



CURRICULUM VITAE
BIO DATA

NAME: RANJAN DEY, FRSC, FICS, MNASc.

ACADEMIC QUALIFICATIONS: M. Sc.; D. Phil.; PGDMM (Mktg), Certificate Course in IPR.

DATE OF BIRTH: 21/06/1969

PLACE OF BIRTH: ALLAHABAD, U.P., INDIA.

DESIGNATION: PROFESSOR, CHEMISTRY DEPT, BITS PILANI, GOA CAMPUS
& VISITING ASSOC. PROF. AT NTUST, TAIPEI, TAIWAN.

E – MAIL: ranjandey@goa.bits-pilani.ac.in ;
drranjan@hotmail.com

ADDRESS : DEPT. OF CHEMISTRY, BITS PILANI K K BIRLA GOA CAMPUS, ZUARINAGAR, GOA, INDIA- 403726

Ph.D. UNIVERSITY OF ALLAHABAD (1997)

URL : <https://scholar.google.co.in/citations?user=aaYibisAAAAJ&hl=en>
<https://www.bits-pilani.ac.in/goa/ranjan-dey>

RESEARCH AND TEACHING EXPERIENCE:

- 24 PLUS YEARS OF P.G. / U.G. TEACHING & 20 YEARS OF RESEARCH (POST Ph.D.)
- TWENTY PLUS INVITED TALKS; TWO INVITED LECTURE SERIES; TWO KEYNOTES
- TAUGHT SUMMER TERM COURSE IN JUNE – JULY 2016 AT NTUST, TAIPEI, TAIWAN.
- ASSOCIATE EDITOR IN EDITORIAL BOARD OF FRONTIERS IN CHEMISTRY- PCCP.
- REVIEWER OF MORE THAN 10 INTERNATIONAL JOURNALS.
- Ph.D.: 3 AWARDED (SINGLE SUPERVISION); 4 Ongoing.

RESEARCH PUBLICATIONS:

PUBLISHED: 82

UNDER REVISION: 2

COMMUNICATED: 3

CURRENT AREAS OF RESEARCH:

- a) **Thermodynamic, Excess & Transport Properties of Liquid Mixtures.**
- b) **Prediction of Thermophysical and Thermoacoustical properties.**
- c) **Renewable, New and Non-Conventional Energy; WATER-ENERGY NEXUS.**

COLLABORATIONS:

INTERNATIONAL:

- 1) Prof. KARSTEN MULLER, Lehrstuhl für Technische Thermodynamik, Rostock University, Rostock, Germany.
- 2) PROF. J A P COUTINHO: Professor, CICECO, University of Aveiro, Portugal.
- 3) PROF. SLOBODAN GADZURIC, University of Novi Sad, Serbia.
- 4) PROF. PEDRO CARVALHO: Researcher, CICECO, Dept of Chemistry, University of Aveiro, Portugal.
- 5) PROF. MIHAIELA C. STUPARU: Assistant Professor, NTU, Singapore.

NATIONAL:

- 1) PROF. SIVAKUMAR KASI: Associate Professor, SV University, Tirupati, India.
- 2) DR. TADIKONDI S KRISHNA: Associate Professor, PBS College, Vijayawada, India.
- 3) PROF. P V RAO: Associate Professor, Dept of Civil Engineering, NIT Warangal.
- 4) PROF. SNEHANSHU SAHA: Professor, Dept of CSIS, BITS Pilani Goa Campus.
- 5) DR. ANIRBAN ROY: Assistant Professor, Chemical Engg Dept, BITS Goa, India.
- 6) PROF. A P MISHRA: Professor and Head, H S Gour University, Sagar, India.
- 7) PROF. KRISHNA MISHRA: Emeritus Professor, SGPGI, Lucknow, India.
- 8) PROF. ANAGHA PATHAK, School of Energy Studies, Pune University.

RECENT NOTABLE ACHIEVEMENTS:

1. **BEST TEACHER AWARD, BITS GOA CAMPUS, 2022.**
2. **TEACHING EXCELLENCE AWARD, BITS GOA CAMPUS, SEPT, 2022.**
3. **AWARDED OUTSTANDING REVIEWER FROM JOURNAL OF MOLECULAR LIQUIDS (I.F.- 6.6) AND INTERNATIONAL JOURNAL OF BIOLOGICAL MACROMOLECULES (I.F. – 6.95) .**
4. **ELECTED TO THE FARADAY COMMUNITY COUNCIL OF THE RSC- JULY 2023.**
5. **ELECTED AS FELLOW OF ROYAL SOCIETY OF CHEMISTRY (SINCE 2018)**
6. **JUDGE AND REVIEWER OF DST AWSAR AWARDS. (2020 -)**
7. **EDITORIAL BOARD MEMBER OF FRONTIERS IN CHEMISTRY- PHYSICAL CHEMISTRY CHEMICAL PHYSICS, FRONTIERS IN PHYSICS.**

8. ELECTED CORE COMMITTEE MEMBER OF STATISTICAL MECHANICS AND THERMODYNAMICS GROUP (SMTG) OF THE ROYAL SOCIETY OF CHEMISTRY, AUGUST 2022.
9. CERTIFICATE OF REVIEWING: JOURNAL OF MOLECULAR LIQUIDS-2022, JOURNAL OF CHEMICAL THERMODYNAMICS-2022, FLUID PHASE EQUILIBRIA- 2022, CHEMICAL THERMODYNAMICS AND THERMAL ANALYSIS, TAIWAN INSTITUTE OF CHEMICAL ENGINEERS(TICE)-2022, CHEMICAL DATA COLLECTIONS- 2019, HELIYON-2020.
10. AWARDED REVEIWER RECOGNITION FROM JOURNAL OF CHEMICAL THERMODYNAMICS (*JCT*) 2022.
11. KEYNOTE AT 6th INTERNATIONAL CONFERENCE: THERMAM 2019 & 8TH ROSTOCKER INTERNATIONAL CONFERENCE, CESME, IZMIR, TURKEY, 22ND – 24TH SEPT, 2019. <https://www.thermam.org/haber—70.html://>
12. KEYNOTE ADDRESS ON “**BASIC SCIENCES**” AT SCIFFI, PANJIM, GOA IN JANUARY 2019.
13. ACADEMIC VISITOR IN SUMMER OF 2018 AT DEPARTMENT OF CHEMISTRY, CAMBRIDGE UNIVERSITY, CAMBRIDGE U.K. UNDER MENTORSHIP OF PROF. DAVID WALES.
14. BSCA MAANPATRA SAMMAN, ALLAHABAD FOR DISTINCTION IN HIGHER EDUCATION IN APRIL 2017.
15. MEMBER- BOARD OF STUDIES, H S GOUR SAGAR UNIVERISTY, SAGAR, M.P.
16. VISITING ASSOCIATE PROFESSORSHIP FROM NTUST TAIWAN JUNE-JULY 2016.
17. 2 UNDERGRADUATE STUDENTS HAVE WON THE *BITSAA RESEARCH AWARDS*.
18. ONE STUDENT WON THE BEST PAPER AWARD IN *APOGEE 21*.

INTERNATIONAL KEYNOTES/ INVITED TALKS/SESSIONS CHAIRED

1. INVITED TALK (11/07/2023) at 38th International Conference on Solution Chemistry (38th ICSC-IUPAC), held at **BELGRADE, SERBIA**, 9TH -14TH JULY, 2023.
2. SESSION CHAIR - Lavender Hall(12/07/2023) at the 38th I C S C (38th ICSC-IUPAC), held at **BELGRADE, SERBIA**, 9TH -14TH JULY, 2023. <https://icsc2023.pmf.uns.ac.rs/>
3. SESSION CHAIR for the Statistical Mechanics and Thermodynamics Group(SMTG), Webinar Series Talk by Prof. DAVID J, WALES, FRS, ScD, FRSC, Royal Society of Chemistry, U.K, 15TH February 2023.
4. INVITED TALK AT International Conference on Advanced Materials Science &

Engineering and High-Tech Devices Applications; Exhibition (**ICMATSE 2022**), October 27-29, 2022, **Ankara, TURKEY**.

5. INVITED TALK at 9th Rostocker International Conference on Thermophysical Properties, THERMAM 2020(Online), **University of Rostock, Rostock, Germany**, 15th October, 2020 .
6. **KEYNOTE at 6th International Conference: Thermophysical and Mechanical Properties of Advanced Materials-THERMAM 2019 & 8TH Rostocker International Conference, Thermophysical Properties for Technical Thermodynamics, Cesme, IZMIR, TURKEY, 22ND – 24TH Sept, 2019.** [https:// www.thermam.org/haber—70.html://](https://www.thermam.org/haber—70.html://).
7. Session CHAIR, Second Technical, **THERMAM 2019** , Cesme, Izmir, Turkey, 22nd Sept, 2019.
8. INVITED TALK at Department of Chemistry, **University of Cambridge, Cambridge, U.K.**, 18th June, 2018.
9. INVITED TALK at Theoretical Chemistry Group, **Heidelberg University, Heidelberg, Germany**, 13TH July, 2017.
10. INVITED TALK at Department of Chemical Engineering, **National Taiwan University of Science and Technology (NTUST) Taipei, Taiwan**, 29th June, 2016.
11. INVITED TALK at Chung Yuan Christian University (**CYCU**) **Taipei, Taiwan**, 5th July , 2016.
12. INVITED TALK at Yuvabharati International School- Singapore, **Singapore** 14th July, 2016.

KEYNOTES IN INTERNATIONAL CONFERENCES IN INDIA

1. **OPENING KEYNOTE ON “CUTTING EDGE RESEARCH IN BIOCHEMISTRY AND BIOMEDICAL RESEARCH”** at International Conference on Biochemistry and Biomedical Research (ICBBR-2024) organized by Association of Pharmaceutical Research (APR), 19th - 20th September, 2024, Goa, India.
2. KEYNOTE- **“MOVING TOWARDS GREENER AND SUSTAINABLE SOLUTIONS”**, at INTERNATIONAL WORKSHOP ON GREEN ENERGY AND SUSTAINABLE DEVELOPMENT (GSED), in Collaboration with STELLENBOSCH UNIVERSITY and UNIVERISTY OF CAPE TOWN, SOUTH AFRICA at BITS Pilani, Pilani Campus, 26th - 28th September, 2024 Sponsored by SPARC, Govt of India.

PATENTS

Application Number: **202411069613 (14/09/2024)**

BOOKS/ BOOK CHAPTERS/ EDITOR

1. **MICROBIAL ELECTROCHEMICAL SYSTEMS: RECENT ADVANCES AND FUTURE PROSPECTS**, *BIO CLEAN ENERGY TECHNOLOGIES*-Vol. 2, Chapter 6, pp107-117, **SPRINGER NATURE**, SINGAPORE. **eBook ISBN: 978-981-16-8094-6; Print ISBN : 978-981-16-8093-9**
2. **BINARY MIXTURES AND IONIC LIQUIDS: EFFECT OF THERMODYNAMIC AND THERMOPHYSICAL FACTORS - CHAPTER 15**, pp 267-282(2023).: *IONIC LIQUIDS AND THEIR APPLICATIONS IN GREEN CHEMISTRY*: – Elsevier) **ISBN: 9780323959315**.
<https://shop.elsevier.com/books/ionic-liquids-and-their-application-in-green-chemistry/akhter-siddique/978-0-323-95931-5>
3. **EDITOR-FRONTIERS IN CHEMISTRY: SOLVATION EFFECTS OF ORGANIC REACTIONS IN IONIC LIQUIDS, DEEP EUTECTIC SOLVENTS AND CONVENTIONAL SOLVENTS**.
<https://www.frontiersin.org/articles/10.3389/fchem.2023.1159357> **FEBRUARY 2023**.

POSTS HELD:

JAN- FEB 2020	ASSOCIATE DEAN- FACULTY AFFAIRS DIVISION
16/01/2014- 31/08/2018	Associate DEAN-Academics & Resources Planning (Goa Campus)
SUMMER 2018	ACADEMIC VISITOR, UNIVERSITY OF CAMBRIDGE
01/07/2016 -30/09/2016	Visiting Associate Professor- NTUST Taipei Taiwan
01/03/2023 -	PROFESSOR - Chemistry, BITS- Pilani, K K Birla Goa Campus
01/02/2013- 31/02/2023	Associate Professor, Chemistry, BITS- Pilani, Goa Campus
Jan 2006–31/01/2013	Assistant Professor, BITS- Pilani, Goa Campus.
1999- Jan 2006	Departmental RA (Lecturer Grade), Department of Chemistry, University of Allahabad, India.
2004 (SEPT-OCT)	Academic Visitor – IIT BOMBAY, under Prof. Nand Kishore.
1997-1998	Lecturer in FIITJEE, New Delhi.

SPONSORED PROJECTS / COMPETITIVE GRANTS

CDRF PROJECT OF RS. 50 LAKHS (WITH MANPOWER) – SEPT. 2023- 2 YEARS; PI

SPARC PHASE 3 PROJECT WITH STELLENBOSCH UNIVERSITY, & University of CAPE TOWN SOUTH AFRICA - APRIL 2024; 24 MONTHS : FUNDING INR 73,20,000/-.

UNIVERSITY IMMERSION GRANT IN 2018 (COMPETITIVE GRANT) FROM BITS PILANI UNIVERSITY FOR ACADEMIC EXPOSURE IN A WORLD CLASS UNIVERSITY.

RESEARCH PROJECT: CSIR, NEW DELHI, INDIA Completed: 30/11/2015
SANCTIONED AMOUNT: 10.3 LAKHS - P I and Sole Investigator

INTERIM RESEARCH GRANT OF Rs. 93,650/- IN 2020 BY SRCD, BITS GOA.

CO – PI OF PROJECT FUNDED BY MINISTRY OF FERTILIZERS (2007-2010);
FUNDING: 70 LAKHS (Rs. 7 MILLION)

2 INTERNATIONAL & 2 NATIONAL projects submitted to Funding Agencies for Approval.

FELLOW/ MEMBER OF PROFESSIONAL BODIES, SOCIETIES, etc.

1. FELLOW, ROYAL SOCIETY OF CHEMISTRY(FRSC), U.K.
2. MEMBER, NATIONAL ACADEMY OF SCIENCES INDIA (NASI) [Life]
3. MEMBER, AMERICAN CHEMICAL SOCIETY [Annual]
4. INDIAN THERMODYNAMICS SOCIETY [Fellow, Life]
5. CHEMICAL RESEARCH SOCIETY OF INDIA (CRSI) [LIFE]
6. FELLOW OF INDIAN CHEMICAL SOCIETY[Life]

ACHIEVEMENTS / RECOGNITION / AWARDS

1. BEST TEACHER AWARD, BITS PILANI GOA CAMPUS, September 2022.
2. 1450 PLUS CITATIONS, *h* Index: 18; *i-10* index: 39.
3. 475 CITATIONS IN LAST 3 YEARS (2022-24 Till date)
4. MAANPATRA SAMMAN & CITATION FROM BSCA, ALLAHABAD FOR HIGHER EDUCATION IN APRIL 2017.
5. VISITED NTU AND NUS IN SINGAPORE AS ASSOC. DEAN- ARP IN JULY 2016 AND ASSISTED ONE STUDENT IN GETTING SCHOLARSHIP IN NTU FOR HIS FIRST-DEGREE THESIS.

6. ONE PAPER IN *RSER* (2010) WITH IMPACT FACTOR OF 16.82 [370 + citations till date].
7. MEMBER OF NATIONAL ACADEMY. OF SCIENCES, INDIA (NASI) SINCE 2009.
8. FELLOW OF INDIAN CHEMICAL SOCIETY.
9. MEMBER ROYAL SOCIETY OF CHEMISTRY- LOCAL SECTION DECCAN. (RSC-LSD).

LECTURE SERIES :

- LECTURE SERIES ON “**SOLUTION THERMODYNAMICS & ELECTROCHEMICAL APPLICATIONS**” AT J C BOSE UNIVERSITY, FARIDABAD, FEB 24TH-26TH, 2019.
- LECTURE SERIES AT DEPT. OF CHEMICAL ENGG. AT **NATIONAL TAIWAN UNIVERISTY OF SCIENCE AND TECHNOLOGY(NTUST), TAIPEI, TAIWAN**, JUNE – JULY 2016 TO M.TECH. AND Ph.D. STUDENTS OF CHEMICAL ENGG. DEPT.
- LECTURE SERIES ON ELECTROCHEMISTRY TO MSc., M.Phil. & D.Phil. STUDENTS, BUNDELKAHAND UNIVERSTY, JHANSI, U.P., INDIA (MAY 14-15, 2015).

SESSIONS CHAIRED:

1. 1ST TECHNICAL SESSION (PHYSICAL CHEMISTRY) AT 41ST INDIAN COUNCIL OF CHEMISTS (ICC) CONFERENCE, AGRA, 27TH -29TH DEC, 2022.
2. TECHNICAL SESSION IN NFCFA 2019, GOA, INDIA. (20TH– 22ND, DEC 2019).
3. TECHNICAL SESSION IN ICICBES 2019, 27th-28th, FEB 2019, ARYA PG COLLEGE, PANIPAT, INDIA.
4. TECHNICAL SESSION ON “BASIC SCIENCES” AT SCIFFI, 17TH – 19TH, JAN 2019, GOA, INDIA.
5. TECHNICAL SESSION IN NFCFA 2017, GOA, INDIA (27TH-28THJAN, 2017).
6. TECHNICAL SESSION AND SYMPOSIUM ON INDUSTRY AND ITS INTERFACE WITH ACADEMIA IN NFCFA 2015(18TH-19THDECEMBER 2015).
7. ORAL PAPER PRESENTATION AND JUDGE FOR THE YOUNG SCIENTIST AWARD AT 32ND ANNUAL CONFERENCE OF INDIAN COUNCIL OF CHEMISTS, KARNATAKA UNIVERSITY, DHARWAD, KARNATAKA, INDIA, 28TH -30TH NOVEMBER,2013.

8. CHAIRED SIXTH SESSION IN INTERNATIONAL CONFERENCE ON EMERGING TRENDS IN CHEMICAL SCIENCES (ICETCS-2013) AT CUG, GANDHINAGAR, GUJARAT, INDIA MARCH 12-13, 2013.

RESOURCE PERSON

1. MHRD SPONSORED REFRESHER COURSE - CHEMISTRY IN THE INDIAN KNOWLEDGE SYSTEM, H S GOUR UNIVERSITY, SAGAR, M.P. 12TH – 25TH SEPT, 2023.
2. “**APPLICATIONS OF CHEMISTRY IN ADVANCED TECHNOLOGY**”, Under DBT STAR College Scheme at CMP Degree College, Prayagraj, 4th December, 2021.
3. “**MOLECULAR INTERACTION STUDIES BASED ON SOLUTION THERMODYNAMICS**”, online Refresher Course on Chemistry at the Interface with Biology and Material Science, H S GOUR University, Sagar, M.P., India. 11th – 25th NOV, 2021.
4. “**SOLUTION THERMODYNAMICS AND ITS APPLICATIONS**”, RESOURCE PERSON AT UGC-MHRD FACULTY DEVELOPMENT PROGRAMME REFRESHER COURSE IN CHEMISTRY-RECENT TRENDS IN CHEMISTRY EDUCATION AND RESEARCH, 23RD NOV – 5TH DEC, 2020, SGB AMRAVATI UNIVERSITY, Maharashtra, India.
5. UGC Sponsored Refresher Course – RECENT ADVANCES IN CHEMISTRY, H S GOUR University, Sagar, 17th – 29th AUG, 2020.
6. RESOURCE PERSON AT NAVAL EDUCATION SOCIETY SCIENCE WORKSHOP, GOA-2017.

INVITED TALKS

3. “**GREEN SOLVENTS OF THE FUTURE**”, at 18th International Congress of Thermal Analysis and Calorimetry (ICTAC 2024) & 14th National Conference of the Indian Thermodynamics Society (ITS), 2nd – 7th September, 2024, IIT MADRAS, Chennai, India.
4. “**SOLUTION THERMODYNAMICS AND ITS APPLICATIONS TO MOLECULAR INTERACTION STUDIES.**”, at DMR PG College, Ponda, Goa, 16th February, 2024.
5. INVITED TALK on “**New Pathways for Predicting Thermophysical Properties for Binary and Multicomponent Liquid Mixtures**”, National Conference on Thermodynamics of Chemical and Biological Systems(NCTCBS-2023), RMT University, Nagpur, 26th -28th October, 2023.
6. “**NOVEL APPROACHES FOR THERMOPHYSICAL PROPERTIES: PREDICTIVE MODELS AND ANN**”, INDIAN INSTITUTE OF INFORMATION AND TECHNOLOGY-ALLAHABAD(IIIT-A), PRAYAGRAJ, 1ST FEBRUARY, 2023.
7. “**NEWLY DEVELOPED EFFECTIVE MODELS FOR VISCOSITY PREDICTION**”, MOTILAL NEHRU NATIONAL INSTITUTE OF TECHNOLOGY (MNNIT)-ALLAHABAD, 30TH JAN, 2023.

8. **“SIMPLE AND EFFECTIVE APPROACHES FOR VISCOSITY PREDICTION OF BINARY AND HIGHER ORDER LIQUID MIXTURES”**, 41ST INDIAN COUNCIL OF CHEMISTS (ICC) CONFERENCE, AGRA, 27TH -29TH DEC, 2022.
9. **“IDEAL SOLUTIONS AND THEIR PROPERTIES”**, DARUL ULOOM AUTONOMOUS COLLEGE, HYDERABAD, 17TH NOV., 2021.
10. **“THERMODYNAMICS AND ITS ENGINEERING APPLICATIONS”**, DMR PG COLLEGE, MAPUSA, GOA, 28TH OCTOBER, 2021.
11. **“NEWLY DEVELOPED, SIMPLE YET HIGHLY EFFECTIVE APPROACHES FOR PREDICTING THERMOPHYSICAL PROPERTIES”**, IIT- PALAKKAD, 9TH OCTOBER, 2021.
12. **“USE OF COMBINED ANAEROBIC BIOREACTOR AND LOW PRESSURE MEMBRANE FILTRATION SYSTEM FOR THE TREATMENT OF LOW STRENGTH WASTEWATER TO RECOVER RENEWABLE RESOURCES”** INVITED TALK IN FDP CUM WORKSHOP ON WASTE TO BIOENERGY, ORGANIZED BY SHARDA UNIVERSITY AND MIT, 28TH JUN - 4TH JULY, 2020.
13. **“VISCOSITY PREDICTIONS OF BINARY AND MULTICOMPONENT LIQUID MIXTURES USING NEWLY DEVELOPED ROUTES”** AT NATIONAL SEMINAR ON GREEN TECHNOLOGY, HNB PG COLLEGE, NAINI, ALLAHABAD, 23-24 FEB, 2020.
14. **“SOME NEWLY DEVELOPED APPROACHES FOR PREDICTION OF VISCOSITY”** IN NATL WEBINAR ON INSIGHTS INTO FUNDAMENTALS OF CHEMISTRY , DEPT. OF CHEMISTRY, CMP DEGREE COLLEGE, UNIVERSITY OF ALLAHABAD, PRAYAGRAJ, 18TH – 20TH JUNE , 2020.
15. INVITED TALK IN NATIONAL CONVENTION OF CHEMISTRY TEACHERS(NCCT), DEPT OF CHEMISTRY, SBG AMRAVATI UNIVERSITY, 5TH – 7TH DECEMBER, 2019.
16. **“A NOVEL VOLUME FRACTION BASED APPROACH FOR PREDICTING VISCOSITY OF BINARY AND MULTICOMPONENT LIQUID MIXTURES”**, 2ND INTERNATIONAL Conference on Innovations in Chemical and Biological Sciences, ICICBES 2019, Panipat, Haryana, India, FEB 27TH -28TH ,2019.
17. **“NOVEL, SIMPLE EFFECTIVE PATHWAYS FOR VISCOSITY PREDICTIONS “**, DEPARTMENT OF CHEMISTRY, CAMBRIDGE UNIVERSITY, CAMBRIDGE, U.K., 18TH JUNE 2018.
18. **“NEW SIMPLE AND EFFECTIVE METHODS FOR VISCOSITY PREDICTION OF BINARY AND HIGHER ORDER LIQUID MIXTURES”**, THEORETICAL CHEMISTRY GROUP, HEIDELBERG UNIVERSITY, HEIDELBERG, GERMANY, 13THJULY, 2017.
19. **“NOVEL PATHWAYS FOR VISCOMETRIC PREDICTION OF BINARY AND MULTICOMPONENT LIQUID MIXTURES”**, Department OF Chemistry, UNIVERSITY OF ALLAHABAD, ALLAHABAD, 13THAPRIL, 2017.

20. **“PREDICTION OF THERMODYNAMIC AND TRANSPORT PROPERTIES OF BINARY AND MULTICOMPONENT LIQUID MIXTURES”**, DEPARTMENT OF CHEMICAL ENGINEERING, NTUST, TAIPEI, TAIWAN, 29th JUNE 2016.
21. **“DEVELOPMENT OF UNIVERSAL MODELS FOR PREDICTION OF TRANSPORT PROPERTIES”**, NFCFA, BITS PILANI GOA CAMPUS, 18TH -19TH DECEMBER,2015.
22. **“PERIODIC TABLE- A HISTORIC OVERVIEW AND APPLICATIONS”** SUMMER SCHOOL, NASI, ALLAHABAD, U.P., 8THJUNE, 2014.
23. **“INTERACTION STUDIES of RTIL’s WITH SOME SOLVENTS AT TWO DIFFERENT TEMPERATURES”** at 32nd Annual Conference of Indian Council of Chemists, Karnataka University, Dharwad, Karnataka, 28th – 30th November,2013.
24. **“THERMODYNAMIC, TRANSPORT AND EXCESS PROPERTIES OF MULTICOMPONENT LIQUID MIXTURES”** at Centre of excellence of Basic Sciences (CBS), MUMBAI UNIVERSITY, KALINA, MUMBAI, 14THMARCH, 2011.

REVIEWER FOR:

1. Journal of Chemical Thermodynamics (JCT)
2. Journal of Chemical Engineering Data (JCED)
3. Journal of American Chemical Society (JACS)
4. Journal of Molecular Liquids.
5. Physical Chemistry Chemical Physics (PCCP)
6. Frontiers in Chemistry
7. Fluid Phase Equilibria
8. Journal of Solution Chemistry
9. Springer Nature Applied Sciences (SNAS)
10. International Journal of Biological Macromolecules. (IJBM)
11. Journal of Thermal Analysis and Calorimetry.(JTAC)
12. Chemical Thermodynamics and Thermal Analysis (CTTA)
13. Heliyon
14. Chemical Data Collections (CDC)
15. Journal of Ambient Energy.
16. Advances in Material Science and Engineering.
17. International Journal of Thermophysics And Heat Transfer
18. Indian Journal of Pure & Applied Ultrasonics.
19. International Journal of Chemical Modeling (IJCM)
20. African Journal of Biotechnology
21. Journal of Soil Sciences and Environmental Management
22. International Journal of Thermodynamics
23. IEEE- Sensors Journal
24. Indian Journal of Chemistry (IJC)
25. Indian Journal of Physics

26. Indian Journal of Pure & Applied Physics(IJPAP)
27. Journal of Indian Chemical Society(JINCS)
28. African Journal of Pure and Applied Chemistry (AJPAC)

ADDITIONAL ACADEMIC ASSIGNMENTS / ENGAGEMENTS

1. As a Visiting Associate Professor to NTUST – Taipei, Taiwan, in June-July 2016, taught a graded Summer Course to M.E. Chemical Engineering and Ph.D. scholars a course entitled “Thermodynamic Applications to Electrochemical Systems.” The entire expense for the travel, lodging and boarding was borne by the NTUST.
2. Headed a Team of 4 faculties from various disciplines for Confidential Paper setting for a national Level Entrance Examination- 2015.

THESIS REVIEW:

1. BARC
2. MUMBAI UNIVERSITY
3. RTM UNIVERSITY, NAGPUR
4. BUNDELKHAND UNIVERSITY
5. BHARTHIDASAN UNIVERISTY, TIRUCHIRAPPALI.
6. MADURAI KAMARAJ UNIVERSITY.
7. S V UNIVERSITY, TIRUPATI.
8. S G B UNIVERSITY, AMRAVATI.

COURSES TAUGHT:

1. **CORE (CHEMISTRY),**
 - a. CHEMISTRY I
 - b. CHEMISTRY II
 - c. CHEMISTRY PROJECT LABORATORY,
 - d. MEAUREMENT TECHNIQUES
 - e. PHYSICAL CHEMISTRY (B.Sc. I, II and III)
 - f. GENERAL CHEMISTRY
 - g. CHEMISTRY LABORATORY
 - h. THERMOPHYSICAL PROPERTIES OF LIQUID MIXTURES BITS F382.

2. **HIGHER LEVEL**
 - a. CHEMICAL THERMODYNAMICS
 - b. NON-EQUILIBRIUM (Irreversible) THERMODYNAMICS
 - c. ELECTROLYSIS AND POLARIZATION
 - d. ELECTROLYTIC SOLUTIONS
 - e. INSTRUMENTAL METHODS OF ANALYSIS

- f. PHYSICAL CHEMISTRY I (Redesigned Curriculum)
- g. STATISTICAL THERMODYNAMICS
- h. ENVIRONMENTAL CHEMISTRY- CHEM G521 (HD LEVEL / PRE Ph.D.)
- i. ENVIRONMENTAL CHEMISTRY (M.Tech. ENVIRONMENTAL ENGG.) WILP Professionals.
- j. M. Tech. –SANITATION SCIENCE TECHNOLOGY & MANAGEMENT

3. INTERDISCIPLINARY

- a. CHEMICAL REACTION ENGINEERING
- b. CHEMICAL ENGG THERMODYNAMICS
- c. CHEMICAL PROCESS SAFETY
- d. CORROSION ENGINEERING

4. MULTIDISCIPLINARY

- a. STRUCTURE AND PROPERTIES OF MATERIALS
- b. ENGINEERING THERMODYNAMICS.
- c. INTELLECTUAL PROPERTY RIGHTS
- d. ENVIRONMENTAL SCIENCE

5. Ph.D. COURSES

- a. PHYSICAL METHODS IN CHEMISTRY.
- b. RESEARCH PROJECT 1
- c. STUDY IN ADVANCED TOPICS
- d. ADVANCED PHYSICAL CHEMISTRY.
- e. RESEARCH METHODOLOGY

INTERNATIONAL TEACHING ASSIGNMENT:

Awarded the Visiting Associate Professorship from National Taiwan University of Science and Technology (NTUST), Taipei, Taiwan, to teach a Graded course to M. Tech. Chemical Engineering and Ph. D. Scholars in the Summer of 2016.

RESEARCH UNDERWAY

In the past few years we have focused on developing simple yet effective predictive models for thermophysical properties to give good agreement with the experimental findings with the focus on Ionic Liquids [*J Chem Thermodyn*, 156, 106383 [2021], *J. Mol. Liq.*, 367,120457(2022)] as one of the components, since mixtures with ionic liquids as one of the components are very difficult to model owing to their non-ideal behavior. Machine Learning has been tested (*Journal of Molecular Liquids*, 397, 124147 (2024).). Desalination studies and Water-Energy-Nexus is also being undertaken. (*Ind. Eng. Chem. Res.* 2020, 59, 16029–16042)

- For the first time, a volume fraction-based approach (DEY-BISWAS) was developed for predicting viscosity of binary and multicomponent liquid mixtures and was published in *Journal of Molecular Liquids*, 265, 356-360 (2018). DEY-BISWAS has been tested on more than 600 binary, more than 50 ternary and 5&6 component mixtures over a wide range of temperature with very good agreement with

experimental findings. It has also been tested on IL mixtures and Deep Eutectic solvents with at varying temperature with a fair degree of accuracy, [*Journal of Molecular Liquids*, **367** 120457 (2022); 397, 124147 (2024).]

- A modified form of the Hind Ubbelohde approach has been tested on 150 + binary, ternary and quaternary liquid mixtures, *Journal of Molecular Liquids* **333** (2021) 115919.
- A Volume fraction based Hind-Ubbelohde modification has been tested on 196 binary, 13 ternary and 5 quaternary mixtures at varying temperatures (*Journal of Molecular Liquids* **350** (2022) 118526).
- A New pathway developed for predicting viscosity of binary and multicomponent liquid mixtures was presented at **THERMAM 2017 at University of Rostock, Rostock, Germany, 17th- 18th July, 2017.**
- Modified Frenkel approach has been tested on a number of binary and ternary liquid mixtures (*RSC Advances*, **6**,43838-43,2016).
- Two new simple models developed for predicting viscosity of binary, ternary and higher order liquid mixtures (*RSC Advances* ,**6**, 113657–113662, 2016).
- For the first time, with my collaborator, Dr. Mihaiela C. Stuparu, of Nanyang Technical University (NTU) Singapore, we have investigated **Host-guest interaction between corannulene and γ -cyclodextrin: Mass spectrometric evidence of a 1:1 inclusion complex formation**, [*RSC Advances Communications*, **6**,110001-110003(2016)].

Theoretical knowledge of thermodynamic, transport, interfacial properties of multicomponent liquid mixtures is essential for studying intermolecular interactions are used extensively in applications and engineering design processes associated with various industries.

The aim is to develop simple, effective and universal equations for predicting thermodynamic, transport, optical and allied properties which will give Average Absolute Percentage Deviations than the currently existing ones. The second aim is to develop new technologies which will help in Water Energy Nexus (WEN) applications including Desalination.

ADMINISTRATIVE EXPERIENCE (BITS-PILANI, GOA CAMPUS)

1. Convener- Department Committee of Academics(DCA- Chemistry), July 2022- 3 years.
2. Committee Member – Sports Activity Center(SAC) , July 2022- 3 years.
3. Member NAAC Advisory Committee – April 2023 ~.
4. Member IQAC Committee- Goa Campus (April 2023-)
5. Associate Dean (Acting) Faculty Affairs: Jan – Feb 2020.
6. Associate Dean - Academics & Resources Planning, Goa Campus (2014- 2018).
7. Faculty Coordinator- Mess Committee: 2009 – 2016.
8. Member: Faculty Grievance Committee: 2020 – 2022.
9. Member Department Short Listing Committee: 2013 – Till date.
10. Admission & registration committee of new & old students
11. Member of flying squad for prevention of ragging.
12. Member of doctoral advisory committee.
13. Convocation core committee member since 2010.
14. Hostel warden (2007-2015 December)
15. Headed a sub-committee for administrative procedures under internal quality assessment cell (IQAC, 2009-2012)

16. Coordinator for hostel allotment for 2009, 2010, 2011.
17. Faculty Coordinator for **MATRIX** (Mind & Thought in Rapid Information Exchange) club [Jan 2010 - 2014].
18. Coordinator of goa campus in 2013 for golden jubilee celebrations of BITS Pilani University (2013-14). Handled funds of Rs. 33 lakhs (Rs. 3.3million) for various events.
19. Coordinator/Convener for student faculty council (SFC) [2015 –till date]
20. Member of departmental committee of academics (DCA).

RESEARCH PAPERS PRESENTED IN CONFERENCES, SYMPOSIUM AND WORKSHOPS (2013-till date)

▪ **INTERNATIONAL**

Sr. No.	Name of conference	Place	Title of Presentation	Date
1	THERMAM 2020	ROSTOCK, GERMANY (Webinar)	MODIFIED HIND UBBELOHDE APPROACH	15 th OCT 2020
2	THERMAM 2019	CESME , IZMIR , TURKEY	KEYNOTE	SEPT 22 ND - 24 TH ,2019,
3	THERMAM 2017 organized by Institute of Technical Thermodynamics Rostock University, in collaboration with ATU, Baku, Azerbaijan and Dokul Eylul University, Turkey	Institute of Technical Thermodynamics, Rostock University, Germany	NOVEL APPROACHES FOR VISCOMETRIC PREDICTION OF BINARY AND HIGHER ORDER LIQUID MIXTURES.	17 th – 18 th JULY, 2017
4	19 th Symposium on Thermophysical Properties organized by University of Colorado, Boulder in collaboration with NIST and AIChE -ASME.	Colorado University, Boulder, Colorado, USA.	TRANSPORT, OPTICAL, INTERFACIAL AND THERMODYNAMIC PROPERTIES OF BINARY AND TERNARY LIQUID MIXTURES	20 th – 26 th June 2015

INTERNATIONAL AND NATIONAL CONFRENCES IN INDIA (2013-2017)

Sr. No	Name of conference	Place	Title of Presentation	Date
1	INT. CONFERENCE ON EMERGING TRENDS IN MICRO TO NANO (ETMN-2013)	BITS PILANI K K BIRLA GOA CAMPUS	Local Organizing Committee	23 RD -24 TH FEB, 2013
2	INT. CONF. ON EMERGING TRENDS IN CHEMICAL SCIENCES (ICETCS)-2013	CENTRAL UNIV. OF GUJARAT, GANDHINAGAR	Thermodynamic multicomponent liquid mixtures	14 TH –15 TH MARCH, 2013

3	MID YEAR SYMPOSIUM-CRSI	NIT – K SURATHKAL, KARNATAKA	Temperature mixtures	12 TH -13 TH JULY, 2013
4	ICC 32 nd ANNUAL CONFERENCE	KARNATAKA UNIV., DHARWAD	Study of properties .. temperature	28 TH -30 TH NOV,2013
5	83 RD ANNUAL SESSION OF Natl. Acad. Sciences India (NASI)	GOA UNIV., GOA	A study of..... different temp.	4 TH -6 TH DEC. 2013
6	RSC Symposium	IIT- Bombay		6 th Feb, 2014
7	NSC-CRSI Conference	IIT- Bombay	Study of....liq. mixtures.	7 th -9 th Jan 2014
8	TCBNES-2014	S P Univ, Anand GUJARAT	Thermodynamic....te mperatures	17 th -18 th Oct 2014
9	International Symposium on Ultrasonics (ISU – 2015)	Nagpur University, Nagpur, Maharashtra.	Thermophysical and excess mixtures	22 nd – 24 th Jan 2015.
10.	Royal Society of Chemistry Symposium and NSC-CRSI Conference	NCL, Pune, India	Comparative study amines at three temperatures	5 th – 8 th Feb,2015
11.	New Frontiers in Chemistry- From Fundamentals to Applications NFCFA, Dept of Chemistry, BITS Pilani Goa Campus with RSC	BITS Pilani K K Birla Goa Campus	ONE ORAL and two posters	18 th - 19 th December ,2015
12.	INDO UK WORKSHOP ON ADVANCED MATERIALS AND NANOTECHNOLOGY (AMAN-2016)	BITS Pilani K K Birla Goa Campus	Local Organizing committee	11 th -12 th Jan, 2016.
13.	RSC RESEARCH SCHOLARS MEET	BITS Pilani K K Birla Goa Campus	Gold Medal (Res scholar) for Best paper	NOV 2016
14.	NFCFA 2017, Department of Chemistry, BITS Pilani Goa Campus in association with RSC	BITS Pilani K K Birla Goa Campus	ONE ORAL AND 3 POSTERS	27 TH -28 TH JAN 2017

SHORT TERM COURSES/ SEMINARS/ WORKSHOPS/ VISITS ORGANIZED

1. Organized lecture series on Corrosion Engineering by Prof. A. S. Khanna, IIT-Bombay, an eminent personality in this field at BITS-Pilani, Goa Campus from 17th – 21st October 2008.
2. Organized lectures on HAZOP/HAZAN (Process Plant Safety) for final year Chemical Engg. Students (2009) by Dr. K. Ponnani, EX DGM, R&D, Chemical Engineering Division, IPCL.
3. Organized plant visit for final year Chemical Engineering (2004) batch to SOLARIS CHEMTEK, BILT at Karwar, Karnataka in October 2007.
4. Organized plant visit for students of process plant safety to BHARAT GAS, Verna, Goa Industrial Development Corporation on 17th April 2010.

TEACHING OUTREACH

1. Visited several schools in Singapore in Summer 2016 as a part of Outreach for International Students Admissions to BITS as Associate Dean – Academics and Resource Planning.
2. **Given several Popular Science Talks in various schools in Goa, India.**
3. **Interacted with 200 young students from 6th to 9th Classes for Promotion of Science Education by explaining basic Chemistry and Elements in Summer School organized by National Academy of Sciences India, (NASI) in Allahabad, India in June 2014.**
4. **Keynote to School Children (9th to 12th Class) under BASIC SCIENCES Theme in Science Film Festival of India (SCIFFI) in 2019 in Goa.**
5. **Taught students of Classes 9th – 11th in a charitable school in interior Himalayas in the summer of 2013. This school is in Ukhimath, Uttarakhand, India, where a severe flood and landslide led to thousands of lives being lost in Kedarnath shrine.**
6. Problem Solving Sessions organized by **Goa Educational Development Corporation (GEDC)** in BITS-Pilani, Goa Campus (2007 - 2010) to 400 meritorious students drawn from various Schools and Colleges of Goa related in a few topics for IITJEE/ PMT.