CURRICULUM VITAE

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Date of Birth: 24th January, 1961 **Present Position:** Professor

Subject: Chemistry **Specialization:** Physical Chemistry

Education:

- **Ph. D.** (Chemistry), Indian Institute of Technology, Kanpur, India, **1992**; *Photophysical Properties and Proton Transfer Reactions in the Ground and First Excited Singlet Electronic States of 2-Substituted Benzoxazoles and Benzothiazoles*

- **M. Sc.** (Chemistry), University of Burdwan, Burdwan, India, **1985**

- **B. Sc. (Hons)** University of Burdwan, India, **1983**

Professional Experience

- **2011 – present**, Professor, Indian Institute of Technology, Kharagpur, India;
- **1998-2007**, Associate Professor, Indian Institute of Technology, Kharagpur, India;
- **1998-2007**, Assistant Professor, Indian Institute of Technology, Kharagpur, India;
- **1997-1998,** Post-doctoral Research Associate, The University of Mississippi, USA; i) *Protein structure and stability in solution, circular dichroism and fluorescence-monitored kinetics and thermodynamics of thermal-, pressure-, and chemical-induced unfolding and refolding studies, and ii) Laser spectroscopy and dynamics of proteins in solutions;*
- **1995-1997**, Post-doctoral Research Associate, Louisiana State University, Baton Rouge, USA; *i) Photophysical properties of biologically important organic molecules, ii) Effects of organized media (micelles, cyclodextrins etc.) on proton-transfer reactions in the excited state, and iii) Development of methods for chiral separations of small organic molecules and drugs by micellar electrokinetic capillary chromatography (MEKC)*;
- **1992-1995,** Post-doctoral Research Associate, University Collage Dublin, National University of Ireland, Dublin, Ireland; *i) Acid-base catalyzed ring opening reactions of the anti-cancer drugs camptothecin and its derivatives, tautomerization of benzodiazepins, hydrolysis of epoxides, and hydration reactions of cyclic olefins in aqueous solution, and ii) Peralkylated cyclodextrins: drug delivery and liquid crystal properties;*
- **1991-1992,** Senior Research Fellow, IIT Kanpur, India; *EPR spectroscopic studies of molecular organization and dynamics of lecithin reverse micelles and vesicles through photoionization of organic molecules*;

Current Research Activities

- Molecular Self-Assembly of Surfactants and Polymers
- Molecular Gels
- Energetics of Protein/Polymer-Surfactant Interactions
- Drug/Gene Delivery using Colloidal Systems

Sponsored Research Projects

- Fluorescence Probe Studies of the Structure, Aggregation Mechanism of Chiral Polysoaps and Block Ionomers in Solution. **CSIR**, Dec., 2000 - March, 2004

- Enantiomeric Separation of Chiral Drugs by Micellar Electrokinetic Chromatography. **DST**, September, 2001 - August, 2004

- Interactions of Water-soluble Hydrophobically Modified Polymers with Surfactants: Fluorescence Probe and Light Scattering Studies. **MHRD**, May, 2003 - April, 2006

- Enantioseparation of Drugs and Small Organic Molecules by Electrokinetic Capillary Chromatography Using Vesicles as Pseudo-stationary Phase. **CSIR**, January, 2006-December, 2008

- Preparation of Stable Vesicles of Catanionic Surfactants. Characterization by Surface Tension, Fluorescence Probe, Light Scattering, and Microscopic Techniques. **DST**, September, 2006 - August, 2009

- Interactions between Water-Soluble Hydrophobically Modified Polymers and Surfactants: Rheology, Fluorescence Probe, and Calorimetric Studies. **BRNS**, DAE, June, 2006- March, 2010

- Evaluation of Potential Applications in Drug Delivery of Some Novel pH-Responsive, Biocompatible, and Biodegradable Hydrophobically Modified Polymers. **DST**, August, 2009-July, 2012;
- A Value Chain on Aloe Vera Processing. ICAR, NAIP; April, 2009 – June, 2012

Publications

a) In refereed Journals:	**91**	b) Books/Book Chapters:	**01**
c) Ph.D. Thesis:	**11**	d) M.Sc. Thesis:	**19**
e) Presentations:	**55**		

Citations: 1631 **h-Index: 26**

Representative Publications

1. L-Cysteine-Derived Ambidextrous Gelators of Aromatic Solvents and Ethanol/Water Mixtures . A. Pal and J. Dey, *Langmuir*, **2013**, 29, 2120-2127.
2. Can Molecules with Anionic Head and Poly(ethylene glycol) methyl ether Tail Self-assemble in Water? A Surface tension, Fluorescence Probe, Light Scattering, and Transmission Electron Microscopic Investigation. J. Dey and S. Shrivastava, *Soft Matter*, **2012**, *8*, 1305-1308.
3. Drug solubilization by amino acid based polymeric nanoparticles: characterization and biocompatiblity studies. P. Dutta, and J. Dey, *Int. J. Pharm.* **2011**,*421*, 353-363.
4. Nanostructure Formation in Aqueous Solution of Amphiphilic Copolymers of 2-(*N, N*-dimethylaminoethyl)-methacrylate and Alkylacrylate: Characterization, Antimicrobial Activity, DNA Binding, and Cytotoxicity Studies. P. Dutta, J. Dey, A. Shome, P. K. Das, *Int. J. Pharm.* **2011**, *414*, 298-311.
5. Interaction Between Zwitterionic and Anionic Surfactants: Spontaneous Formation of Zwitanionic Vesicles. S. Ghosh, D. Khatua and J. Dey, *Langmuir*, **2011**, *27*, 5184-5192

Teaching Experience

- **1998-present, Indian Institute of Technology Kharagpur, India**
- **Courses Taught**
    1. Basic Physical Chemistry (UG)
    2. Physical Chemistry-I (UG)
    3. Instrumental Methods of Chemical Analysis (UG & PG)
    4. Introduction to Polymer Chemistry (UG and PG)
    5. Introduction to Quantum Chemistry and Spectroscopy (UG)
    6. Molecular Symmetry, Spectroscopy and Dynamics (UG and PG)
    7. Colloid and Surface Chemistry (UG and PG)
    8. Biophysical Chemistry (PG)
    9. Colloids and Drug Delivery (PG)
    10. Magnetic Resonance Spectroscopy (UG)
    11. Physical Chemistry Laboratory (UG and PG)
    12. Instrumental Methods of Chemical Analysis Laboratory (PG)

Professional Affiliations

- American Chemical Society (ACS), member (1995-1999)
- Biophysical Society, member (1997-1999)
- American Association for the Advancement of Science (AAAS), member (1997-1999)
- Chemical Research Society of India, member (Life)
- Indian Society for Radiation and Photochemical Sciences, member (Life)
- Society for Polymer Science, India, member (Life)
- **Reviewer,** *J. Am. Chem. Soc., Langmuir, J. Phys. Chem., Langmuir, J. Luminescence, Polymer, J. Colloid Interface Sci., Colloid and Surf. A, Intl J. Pharm., Soft Matter, RSC Adv, Chem. Com., Phys. Chem. Chem. Phys., J. Photochem. Photobiol. A: Chemistry, Small, J. Nanomedicine, J. Appl. Mater. and Indian J. Chem.*

Honors and Awards

- **Junior and Senior Research Fellowship,** IIT Kanpur, India, **1986-1991**
- **Research Fellowship,** University Grants Commission, Government of India, **1985**
- **National Scholarship,** Ministry of Education, Government of India, **1982- 1984**
- **Graduate Aptitude Test in Engineering,** Indian Institute of Technology, **1986**
- **Senior General Knowledge and Intelligence Test,** Institute of General Knowledge and Intelligence, New Delhi, India, **1978**.