Krishanu Ghosal

Creative, Team leader, Innovator

Email ID- krishanughosal01@gmail.com
Phone No- 8240626172
DOB- 27.7.1993
Permanent address- Kantapukur, Koleybagan, Chandannagar, Hooghly, West Bengal, India
Pin-712136

RESEARCH & WORK EXPERIENCE

Shalimar Paints Limited, Industrial R&D,
Nashik, Maharashtra, 422403- Researcher

7/2021-Present

- New project development & innovation
- Synthesis and modification of alkyd resins
- Perform high end analytical testing
- NABL Audit
- Publication in international journal
- Product quality verification
- Packaging coating

University of Calcutta,
Department of Polymer Science and Technology
Kolkata, 700009 — *JRF and SRF*

3/2017-5/2021

Worked on a project entitled "***Osteoconductive poly(ester amide) nanofiber scaffold derived from municipal plastic waste for bone tissue engineering***"

- Polymer synthesis
- Nanomaterial's synthesis
- Surface functionalization of nanomaterials by polymers and small molecules
- Characterization of polymers and nanomaterials
- Cytocompatibility investigation of the synthesized polymers and polymers
- Data processing
- Report and manuscript writing

Indian Institute of Science,
Inorganic and Physical Chemistry Department
Bangalore, 560012— *Project Assistant*

2/2016 - 5/2016 (4 months)

Worked on a project entitled "***Ground State Decomposition Mechanism of Metal contained Nitramine molecule***"

EXPERTISE & SKILLS

1. UV-Visible spectrophotometer, FTIR, Bomb Calorimeter, Red Wood Viscometer, Photoluminescence Spectrophotometer, L B Trough, TGA, DSC, Rheometer, Glove box, DLS, Plate reader, UTM, Lyophilizer, SEM, TEM, XRD.

2. Origin software, GraphPad Prism, Image-J, Irfan View, Xpert Pro, MestReNova, ChemSketch, ChemDraw, EndNote, Microsoft word and powerpoint.

3. Polymer synthesis, characterization, nanomaterials synthesis, characterization, organic synthesis.

4. Cell culture experiments, Passaging, MTT Assay, Straining, Cell Fixation etc.

5. Report writing, Manuscript writing for publication

6. Leadership skills, Project management

AWARDS

1. Participated in Scientific Modelling Competition "**Eureka**" in "**Cultivision 2014**" organized by I.A.C.S and Win ***2nd prize*** by presenting a poster on "**Superior Catalytic Activity of Gold Nanorod-Carbon Dot Conjugate towards Reduction of Nitroarenes**".
2. ***Best poster award*** in "**Symposium on Polymer Science**" organized at IISER Kolkata on July 05-06, 2019.
3. ***International award winner (Gold medalist)*** for painting from **Japan**.

- ➔ Nanoparticle synthesis
- ➔ Computational chemistry

Hyderabad Central University,
School of Chemistry
Hyderabad, 500046 — *Summer Project Student*

6/2015 - 7/ 2015 (2 months)

Worked on a project entitled "***Synthesis of PNOA-Au and PNOA-Ag Thin Films at the Air-Solution Interface and Characterization***"

- ➔ Organic synthesis
- ➔ Polymer synthesis
- ➔ Anisotropic nanoparticles synthesis
- ➔ Fabrication of ultrathin film
- ➔ Characterization
- ➔ Report writing

Hindustan National Glass,
Rishra, 712248— *Industrial Trainee*

10/2013 (1 month)

- ➔ Use of raw materials in glass manufacturing
- ➔ Chemical analysis of raw materials and finished glass
- ➔ Fabrication of glassware and quality control

Ph.D. Details

Synthesis of Biopolymers from Recyclable Municipal Plastic Waste and Natural Resources for Tissue Regeneration

Thesis Advisor- Dr. Kishor Sarkar, Assistant Professor

Department of Polymer Science and Technology; University of Calcutta

Registration no-04032/Ph.D(Tech)Proceed/2018

EDUCATION

Ramakrishna Mission Vidyamandira, (University of Calcutta)
Belurmath, 711202
M.Sc. in Applied Chemistry
8/2014 - 6/ 2016

Percentage of marks-75.416%

LANGUAGES

English, Hindi, Bengali

Ramakrishna Mission Vidyamandira, (University of Calcutta)
Belurmath, 711202
B.Sc. in ***Industrial Chemistry***
6/2011 - 5/2014

Percentage of marks-79.875%

Kanailal Vidyamandir (English Section),
Chandannagar, 712136
Higher Secondary (Science)

Percentage of marks-77%

Kanailal Vidyamandir (English Section),
Chandannagar, 712136
Secondary

Percentage of marks-82%

PUBLICATIONS

1) Pritiranjan Mondal, **Krishanu Ghosal**, Swarup Krishna Bhattacharyya, Mithun Das, Abhijit Bera, Debabrata Ganguly, Pawan Kumar, Jaya Dwivedi, RK Gupta, Angel A Martí, Bipin Kumar Gupta and Subhabrata Maiti. **Formation of a gold -carbon dot nanocomposite with superior catalytic ability for the reduction of aromatic nitro group in water**. ***RSC Advances***; 2014, 4, 25863-25866. (**Impact Factor-3.36**)

2) **Krishanu Ghosal**, Rohit Khanna and Kishor Sarkar. **Biopolymer Based Interfacial Tissue Engineering for Arthritis**. In ***Orthopedic Biomaterials: Progress in Biology, Manufacturing and Industry Perspectives*, *Springer USA***; 2018, 2, 67-88.

3) **Krishanu Ghosal** and Kishor Sarkar. **Biomedical Applications of Graphene Nanomaterials and Beyond**. ***ACS Biomaterials Science and Engineering***; 2018, 8, 2653-2703. (**Impact Factor-4.749**)

4) **Krishanu Ghosal*** and Ashis Ghosh. **Carbon dots: The next generation platform for biomedical applications**. ***Materials Science and Engineering: C***; 2019, 96, 887-903. (**Impact Factor-7.328**)

5) Pratik Das, **Krishanu Ghosal**, Nandan K Jana, Anwesha Mukherjee and Piyali Basak. **Green synthesis and characterization of silver nanoparticles using Belladonna Mother Tincture and its efficacy as a potential antibacterial and anti-inflammatory agent**. ***Materials Chemistry and Physics***; 2019, 228, 310-317. (**Impact Factor-4.094**)

6) Swarup Krishna Bhattacharyya, **Krishanu Ghosal**, Pritiranjan Mondal. **Formation of Gold Nanorod-Carbon Dot Nanocomposite with Superior Catalytic Ability,** in international conference **Recent Advancement in Polymer Science & Technology (RAPT 2014)** (ISBN No: 978-81-925299-2-9 & Page No: 216). Department of Polymer Science & Technology, University of Calcutta.

7) Santanu Ghosh, **Krishanu Ghosal**, Sk Arif Mohammad and Kishor Sarkar. **Dendrimer Functionalized Carbon Quantum Dot for Selective Detection of Breast Cancer and Gene Therapy**. ***Chemical Engineering Journal***; 2019, 373, 468-484. **(Impact Factor- 13.273)**

8) **Krishanu Ghosal** and Kishor Sarkar. **Poly (ester amide) Derived from Municipal Polyethylene Terephthalate Waste Guided Stem Cell for Osteogenesis**. ***New Journal of Chemistry***; 2019, 43, 35, 14166-14178. **(Impact Factor- 3.591)**

9) **Krishanu Ghosal,** Upama Bhattacharjee and Kishor Sarkar. **Facile green synthesis of bioresorbable polyester from soybean oil and recycled plastic waste for osteochondral tissue regeneration**. ***European polymer Journal***; 2020, 122, 109338. **(Impact Factor- 4.598)**

10) **Krishanu Ghosal,** Priyatosh Sarkar, Rima Saha, Shantanu Ghosh and Kishor Sarkar. **Advances in Tissue Engineering and Regeneration**. In **Racing for the Surface**, ***Springer, Cham***; 2020, 1, 577-646.

11) **Krishanu Ghosal**,† Santanu Ghosh,† Debjani Ghosh and Kishor Sarkar. **Natural polysaccharide derived carbon dot based in situ facile green synthesis of silver nanoparticles: Synergistic effect on breast cancer**. ***International Journal of Biological Macromolecules*; 2020, 162, 1605-1615. (Impact Factor- 6.953)**

12) Agniva Dutta[1], **Krishanu Ghosal**[2], Kishor Sarkar[2], Debabrata Pradhan[1] and Rajat K. Das[1]. **From ultrastiff to soft materials: Exploiting dynamic metal-ligand cross-links to access polymer hydrogels combining customized mechanical performance and tailorable functions by controlling hydrogel mechanics**. ***Chemical Engineering Journal*; 2021, 419, 129528. (Impact Factor- 13.273)**

13) Priyatosh Sarkar,† **Krishanu Ghosal**,† Debojit Chakraborty and Kishor Sarkar. **Biocompatibility and biomedical applications of various carbon-based materials.** In **Handbook of Carbon-Based Nanomaterials, Elsevier;** 2021, 1, 829-875.

14) **Krishanu Ghosal,** Pritiranjan Mondal, Sumanta Bera and Shantanu Ghosh. **Graphene family nanomaterials-opportunities and challenges in tissue engineering applications**. ***FlatChem***; 2021, 30, 100315. **(Impact Factor-5.227)**

15) **Krishanu Ghosal,** Shaipayan Pal, Debleena Ghosh, Kuladip Jana and Kishor Sarkar. **In vivo bioresorbable shape memory polyester derived from recycled polycarbonate waste for tissue engineering**. (***Under Revision in Biomaterials Advances***).

16) **Krishanu Ghosal*** and Chinmaya Nayak. **Recent Advances in Chemical Recycling of Polyethylene Terephthalate Waste into Value Added Products for Sustainable Coating Solutions- Hope Vs Hype**. **Materials Advances;** 2022, 3, 4, 1974-1992. **(Impact Factor- Not Available Yet)**

17) **Krishanu Ghosal**,† Priyatosh Sarkar,† Debojit Chakraborty and Kishor Sarkar. **Synthesis of Nonisocyanate based Poly(ester urethanes) from Recycled Poly(ethylene terephthalate) Waste and Oleic Acid for Tissue Engineering Application**. (***Communicated***).

18) Rishik Patra, **Krishanu Ghosal**, Rima Saha, Priyatosh Sarkar and Kishor Sarkar. **Advances in the Development of Biodegradable Polymeric Materials for Biomedical Applications**. In **Reference Module in Materials Science and Materials Engineering, Elsevier;** 2022 **(In Press)**.

CONFERENCES

- Participated in *APA 2017* for Poster Presentation "**Soybean Oil and Recycled Polyethylene Terephthalate Waste Derived Biopolymer for Tissue Engineering Application**".
- Participated in ***BIOMET 2018*** at *VIT Vellore* for Poster Presentation "**Municipal Plastic Waste Derived Biopolymer for Bone-Cartilage Tissue Regeneration**".
- Participated in ***Symposium on Polymer Science 2019*** at *IISER Kolkata* for Poster Presentation "**Dendron Conjugated Carbon Quantum Dot for Selective Detection of Breast Cancer and Gene Therapy**".
- Participated in ***BIOTERM 2019*** at *IIT Kanpur* for Poster Presentation "**Poly(ester amide) derived from municipal polyethylene terephthalate waste guided stem cells for osteogenesis**".

JOURNAL REVIEWER

Carbon (Elsevier), Arabian Journal of Chemistry (Elsevier), Materials Chemistry Frontiers (RSC), Journal of Nanoscience and Nanotechnology (IOP Publishers), Journal of Polymers and the Environment (Springer), Polymers (MDPI), Biomedicine (MDPI).

REFERENCES

1. **Dr. Kishor Sarkar**
   Email ID- kspoly@caluniv.ac.in
   Assistant Professor (HOD)
   Department of Polymer Science and Technology
   University of Calcutta
   Kolkata, 700009, India

2. **Dr. Subhabrata Maiti**
   Email ID- subhabrata.maiti@gmail.com
   Assistant Professor
   Department of Chemical Sciences
   IISER Mohali
   Manauli P.O., Punjab -140306, India

3. **Prof T. P. Radhakrishan**
   Email ID- tpr@uohyd.ac.in
   Professor, School of Chemistry
   University of Hyderabad
   Gachibowli, Hyderabad, 500046
   India

4. **Dr. Vivek Mishra**
   Email ID- vmishra@amity.edu
   Amity Institute of Click
   Chemistry Research and Studies
   Amity University
   Noida-201313, India