

EDUCATION

- **Ph.D.** in Analytical Chemistry (2019) – South Dakota State University, Brookings, SD, USA
- **Master of Science** in Chemistry (2008) – PSG CAS, Bharathiar University, Coimbatore, TN, India
- **Bachelor of Science** in Chemistry (2006) – PSG CAS, Bharathiar University, Coimbatore, TN, India

TEACHING EXPERIENCE

Assistant Professor: at Angelo State University, San Angelo, TX (Jan 2021 – Present)

- Teaching Instrumental Analysis lecture and lab courses
- Teaching Inorganic Quantitative Analysis lecture and lab courses
- Teaching General Chemistry - I & II lecture and lab courses

Adjunct Professor: at Angelo State University, San Angelo, TX (Aug 2020 – Dec 2020)

- Taught three sections of Organic Chemistry CHEM3451 evening labs

Laboratory Teaching Assistant: at South Dakota State University, Brookings, SD, (2011 –2015)

- Gained five years of experience in teaching a variety of lab courses multiple times [General Chemistry 1&2, Advanced Organic Chemistry 1&2, Organic and Biochemistry, and Chemistry Survey Laboratory]
- Trained new TAs, conducted weekly TA meetings, and supervised lab chemical preparations
- Ensured TAs' and students' adherence to safety procedures and proper waste disposal protocol
- Organized and maintained inventory of chemicals and equipment
- Conducted lab recitations, demonstrated labs, and graded lab reports and exams
- Trained high school chemistry teachers on lab technique and experiments
- Recognized with certificate for excellence in undergraduate teaching

Lecture Teaching Assistant: at South Dakota State University, Brookings, SD, USA (2015)

- Assisted professors in Foundations of Chemistry lecture course
- Administered tests, assignments and grading
- Conducted help sessions, answered students' emails and organized contents in the LMS (D2L)

RESEARCH EXPERIENCE

Ph.D. Research, Department of Chemistry, South Dakota State University, Brookings, SD, USA (Graduated in 2019)

- **Project 1:** "Evaluating green solvents and analytical techniques for environmental friendly extraction"
 - ✓ Studied kinetics of extraction using the accelerated solvent extractor (ASE) instrument
 - ✓ Designed green analytical procedures for efficient extraction of seed-oils
 - ✓ Optimized and developed methods for a prototype extractor instrument manufactured by CEM
 - ✓ Identified green solvents and adsorbents by determining diffusion coefficient for efficient extraction
 - ✓ Derived fatty acid methyl ester (FAME) from extracted soybean oil, and characterized using GC-MS
- **Project 2:** "Solid-phase microextraction and GC-MS quantification of allyl isothiocyanate from horseradish"
 - ✓ Optimized headspace solid-phase microextraction (HS-SPME) conditions
 - ✓ Performed qualitative and quantitative analysis of allyl isothiocyanate in horseradish using GC-MS
 - ✓ Validated GC-MS methods for precision and accuracy
- **Project 3:** "Study of efficiency of various adsorbents using accelerated solvent extractor (ASE)"
 - ✓ Improved methods for selective extraction of vegetable oil using various adsorbents
 - ✓ Determined the adsorbing efficiency and effect of temperature on the performance of adsorbents

Master Thesis at Central Leather Research Institute (CLRI), Chennai, TN, India (2008)

- **Project:** "Study of Thermotropic Liquid Crystals Containing Cyano Terminal Group"

- ✓ Investigated the structure-property relationship of liquid crystals
- ✓ Synthesized 4-alkoxyphenyl-4-(((1E)-(4-cyanophenyl)methylidene)amino)benzoate liquid crystals
- ✓ Characterized intermediates and end products by FT-IR, and ¹H NMR spectroscopy
- ✓ Characterized phase transition temperature by optical polarizing microscopy

WORK EXPERIENCE

Chemical Administrator at *VWR Lab Products Pvt Ltd, TN, India (2008 – 2011)*

- Worked as a group/project leader for Documentation and Information Management team
- Worked as a chemical administrator in European Regulatory Affairs (EuRegA) team
- Validated specifications, safety information, and handling measures of chemicals, and released to market
- Coordinated the REACh (Registration, Evaluation, Authorization and Restriction of Chemicals) and SIEF (Substance Information Exchange Forum) throughout the supply chain and provided guidance for handling of products
- Created and managed the Certificate of Analyses (CoA), Material Safety Data Sheet (MSDS) for chemicals
- Answered high volume of documentation related calls and emails from European customers
- Regulated waste management of chemicals after the delivery

Market Analyst Intern at *South Dakota Innovation Partners and SDSU Technology Transfer Office (2014 – 2015)*

- Researched and prepared diligence reports on current market challenges in product and method discovery
- Assessed market-scape and analyzed competition for commercialization and patentability
- Performed technical feasibility analysis, preliminary economic analysis and application process management

Lab Management and Equipment In charge at *South Dakota State University, Brookings, SD, USA (2012-2017)*

- Held full responsibility for Gas Chromatography – Mass Spectroscopy instrument, created protocols and standard operating procedures, trained graduate students, and communicated with manufacturers
- Performed repairs and frequent calibration of the GC-MS and other analytical lab equipment
- Performed GC-MS analyses of the samples for other research groups

AWARDS AND ACHIEVEMENTS

- Principal Investigator for a research grant from Texas A&M Engineering Experiment Station, 2021
- Honored with “*Philip & Eleanore Haskett Award for Excellence in Undergraduate Chemistry Teaching*” as a graduate teaching assistant at South Dakota State University (2014-2015)
- Honored with “*Graduate Teaching Assistant Excellence Certificate*” by Teaching Learning Center at South Dakota State University (2013)
- Honored with “*Logue Chemistry & Biochemistry Graduate Student - Academic Excellence Award*” for best performance in graduate school at South Dakota State University (2012)
- Honored with “*Gold Award for Exceeding Expectations Through Seamless Execution of Responsibilities*” in VWR Lab Products Pvt Ltd (2010)
- Awarded with \$5000 scholarship for B.Sc. (3 years) and M.Sc (2 years) by Foundation for Academic Excellence and Access (FAEA), New Delhi, based on the outstanding academic performance in high school and in B.Sc. (2003-2008)

PUBLICATION AND PRESENTATIONS

- Huang, Y.; Wei, L.; Zhao, X.; Julson, J.; Qiu, C.; Dharmarajan, S.; Kiratu, J.; Raynie, D.; Dubey, A.; Qiao, Q., Biofuel production using Pd/Zn synergistically catalyzed hydrodeoxygenation applied at bio oil extracted in biomass pyrolysis process. *Int. J. Energy Res.* 2016, 40 (12), 1724-1730.”
- Presented paper in Eastern Analytical Symposium in New Jersey (2014) - “*Kinetics of solid-liquid extraction*”
- Presented paper in Minnesota Chromatography Forum (2014)- “*Comparison of Green Solvents in Chemical Extraction by Diffusion Studies*”

- Presented paper in ACS Midwest Regional Meeting (2013: *Dharmarajan, S. In Comparison of green solvents during chemical extraction by diffusion studies, American Chemical Society: 2013; pp MWRM-242.*
- Presented paper in PITTCON Conference in Chicago (2014) - "*Diffusion Studies of Green Solvents*"
- Presented paper at Bharathiar University, Coimbatore, India (2007) - "*Nano Medicine*"

TECHNICAL TRAININGS AND PROFESSIONAL SKILLS

- Participated in ACS Summer School at Colorado School of Mines on *Green Chemistry and Sustainable Energy (2013)*
- Participated in *Chromatography (LC and GC) Workshop* by Agilent Technologies (2012)
- Participated in Chromatography workshop by Agilent Technologies on *Breaking Bad Chromatography (2014)*
- Participated in Minnesota Green Chemistry Conference on *Beakers to Business Plans (2013)*
- Participated in *Spectroscopic Solutions* workshop by Thermo-Fisher (2014)
- Expert with three years of experience in SAP (Systems, Applications and Products in Data Processing)
- Frequent user of analytical techniques such as GC-MS, NMR, UV-VIS, ASE, FT-IR, and Rheometer for research and teaching purposes
- Frequent user of analytical and organic chemistry techniques such as microscale synthesis, recrystallization, titration, column chromatography, TLC, purification, distillation, melting point determination, and molecular modeling
- Proficient in Microsoft Office, SciFinder and chemistry software such as ChemDraw, MestReNova, and LoggerPro