CURRICULUM VITAE

Name:	Dr. Mrs Manjuri Kumar
Residential Address:	Qtr. No. C 188, BITS-Pilani K.K. Birla Goa Campus NH-17B, Zuarinagar, Goa 403726.
Telephone:	0832-2580302 (Office)
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Date of Birth:	December 26, 1964
Nationality:	Indian
Current occupation:	Associate Professor in the Department of Chemical Engineering. BITS-Pilani K.K. Birla Goa Campus, Goa

Educational Qualification:

1986 B.Sc. (Chemistry Hons.) St Xaviers College, Kolkata, WestBengal, India.

1990 B.Tech. (Chemical Technology), Calcutta University, WestBengal, India.

1992 M.Tech (Ceramic Engineering), Calcutta University, WestBengal, India.

2004 Ph.D. BITS-Pilani, Rajasthan, India

Thesis title: "Synthesis, Characterization and kinetic studies of some novel Cr(IV) and Cr(V) Compounds".

Supervisor: Prof. S. C. Sivasubramanian (Chemistry Department), BITS-Pilani, Pilani campus.

Experience:

2022- till date Associate Professor, Chemical Engineering Department, BITS-Pilani, K.K. Birla Goa Campus.

2006-2022 Assistant Professor, Chemical Engineering Department, BITS-Pilani, K.K. Birla Goa Campus.

2004-2006 Lecturer, Chemical Engineering Department BITS-Pilani, K.K. Birla Goa Campus. Goa.

2000-2004 Lecturer, Chemical Engineering Department, BITS-Pilani, Pilani Campus, Rajasthan.

1998-2000 Assistant Lecturer, Chemical Engineering Department, BITS-Pilani, Pilani Campus, Rajasthan.

1992-1994 Research Fellow, Electroceramics Division, C.G.C.R.I, Calcutta.

Courses taught:

Inorganic Chemistry
Structure and properties of materials
Measurement Techniques (I)
Measurement Techniques (II)
Chemical Process Calculations
Selected Chemical Engineering Operations
Chemical Process Technology
Corrosion Engineering
Polymer Technology (ME programme)
Engineering Chemistry
Separation Processes II
Engineering Measurements

Research Interest :

- Design, synthesis and characterization of novel copper and zinc complexes using different chelating ligands.
- Biological studies: DNA binding, DNA cleavage studies using metal complexes, protein interaction and molecular docking using Human serum albumin, cytotoxicity studies and anticancer activity of metal complexes on cancerous and noncancerous cell lines.
- Catalytic activity: investigation of catalytic activities of metal complexes such as catecholase activity

Research Project

SERB DST Extra Mural Research Funding (Individual Centric) as PI
Sanctioned on 24th Oct 2018

Title of project

Synthesis of mononuclear as well as homo and hetero dinuclear complexes of Cu(II) and Zn(II) with hard-soft donor ligands and evaluation of their anticancer activities

Ph.D students

1. Ms. Sidhali Uday Parsekar joined on 20-1-2017 as PhD student under Institute fellowship and she has successfully completed her PhD in March 2022. Thesis title: "Synthesis, DNA/HSA interactions, cytotoxicity and anticancer activity of some Cu(II)/Zn(II) complexes with chelating ligands"

2. Ms Priyanka Velankanni joined as junior research fellow in SERB DST-EMR funded project and worked from 31-12-2018 to 7-3-2020. Project title: "Synthesis of mononuclear as well as homo and hetero dinuclear complexes of Cu(II) and Zn(II) with hard-soft donor ligands and evaluation of their anticancer activities".

3. Ms. Kumudini Paliwal. joined as junior project fellow in SERB DST-EMR funded project on 1st Oct 2020, and she is currently doing PhD. (Proposed Thesis title: "Studies on DNA/Protein interactions and antiproliferative activity of some Cu (II) complexes containing hard-soft donor ligands")

Publications

1. Manjuri Kumar, Sanchita P. Ghosh, Aditya P. Koley, Manik C. Ghosh: Reduction of carboxylato-bound chromium(IV) by hydrazine. Journal of Chemical Research, Science Reviews Ltd, vol.2000, 448-449 **(2000)**.

2. Manjuri Kumar, Sanchita P. Ghosh, Aditya P.Koley, , Manik C.Ghosh: Reduction of carboxylato-bound chromium(IV) by hydroxylamine. Indian J. Chem, Scientific Publishers of India, vol.40A, 827-830 **(2001)**.

3. Sanchita P. Ghosh, Manjuri Kumar, Aditya P.Koley, Manik C.Ghosh, : First direct detection of chromium(IV) as a long lived intermediate in the oxidation of methanol by chromium(VI). Journal of Chemical Research, Science Reviews Ltd, vol.2003, 346-347, **(2003)**.

4. Manjuri K. Koley, S.C. Sivasubramanian, B. Varghese, P.T. Manoharan, A.P. Koley : Synthesis and characterization of two stable paramagnetic octahedralChromiun (IV) complexes with dianionic tridentate SNO donor ligands and of a chromium(III) complex with a ONO donor ligand . Inorg.Chim. Acta, Elsevier, vol.361, 1485-1495 **(2008)**.

5. Manjuri K. Koley, P.T. Manoharan, A.P. Koley : Synthesis and characterization of a stable paramagnetic hexacoordinated oxochromium(IV) complex with dianionic tetradentate Schiff base ligand salen. Inorg. Chim. Acta, Elsevier, vol.363, 3798-3802 **(2010).**

6. Manjuri K. Koley, Seshadri C. Sivasubramanian, Sumit Biswas, Periakaruppan T. Manoharan and Aditya P. Koley: Dioxygen binding and activation by a highly reactive Cr(II)compound containing S,N-donors derived from o-aminothiophenol . Journal of Coordination Chemistry, Taylor & Francis,vol. 65, 3329–3351 **(2012).**

7. Manjuri K. Koley , Seshadri C. Sivasubramanian, Babu Varghese, Periakaruppan T. Manoharan , and Aditya P. Koley: A paramagnetic octahedral trans-dihydroxy chromium(IV) complex with dianionic tetradentate Schiff base ligand salophen, and crystal structure of its transdiisothiocyanato analogue. Journal of Coordination Chemistry,Taylor & Francis, vol. 65, 3623–3640, **(2012).**

8. Manjuri K. Koley , Amrita Chatterjee, Anjan CHattopadhyay, Periakaruppan T. Manoharan , and Aditya P. Koley: Spectroscopic studies for the changes of a Cr(II) compound in solution triggered by the deprotonation of an aqua ligand. Journal of Coordination Chemistry, Taylor & Francis, Vol. 68, No. 12, 2065–2095, **(2015)**.

9. Manjuri K. Koley, Om Prakash Chouhan, Sumit Biswas, Joseph Fernandes, Arnab Banerjee, Anjan Chattopadhyay, Babu Varghese, Periakaruppan T. Manoharan and Aditya P. Koley: Spectroscopic, electrochemical and DNA binding studies of some monomeric copper(II) complexes containing N_2S(thiolate)Cu core and N_4S(disulfide)Cu core. Inorganica Chimica Acta, Elsevier, vol. 456,179-198, **(2017)**

10. Manjuri K. Koley, Natarajan Duraipandy, Manikantan Syamala Kiran, Babu Varghese, Periakaruppan T. Manoharan and Aditya P. Koley: DNA binding and cytotoxicity of some Cu(II)/Zn(II) complexes containing a carbohydrazone Schiff base ligand along with 1,10-phenanthroline as a coligand. Inorganica Chimica Acta, Elsevier, 466, 538-550, **(2017).**

11. Manjuri K. Koley, Sidhali Uday Parsekar, Natarajan Duraipandy, Manikantan Syamala Kiran, Babu Varghese, Periakaruppan T. Manoharan and Aditya P. Koley: DNA binding and cytotoxicity of two Cu(II) complexes containing a Schiff base ligand along with 1,10-phenanthroline or imidazole as a coligand. Inorganica Chimica Acta, Elsevier, 478, 211-221, **(2018)**.

12. Sidhali U. Parsekar, Joseph Fernandes, Arnab Banerjee, Om Prakash Chouhan, Sumit Biswas, Manohar Singh, Durga P. Mishra and Manjuri Kumar: DNA binding, cleavage and cytotoxicity studies of three mononuclear Cu(II) chloro-complexes containing N–S donor Schiff base ligands. Journal of Biological Inorganic Chemistry, Springer, 23, 1331–1349, **(2018)**.
13. Manjuri Kumar, Sidhali Uday Parsekar, Natarajan Duraipandy, Manikantan Syamala Kiran, Aditya P. Koley: Synthesis, DNA binding and in vitro cytotoxicity studies of a mononuclear copper(II) complex containing N2S(thiolate)Cu core and 1,10-phenanthroline as a coligand. Inorganica Chimica Acta, Elsevier, 484, 219–226, **(2019)**.

14. Sidhali U. Parsekar , Manohar Singh , Durga P. Mishra , P. K. Sudhadevi Antharjanam , Manjuri Kumar , and Aditya P. Koley: Efficient hydrolytic cleavage of DNA and antiproliferative effect on human cancer cells by two dinuclear Cu(II) complexes containing a carbohydrazone Schiff base ligand and 1,10-phenanthroline as a coligand, Journal of Biological Inorganic Chemistry, Springer, 24:343–363 **(2019).**

15. Sidhali U. Parsekar, Priyanka Velankanni, Shruti Sridhar, Paramita Haldar, Nayan A. Mate, Arnab Banerjee, P. K. Sudhadevi Antharjanam, Aditya P. Koley and Manjuri Kumar: Protein binding studies with human serum albumin, molecular docking and *in vitro* cytotoxicity studies using HeLa cervical carcinoma cells of Cu(II)/Zn(II) complexes containing carbohydrazone ligand. Dalton Transactions, Royal Society of Chemistry, 49: 2947-2965 (**2020).**

16. Sidhali U. Parsekar, Paramita Haldar, P.K. Sudhadevi Antharjanam, Manjuri Kumar, Aditya P. Koley: Synthesis, characterization, crystal structure, DNA and human serum albumin interactions, as well as antiproliferative activity of a Cu(II) complex containing a Schiff base ligand formed in situ from the Cu(II)-induced cyclization of 1,5-bis(salicylidene)thiocarbohydrazide. Applied Organometallic Chemistry, John Wiley & Sons, Ltd, DOI: 10.1002/aoc.6152 **(2021; e6152).**

17. Sidhali U. Parsekar, Kumudini Paliwal, Paramita Haldar, P.K. Sudhadevi Antharjanam, Manjuri Kumar: Synthesis, Characterization, Crystal Structure, DNA and HSA Interactions, and Anticancer Activity of a Mononuclear Cu (II) Complex with a Schiff Base Ligand Containing a Thiadiazoline Moiety. ACS Omega, 7, 2881-2896 **(2022).**

Conferences and Workshops attended

1. Manjuri Kumar, S. C.Sivasubramanian, A.P.Koley: Synthesis and characterization of novel paramagnetic chromium compounds. Symposium on Modern Trends in Inorganic chemistry **(MTIC-X),** IIT-Bombay, Mumbai, December **2003**.

2. Manjuri K. Koley, Omprakash Chouhan, Sumit Biswas, Aditya P. Koley: DNA binding studies of some monomeric mixed ligand Cu(II) complexes containing N2S(thiolate)Cu core and heterocyclic aromatic base adducts. International conference on Nascent Developments in Chemical Sciences: Opportunities for Academia-Industry Collaboration **(NDCS-2015),** BITS Pilani October 16-18, 2015.

3. Manjuri Kumar, Om Prakash Chouhan, Sumit Biswas, Joseph Fernandes, Arnab Banerjee, Angshuman Sarkar, Aditya P. Koley: Mixed ligand Cu(II)/Zn(II) complexes containing heterocyclic bases show enhanced DNA binding activity and cytotoxicity. Indo-UK International Workshop on Advanced Materials and their applications in nanotechnology: **(AMAN 2016),** BITS-Pilani, K.K. Birla Goa Campus, 11-12 January 2016

4. Manjuri Kumar, participated in two-day workshop on Environmental Management System. BITS-Pilani, K.K. Birla Goa Campus in collaboration with Goa State Pollution Control Board. 20-21st Oct **2016**

5. Manjuri Kumar: Catechol Oxidase Activity of some mononuclear Cu(II) Complexes containing N-S Donor ligands. Fourth International Conference on Advanced Oxidation Processes (**AOP-2016**) Dec 17-20, **2016**.

6. **Invited Lecture**
   Invited Speech entitled: Study of DNA Binding and Catechol Oxidase Activity of Some Copper (II) Complexes Containing N-S Donor Ligand Using Spectroscopic Techniques in Session 2-5: Molecular Spectroscopy and Dynamics & Advanced Vibrational Spectroscopy and Applications at 5th International Conference of **AnalytiX-2017** (AnalytiX-2017) held on March 22-24, 2017 in **Fukuoka, Japan**.

7. Parsekar Sidhali Uday , Joseph Fernandes, Arnab Banerjee, Manjuri K. Koley*, ROS-Mediated Cytotoxicity of Cu(II) complexes against Human Cervical Cancer HeLa Cell line. International Conference on Reproductive Physiology and Comparative Endocrinology (**ICRPCE**) and 36th Annual Meeting of the Society for Reproductive Biology and Comparative Endocrinology (SRBCE- XXXVI). 20^{th}-22^{nd} January, **2018**.

8. Sidhali Uday Parsekar and Manjuri Kumar* DNA binding and *in vitro* cytotoxicity studies of a mixed-ligand mononuclear copper(II) complex. Biological Engineering Society India. Annual Meeting and Conference **BESCON 2018**, IIT Bombay, 26-27 October 2018.

9. Manjuri K. Koley, Sidhali U. Parsekar, Joseph Fernandes and Arnab Banerjee: Synthesis, *in vitro* cytotoxicity and anticancer activity of some Cu(II) complexes containing N_2S (thiolate) and N_4S (disulfide) cores. 9th Asian Biological Inorganic Chemistry Conference (**AsBIC 9**) Stephen Riady Centre, National University of **Singapore** 9-14 December **2018**.

10. Three-day workshop on DNA binding and DNA cleavage studies using chemical compounds supported by MERCK organized by BITS BIRAC BIONEST of BITS-Pilani, K.K. Birla Goa Campus 11-13 October **2019.**

11. Manjuri Kumar, Sidhali U. Parsekar, Priyanka Velankanni and Aditya P. Koley: Design and development of Cu(II)/Zn(II) complexes containing carbohydrazone ligand to study DNA and protein interaction as well as *in vitro* anticancer activity. GORDON RESEARCH CONFERENCES *frontiers of science*: Status: accepted by the conference chair and invited to present a poster at the 2020 meeting of Metals in Medicine. Conference at Proctor Academy, NH United States from June 28 - July 3, 2020. Conference was cancelled due to Corona Pandemic.

    Meeting: Metals in Medicine **Gordon Research Conference**
    Dates: June 28, 2020 - July 03, **2020**
    Location: Proctor Academy in **Andover, NH United States**

Divisional Work in BITS:

1998- May 2004 Attatched to the educational Hardware Division of BITS-Pilani, Pilani Campus and I looked after the purchase of chemicals and glassware.

July2004-2007	Incharge of purchase concerning consumable and non-consumable articles in BITS-Goa Campus. Convenor/Member of the committee for finalizing the contract for shopping complex, printing and stationary in the newly started BITS-Goa Campus.
2008-till date	Nucleus member in the ID and ARC division of BITS-Pilani, K.K. Birla Goa Campus. I am associated with the making of time table, test scheduling, class room allotment for exams, seating arrangement, assignment of invigilation duty, student registration related work, course allotment for ACB candidates.

Other activities at BITS:

Mentor to ACB students in BITS campus. (Guiding weak students) .

Associated with the woman empowerment program of NIRMAN (an organization to who helps the less privileged people of India).

Active participation in organising Durga puja at BITS Pilani K.K. Birla Goa Campus.

Executive Committee Member of BITS Socio Cultural Association.

Member of contract Committee of BITS Pilani K.K. Birla Goa Campus.