacharyya,Samit Kumar Ray. Removal of Congo red and Methyl violet from water using nano clay filledcomposite hydrogels of poly acrylic acid and polyethylene glycol,Chemical Engineering Journal, (**Elsevier**) 260 (2015) 269–283,

Impact Factor: 13.01 ; Cited by-39

6)Ruma Bhattacharyya, Samit Kumar Ray, Micro- and nano-sized bentonite filled composite superabsorbents of chitosan and acrylic copolymer for removal of synthetic dyes from water Applied Clay Science,(**Elsevier**)101 (2014) 510–520

Impact Factor:Impact Factor: 3.391; Cited by-14

7)BidyadharMandal, Samit Kumar Ray, **Ruma Bhattacharyya**, Synthesis of Full and Semi interpenetrating Hydrogel from Polyvinyl Alcohol and Poly (acrylicAcid-co-Hydroxyethylmethacrylate) Copolymer: Study of Swelling Behavior, Network Parameters,and Dye Uptake Properties, Journal of Applied Polymer Science 124,(**2012**)2250–2268(Publisher: **John Wiley**), **Impact factor 2.10 , Cited by-20**

Educational Qualification:-

- **M.Sc (CHEMISTRY),** University Of Calcutta, Kolkata , 2007, **58.2 %**
- **B.Sc**, With Honors, (**CHEMISTRY)**, University Of Calcutta, Kolkata, 2005, **57%**
- **Higher Secondey [**Physics,Chemistry, Biology, Mathematics] ,

W.B. Council Of H.S. Education, Kolkata, **2000**, **69 %**

- **Madhyamik Examination** , W.B. Board Of Secondary Education ,**1998, 77%**

- **Basic Knowledge in computer application**

- **INDUSTRY EXPERIENCE**

Worked in "**Jubilant Chemsys Ltd**" as **Trainee Research Associate** from **July'07-Nov'07**. Worked on synthesis of Organic Molecule, Characterizations and purification of Organic molecule.

TEACHING EXPERIENCE:

1. Worked as a part time Lecturer in an under graduate general degree college of Kolkata (**2008-2010**)

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Rima Bhattacharyya