BIO-DATA

1. Name and full correspondence address	Dr. Naznin Ara Begum Associate Professor Dept. of Chemistry, Siksha-Bhavana Visva-Bharati (A Central University) Santiniketan– 731235, Birbhum, West Bengal, INDIA
2. Email(s) and contact number(s)	naznin.begum@visva-bharati.ac.in/ nazninab@gmail.com +91-9434431810/+91-9775234683
3. Institution	Department of Chemistry Siksha-Bhavana Visva-Bharati (A Central University)
4. Date of Birth	02 January, 1973
5. Gender (M/F/T)	F
6. Category Gen/SC/ST/OBC	Gen
7. Whether differently abled (Yes/No)	No

8. Academic Qualification (Undergraduate Onwards)

Sl. No.	Degree	Year	Subject	University/Institution	% of marks
1.	B.Sc. (Hons.)	1993	Chemistry (Hons.), Physics, Mathematics	Visva-Bharati University, Santiniketan, WB	67.60
2.	M.Sc.	1998	Chemistry (Organic Chemistry as Special Paper)	Visva-Bharati University, Santiniketan, WB	74.10

Ph.D thesis title, Guide's Name, Institute/Organization/University, Year of Award.

Title of PhD thesis: STUDIES ON SOME HETEROCYCLIC AND AROMATIC COMPOUNDS

Guide: Prof. Dilip N. Choudury, Department of Chemistry, Visva-Bharati (Central University) (Principal Supervisor) and Prof. Julie Banerji, Department of Chemistry, University of Calcutta (Co-Supervisor).

Institution: Visva-Bharati University, Santiniketan, WB

Year of Award: 2004

9. Work experience (in chronological order).

S. No.	**Position held**	**Name of the Institute**	**From**	**To**	**Pay Scale**
1	Part-time lecturer in the Dept. of Chemistry, Visva Bharati University for one year (2004-2005).				
2	Guest lecturer in the University Institute of Technology, Burdwan University in the academic session of 2004-2005.				
3	Assistant Professor	Dept. of Chemistry Siksha-Bhavana Visva-Bharati (Central University)	22-08.2005-28.11.2020		Rs. 15,600-39,100/-
4	Associate Professor	Dept. of Chemistry Siksha-Bhavana Visva-Bharati (Central University)	29.11.2020-present		Rs. 37400-67000/-

10. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant: NIL
11. Recent publications *(List of papers published in SCI Journals, in year wise descending order).*

Sl. No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	Saha, S., Ramesh, A., Samanta, T., Roy, R. K., Biswas, S., **Begum, N. A.**, Ghosh, G., & Dey, P.	Impact of Tuning the Hydrophobicity in ABA-Type Amphiphilic Polythiourethane on the Dye Loading and Stability of Formed Polymersomes Using Pendant Aromatic Groups	Macromolecular Chemistry and Physics	226(12)	2400385	2025
2	Roy, R. K.; Samanta, T.; Saha, S.; Ramesh, A.; **Begum, N. A.**; Ghosh, G.; Dey, P.	Aromatic vs. aliphatic linkers: impact on dye loading and stability in oligoglycerol-derived dendronized polymersomes	Polymer Chemistry	16(1)	27-36	2025
3	Marjit, A.B., Samanta, T., Karmakar, A., Pramanik, A., Ali, M.A. and Begum, N.A.	Unravelling the Metal Sensing Activity of a Biologically Relevant Fluorescent Crown Ether: A Unified Experimental and Theoretical Study	Journal of Fluorescence	35(1)	529-542	2025
4	Samanta, T., Mandal, S., Karmakar, A., Pramanik, A., Kundu, R. and Begum, N.A.	An insight into the role of ESIPT/TICT-based antioxidant flavone analogues in fluoro-probing diabetes-induced viscosity changes: a unified experimental and theoretical endeavour	Photochemical & Photobiological Sciences	23(9)	1771-1782	2024
5	Nandi, A.; Giram, H. S.; Patel, V. P.; Mehera, R.; Das, S.; Choudhary, D. K.; Rahman, A.; Saha, D.; Chandra, P.; Singh, M.; **Begum, N. A.**; Mandal, S. K.; Jana, C. K.; Das, N.	Single-step synthesis of ZnO nanoparticles using a phytosynthesis route and its characterization	Zeitschrift für Naturforschung A	79 (2)	141-155	2024
6	Nandi, A.; Mehera, R.; Mandal, M.; Chandra, P.; Mandal, S.K.; Begum, N.A.; Jana, C. K.; Das, N.	Effects of biosynthesized ZnO nanoparticles on oxidative stress parameters in Saccharomyces cerevisiae	Journal of Physics and Chemistry of Solids	185	111748	2024
7	Marjit, A. B., Samanta, T., Karmakar, A., Pramanik, A., Ali, M. A., & **Begum, N. A.**	Unravelling the Metal Sensing Activity of a Biologically Relevant Fluorescent Crown Ether: A Unified Experimental and Theoretical Study	Journal of Fluorescence		1-14	2023
8	Das, K. K.; Ghosh, A.K.; Mallick, T.; Begum, N.A.; Hajra, A.	Aerobic Cu (I)-Catalyzed Site-Selective 1, 3-Difunctionalization of Indazole through Cascade C− N and C− O Bond Formation	Advanced Synthesis & Catalysis	365	388	2023
9	Mallick, T.; Karmakar, A.; Kar, M.; Dutta, S.; Mondal, S. K.; Mandal, D.; Pramanik, A.; **Begum, N. A.**	Carbazole-decorated fluorescent CdS quantum dots: A potential light-harvesting material	Journal of Physics and Chemistry of Solids	164	110603	2022
10	Karmakar, A.; Mallick, T.; Fouzder, C.; Mukhuty, A.; Mondal, S.; Kundu, R.; **Begum, N. A.**	Understanding the Role of Flavonoid Based Small Molecules in Modulating the Oncogenic Protein-Protein Interactions: A Quest for Therapeutic Arsenal	Journal of Molecular Structure	1248	131511	2022
11	Mallick, T.; Karmakar, A.; Mukhuty, A.;	Exploring the Propensities of Fluorescent Carbazole Analogs	The Journal of Physical Chemistry	125	10481	2021

	Fouzder, C.; Mandal, J.; Mondal, S.; Pramanik, A.; Kundu, R.; **Begum, N. A.**	toward the Inhibition of Amyloid Aggregation in Type 2 Diabetes: An Experimental and Theoretical Endeavor	B			
12	Karmakar, A.; Mallick, T.; Pramanik, A.; Mandal, D.; **Begum, N. A.**	Towards the development of antioxidant-wrapped graphene-based fluorescent nanomaterials having theranostic potentials: A combined experimental and theoretical study	Carbon Trends	4	100042	2021
14	Mondal, S.; Karmakar, A.; Mallick, T.; **Begum, N. A.**	Exploring the efficacy of naturally occurring biflavone based antioxidants towards the inhibition of the SARS-CoV-2 spike glycoprotein mediated membrane fusion	Virology	556	133	2021
15	Patra, M.; Banik, M.; Bandopadhyay, P.; Dutta, D.; Mukherjee, R.; Das, S.; **Begum, N. A.**; Basu, T.	Nanonization of a chemically synthesized flavone HMDF (3-hydroxy-3′, 4′-methylenedioxyflavone) by entrapping within calcium phosphate nanoparticles and exploring its antioxidant role on neural cells in vitro and zebrafish in vivo	Nanotechnology	32	235101	2021
16	Karmakar, A.; Mallick, T.; Fouzder, C.; Mukhuty, A.; Mondal, S.; Pramanik, A.; Kundu, R.; Mandal, D.; **Begum, N. A.**	Unfolding the role of a flavone-based fluorescent antioxidant towards the misfolding of amyloid proteins: An endeavour to probe amyloid aggregation	The Journal of Physical Chemistry B	124	11133	2020
17	Kumari, D.; Mallick, T.; Karmakar, A.; Mondal, S.; Das, S.; **Begum, N. A.**	Curry Leaf and its Antioxidant Potential: A Systematic Study to Enhance its Activity in Aqueous Medium	Current Nutrition & Food Science		323	2020
18	Mallick, T.; Karmakar, A.; Bag, J.; Sahu, S.; Mishra, M.; **Begum, N. A.**	Carbazole analog anchored fluorescent silica nanoparticle showing enhanced biocompatibility and selective sensing ability towards biomacromolecule	Dyes and Pigments	173	107994	2020
19	Karmakar, A.; Ambure, P.; Mallick, T.; Das, S.; Roy, K.; **Begum, N. A.**	Exploration of synthetic antioxidant flavonoid analogs as acetylcholinesterase inhibitors: an approach towards finding their quantitative structure–activity relationship	Medicinal Chemistry Research	28	723	2019
20	Karmakar, A.; Mallick, T.; Fouzder, C.; Mukhuty, A.; Kundu, R.; **Begum, N. A.**	Antioxidant flavone functionalized fluorescent and biocompatible metal nanoparticles: Exploring their efficacy as cell imaging agents	Nano-Structures & Nano-Objects	18	100278	2019
21	Mallick, T.; Karmakar, A.; Mandal, D.; Pramanik, A.; Sarkar, P.; **Begum, N. A.**	Harnessing carbazole based small molecules for the synthesis of the fluorescent gold nanoparticles: A unified experimental and theoretical approach to understand the mechanism of synthesis	Colloids and surfaces. B, Biointerfaces	172	440	2018
22	Karmakar, A.; Mallick, T.; Alam, M. N.; Das, S.;	Understanding of the interactions of ctDNA with an antioxidant flavone	Journal of Molecular	1165	276	2018

	Batuta, S.; Chandra, S. K.; Mandal, D.; **Begum, N. A.**	analog: Exploring the utility of the small molecule as fluorescent probe for biomacromolecule	Structure			
23	Karmakar, A.; Mallick, T.; Das, S.; **Begum, N. A.**	Naturally occurring green multifunctional agents: Exploration of their roles in the world of graphene and related systems	Nano-Structures & Nano-Objects	13	1	2018
24	Mallick, T.; Karmakar, A.; Batuta, S.; Ahamed, G.; Das, S.; Alam, M. N.; Mukherjee, M.; Das, N.; Mandal, D.; **Begum, N. A.**	Fluorescent Small Molecules Are BIG Enough To Sense Biomacromolecule: Synthesis of Aromatic Thioesters and Understanding Their Interactions with ctDNA	ACS omega	3	334	2018
25	Kumari, D.; Mallick, T.; Padhy, P.; Mondal, S.; Karmakar, A.; **Begum, N. A.**	Degradation of toxic organic dyes in aqueous medium in greener ways: Exploring the utility of Indian Curry Leaf plant and the nanoparticles synthesized using it	Desalination and Water Treatment	129	266	2018
26	Borah, R.; Kumari, D.; Gogoi, A.; Biswas, S.; Goswami, R.; Shim, J.; **Begum, N. A.**; Kumar, M.	Efficacy and field applicability of Burmese grape leaf extract (BGLE) for cadmium removal: an implication of metal removal from natural water	Ecotoxicology and environmental safety	147	585	2018
27	Das, S.; Alam, M. N.; Batuta, S.; Ahamed, G.; Fouzder, C.; Kundu, R.; Mandal, D.; **Begum, N. A.**	Exploring the efficacy of Basella alba mucilage towards the encapsulation of the hydrophobic antioxidants for their better performance	Process Biochemistry	61	178	2017
28	Das, S.; Batuta, S.; Alam, M. N.; Fouzder, C.; Kundu, R.; Mandal, D.; **Begum, N. A.**	Antioxidant flavone analog functionalized fluorescent silica nanoparticles: Synthesis and exploration of their possible use as biomolecule sensor	Colloids and Surfaces B: Biointerfaces	157	286	2017
29	Patra, M.; Mukherjee, R.; Banik, M.; Dutta, D.; **Begum, N. A.**; Basu, T.	Calcium phosphate-quercetin nanocomposite (CPQN): A multi-functional nanoparticle having pH indicating, highly fluorescent and anti-oxidant properties	Colloids and Surfaces B: Biointerfaces	154	63	2017
30	Ghosh, D.; Batuta, S.; **Begum, N. A.**; Mandal, D.	Proton transfer dynamics in a polar nanodroplet: ESIPT of 4'-n, n-dimethylamino-3-hydroxyflavone in AOT/alkane/water reverse micelles	Journal of Luminescence	184	64	2017
31	Ahamed, G.; Batuta, S.; Ghosh, D.; **Begum, N. A.**; Mandal, D.	Photophysical studies on a photoactive yellow protein fluorophore analog with the 4-Hydroxy group replaced by 4-Dimethylamino group	Journal of Photochemistry and Photobiology A: Chemistry	335	86	2017
32	Batuta, S.; **Begum, N. A.**	Solvent-and catalyst-free N-formylations of amines at ambient condition: Exploring the usability of aromatic formates as N-formylating agents	Synthetic Communications	47	137	2017

12. Detail of patents: NIL

13. Books/Reports/Chapters/General articles etc.: Two Book Chapters under revision (ELSEVIER Publication)

a. Samanta, T., Karmakar, A. and Begum, N.A., **DNA Nano-machines for Drug-delivery**

b. Samanta, T., Karmakar, A. , Das, S. and Begum, N.A, **Encapsulation of bioactive nutraceuticals and their bio-medical applications.**

14. Any other Information (maximum 500 words)

Research Guidance/Supervision

Ph.D. awarded: 10; Ph.D. students currently working: 3; Master's level project work: 40

Research Projects completed as PI:

Project title	Sponsoring Agencies	Sanction No.	Duration	Cost (Rs.)
Search for novel bioactive natural products from Indian propolis.	UGC	F.NO. 33-290/2007(SR)	01-04-08-31-03-11	6.048 L
Studies on biogenic synthesis of metal nanoparticles with tailor-made structural properties	CSIR	01 (2504)/11/EMR-II	01.07. 11-31.12.14	21.0 L
To study the mechanism of antioxidant as well as DNA damage prevention activities of different natural occurring flavonoids and their synthetic derivatives.	SERB	SR/SO/BB-0007/2011	17.09.12-16.09.15	40.7 L
Unfolding the role of small molecule based fluorescent antioxidants towards the misfolding of amyloid proteins: A study to detect and inhibit amyloid aggregations	DSTBT, WB Govt	1934(Sanc.)/ST/P/S&T/15G-20/2019 dtd. 25.02.2020	01.11.20-31.10.2023	Rs. 4.30 L

Research Projects completed as Co-I:

Project title	Sponsoring Agencies	Duration	Cost
Development and spectroscopic studies of new fluorescent materials based on photophysical proton-transfer and charge-transfer processes	SERB	26.07.17-25.07.20	Rs. 36. 6948L

Members of different societies

1	National Advisory Committee member of First World Conference on Fracture and Damage Mechanics of Metals, Glass, Ceramics, Semi-conductors, Polymers, Alloys, Composites, Nanocomposites, Gels and Adhesives (Fracture 2014), August 9, 10 & 11, 2014 at Mahatma Gandhi University, Kottayam, Kerala, India.
2	Full member of American Nano Society.
3	Life member of Nanoscience and Nanotechnology Society, IIUCNN, M G University
4	Member, American Chemical Society