CURRICULUM VITAE OF DR. NAZNIN ARA BEGUM

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4. Date of Birth 02 January, 1973

5. Gender (M/F/T) F

6. Date of Joining in Visva-Bharati University 22 August, 2005

7. Academics:

Sl. No.	Institution Place	Degree Awarded	Year	Field of Study
1.	Visva-Bharati University Santiniketan, WB	B.Sc. (Hons. in Chemistry)	1993	Chemistry [Organic Chemistry Inorganic chemistry Physical Chemistry]
2.	Visva-Bharati University Santiniketan, WB	M.Sc.in Chemistry	1998	Chemistry Organic Chemistry (Special Paper)
3.	Visva-Bharati University Santiniketan, WB	Ph.D.	2004	Chemistry*

**Area of Research in PhD: Natural Products Chemistry*

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

8.Research Guidance/Supervision

Ph.D. awarded: 10; Ph.D. students currently working:4; Ph.D. Thesis submitted: 1 Master's level project work:23

9. Participation in the conferences/seminars

S. No.	Title of the Paper presented	Title of Conference	Organized by
1.	Harnessing Nano-Chemistry for the better aqueous solubility of the small molecule based fluorescent antioxidants (Invited talk and Chairperson)	Third International Conference on Nanomaterials: Synthesis, Characterization and Applications (ICN 2018), 11-13 May 2018	International and Inter University Centre Nanoscience and Nanotechnology (IIUCNN), Mahatma Gandhi University, Kottayam, Kerala, India
2.	Exploring small molecule synthesized fluorescent nanoparticles as biomolecule sensors. (Invited talk and Chairperson)	Second International Conference on Advanced Materials for Power Engineering (ICAMPE-2016), 11-13 November 2016	International and Inter University Centre Nanoscience and Nanotechnology (IIUCNN), Mahatma Gandhi University, Kottayam, Kerala, India

3.	Tailoring the toxic metal ion sensing activity of metal nanoparticles synthesized by naturally occurring green multifunctional agent. (Poster Presentation)	National Symposium on Recent Advances in Chemistry Research, 04 March, 2016	Department of Chemistry Visva-Bharati (Central University
4.	Exploring natural products for the synthesis of metal nanoparticle based fluorescent biomarker. (Poster Presentation)	Seminar on Chemistry of Functional Materials of Current Interest, 16 March, 2016	Department of Chemistry, Jadavpur University, Kolkata, West Bengal, India
5.	Understanding the colorimetric sensing activity of green synthesized metal nanoparticles towards toxic metal ion. (Invited talk)	International Conference on Nanostructured Polymeric Materials and Polymer Nanocomposites (ICNPM 2015),13-15 November, 2015	IIUCNN & Mahatma Gandhi University, Kottayam, Kerala, India
6.	In search of green chemical agents for the synthesis of Ag and Au nanoparticles with tailor-made structural properties. (Invited talk and Chairperson	Second International Conference on Nanostructured Materials and Nanocomposites (ICNM 2014) 19-21 December 2014	Mahatma Gandhi University, Kottayam, Kerala, India
7.	Green Chemistry for Nanochemistry: Exploring medicinal plants for the biogenic synthesis of metal nanoparticles with fine-tuned structures. (Invited talk and Chairperson)	International Conference on Advanced Polymeric Materials (ICAPM-2013), 11-13 October, 2013.	jointly organized by IIUCNN, Mahatma Gandhi University, Kottayam, Beijing University of Chemical Technology, Beijing, China, Wroclaw University of Technology, Wroclaw, Poland and International Unit on Macromolecular Science and Engineering (IUMSE).
8.	Biogenic materials and their chemical constituents: Promising "Green Chemical Tools" for the synthesis of metal nanoparticles with fascinating Morphologies.(Oral Presentation)	International Conference on Nanoscience and Technology (ICONSAT -2012) ,20-23 January, 2012	Organized by DST-Nano Mission and ARCI in Hyderabad
9.	In search of biogenic agents for the synthesis of metal nanoparticles with tailor-made structural properties. (Poster Presentation)	Second International Conference on Multifunctional, Hybrid and Nanomaterials, 6-10 March, 2011	Organized by ELSEVIER in Strasbourg, France
	In search of "green chemical agents" for the synthesis of Au and Ag nanoparticles with "tailor-made" structural properties.(Invited talk and Chairperson)	International Conference on Nanomaterials: Synthesis, Characterization and Applications (ICN-2010) 27- 29 April, 2010	Organized by Mahatma Gandhi University, Kottayam, Kerala, India

10. Other information:

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

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

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

On-going research project:

Project title	Sponsoring Agencies	Duration	Cost
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	01.11.20-	Rs. 4.30 L

Research interest:

Understanding the biological processes with the help of fluorescent small molecules and nanomaterials.

LIST OF PUBLICATIONS FOR THE LAST FIVE YEARS:

1.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 2022, 164, 110603.

2.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 2022, 1248, 131511.

3. Mallick, T.; Karmakar, A.; Mukhuty, A.; Fouzder, C.; Mandal, J.; Mondal, S.; Pramanik, A.; Kundu, R.; Begum, N. A., Exploring the Propensities of Fluorescent Carbazole Analogs toward the Inhibition of Amyloid Aggregation in Type 2 Diabetes: An Experimental and Theoretical Endeavor. The journal of physical chemistry. B 2021, 125 (37), 10481-10493.

4. 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 2021, 4, 100042.

5. Mondal, S.; Karmakar, A.; Mallick, T.; Begum, N., Exploring the efficacy of naturally occurring biflavone based antioxidants towards the inhibition of the SARS-CoV-2 spike glycoprotein mediated membrane fusion. Virology 2021, 556, 133-139.

6. 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 2021, 32 (23), 235101.

7. 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 2020, 124 (49), 11133-11144.

8. Kumari, D.; Mallick, T.; Karmakar, A.; Mondal, S.; Das, S.; Begum, N., Curry Leaf and its Antioxidant Potential: A Systematic Study to Enhance its Activity in Aqueous Medium. Current Nutrition & Food Science 2020, 323-332.

9. 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 2020, 173, 107994.

10. 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 2020, 173, 107994.

11. 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 2019, 28 (5), 723-741.

12. 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 2019, 18, 100278.

13. 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 2018, 172, 440-450.

14. Karmakar, A.; Mallick, T.; Alam, M. N.; Das, S.; Batuta, S.; Chandra, S. K.; Mandal, D.; Begum, N. A., Understanding of the interactions of ctDNA with an antioxidant flavone analog: Exploring the utility of the small molecule as fluorescent probe for biomacromolecule. Journal of Molecular Structure 2018, 1165, 276-287.

15. 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 2018, 13, 1-20.

16. 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 (1), 334-348.

17. 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, 266-278.

18. 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 2018, 147, 585-593.

19. 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 2017, 61, 178-188.

20. 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 2017, 157, 286-296.

21. Patra, M.; Mukherjee, R.; Banik, M.; Dutta, D.; Begum, N.; 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 2017, 154, 63-73.

22. 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 2017, 184, 64-73.

23. 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 2017, 335, 86-93.

24. 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 2017, 47 (2), 137-147.