

## DR. SAROJA GINAGUNTA

1516 La Paz Dr. • Plano, TX 78550 • Phone: 520-342-9822 • Email: [sginagunta@gmail.com](mailto:sginagunta@gmail.com)

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Leading-edge researcher with Ph.D. in chemistry seeking a position with an organization that will benefit from extensive education and expertise in General Chemistry, Organic Chemistry, Physical Chemistry, Physical-Organic Chemistry, Biochemistry, Photochemistry, Fluorescence Spectroscopy/Microscopy, Spectroscopy, Ultrafast Spectroscopy, and Chemical Biology. Specialized research experience in design and fabrication of optical sensors, and optical detection. Knowledge of safe laboratory and chemical handling practices. Strong research, writing, mentoring, and project leadership skills. Dynamic speaking style with extensive experience delivering professional lectures and presentations. Familiar with MS Windows, Unix, MS Office/Strong PC skills, Origin, Chem-Office, Reaxys, Beilstein, Literature databases, C Language knowledge. Certificate of Hazardous Materials Manager (CHMM) License holder from IHMM, US. U.S.-Citizen. Currently, as a full-time faculty teaching General Chemistry I & II and Organic Chemistry I, including Laboratory.

GENERAL CHEMISTRY • PHYSICAL-ORGANIC CHEMISTRY • ANALYTICAL CHEMISTRY • ABSORPTION • FLUORESCENCE • TIME-RESOLVED EMISSION SPECTROSCOPY • ORGANIC SYNTHESIS • SINGLE-MOLECULE FLUORESCENCE SPECTROSCOPY/MICROSCOPY • CHEMILUMINESCENCE • CHROMATOGRAPHY • ULTRAFAST SPECTROSCOPY, THIN FILMS • CRYSTALLISATION • DNA DIALYSIS • ELECTROPHORESIS SEMI-EMPIRICAL MODELS • DFT CALCULATIONS • LAB-SUPERVISION • STRONG MS OFFICE/PC SKILLS

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### AWARDS / DISTINCTIONS

- Selected for prestigious Alexander von Humboldt Fellowship
  - Awarded Japanese Society for Promotion of Science Fellowship
  - Named Council of Scientific and Industrial Research (CSIR) Fellow to conduct research in photochemistry
  - Selected as Junior Research Fellow (JRF) for 1992-1994 and Senior Research Fellow (SRF) for 1995-1998 by the University Grant Commission of India and the CSIR
  - Graduated 1<sup>st</sup> in Class with Distinction at Osmania University for Master of Science in Chemistry, Bachelor of Science, and Bachelor of Education
  - Attained ranking of 10<sup>th</sup> in Chemistry Entrance Examination for Master's program at Osmania University
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### RESEARCH & TEACHING EXPERIENCE

<b>Mountain View College, Dallas, TX</b> <b>Adjunct Faculty</b>	Aug, 2017-present
<b>Texas State Technical College – Harlingen, TX</b> <b>INSTRUCTOR OF CHEMISTRY</b>	Aug, 2015-Aug, 2016
<b>Pima Community College – Tucson, AZ, USA</b> <b>ADJUNCT FACULTY, CHEMISTRY</b>	Aug, 2014 – May, 2015
<b>Temple University – Philadelphia, PA, USA</b>	2011 – 2011

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**ASSISTANT PROFESSOR, CHEMISTRY – RESEARCH FACULTY**

Conducted a study of novel chemiluminescent organic compounds and their light-emission mechanisms and/or structural effects with the goal of developing aqueous solubilized scintillators for detecting ionizing radiation. Designed and synthesized organic chemiluminescent compounds. Used fluorescence, absorption and time-resolved fluorescence to corroborate the chemiluminescent behavior. Studied pyrenes, luminols and acridines; synthesized acridine derivatives to reveal scintillation ability via chemiluminescence behavior. Reported all scientific findings.

**University of Glasgow** – Glasgow, Scotland, U.K. 2008 – 2008

**POSTDOCTORAL RESEARCH FELLOW, CHEMISTRY**

Conducted nanosecond laser flash photolysis studies of novel photoreactive substances having a n- $\pi^*$  lowest excited triplet state. Computed quantum chemical calculations using the DFT method with Gaussian software to reveal the excited state energetics and transition state of dithiophen compounds. Synthesized difulfide compounds.

**Newcastle University** – Newcastle upon Tyne, U.K. 2004 – 2005

**POSTDOCTORAL RESEARCH FELLOW, CHEMISTRY**

Conducted studies on DNA photocleavage by measuring absorption and fluorescence of molecules, investigating their mechanisms, applying cyanine dyes to monitor binding ability, and observing oxidative cleavage under irradiation with electrophoretic measurements.

**Humboldt Universitat zu Berlin** – Berlin, Germany 2001 – 2003

**ALEXANDER VON HUMBOLDT POSTDOCTORAL FELLOW, CHEMISTRY**

Studied the polarity-sensitive fluorescence of fluorene derivatives. Investigated femtosecond dynamic behavior using transient absorption spectroscopy with super continuum probing. Opened systematic synthetic routes to derivatives of 2-amino-7-nitro-fluorene (ANF) with improved solvatochromic properties and solubility. Investigated photophysics of fluorene fluorophores and ANF derivatives. Calculated solvation correlation functions to reveal solvation dynamics of various solvents.

**Kansas State University** – Manhattan, KS, USA 2000 – 2001

**POSTDOCTORAL RESEARCH ASSOCIATE, CHEMISTRY**

Studied microscopic properties of single-molecule organisms using fluorescence spectroscopy and microscopy on sol-gel derived silicate thin films. Investigated nano-scale heterogeneity by doping with polarity sensitive dye. Synthesized the dye modified with silane to tether the silicate films and monitor the microenvironment.

**University of Central Lancashire** – Lancashire, U.K. 1999 – 2000

**POSTDOCTORAL FELLOW**

Investigated fluorescence sensors for metal ions based on 3-hydroxyflavone derivatives. Synthesized azacrowns tethered to fluorophores and studied their sensing efficacy toward alkali and alkaline earth group metals using photophysical and time-resolved fluorescence.

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**EDUCATION AND CREDENTIALS**

**Ph.D. in Chemistry , 1998, University of Hyderabad, Hyderabad, India.**

**Master of Science in Chemistry, 1992**, Osmania University, Hyderabad, India.

**Bachelor of Education in Physical Sciences 1989**, Osmania University, Hyderabad, India.

**Bachelor of Science in Mathematics, Physics and Chemistry, 1988**, Osmania University, Hyderabad, India.

**Certificate Hazardous Materials Manager (CHMM) License Holder 2-14-2019** from IHMM, US.

**Certificate in Faculty Preparation: Teaching in Higher Education-2015** from Humboldt State University, CA.

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### **PUBLICATIONS**

- **Triplet Excited States of Cyclic Disulfides and Related Compounds: Electronic Structures, Geometries, Energies and decay:** Saroja Ginagunta and Götz Buche, *J. Phys. Chem. A*, 115,540, 2011.
- **2-Amino-7-Nitro-Fluorenes in Neat and Mixed Solvents-Optical Band Shapes and Solvatochromism:** V. Karunakaran, T. Senyushkina, G. Saroja, J. Liebscher, N.P. Ernsting, *J. Phys. Chem. A*, 111, 10944, 2007.
- **Single-Molecule Studies of Diffusion by Oligomer-Bound Dyes in Organically Modified Sol-Gel-Derived Silicate Films:** Skylar A. Martin-Brown, Yi Fu, Ginagunta Saroja, Maryanne M. Collinson, And Daniel A. Higgins, *Anal. Chem.*, 77, 486, 2005.
- **Synthesis of Alkylated Aminofluorenes by Palladium-Catalyzed Substitution at Halofluorenes:** Ginagunta Saroja, Zhang Pingzhu, Nikolaus P. Ernsting, Jürgen Liebscher. *J. Org. Chem.*, 69, 987, 2004.
- **Fluorescence Sensing of Protons, Alkali metal and Alkaline earth Cations by 3-Hydroxyflavone derivatives:** Xavier Poteau G. Saorja, Cathrin Spies and Rober G. Brown, *J. Photochemistry and Photobiology A: Chem.*, 162, 431, 2004.
- **Single-Molecule Spectroscopic Studies of Nanoscale Heterogeneity in Organically Modified Silicate Thin Films:** Daniel A. Higgins, Maryanne M. Collinson, Ginagunta Saroja and Angela M. Bardo, *Chem. Mater.*, 14, 3734, 2002
- **Total number of publications are 20 so far. Some of Post-doctoral work is not yet published; publications prior to 2002 available upon request.**

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### **TEACHING INTERESTS / EXPERIENCE**

#### **Teaching Interests:**

- Planning course with objectives, delivering effective interactive teaching, monitoring student progress thorough assessment methods and student advising.
- Developing course materials, lecturing, grading, and developing the syllabus.
- Developing practical and problem-solving skills, and implementation of teaching methods/strategies that prioritize the student learning environment.
- Supervising graduate and undergraduate students for various research projects.
- List of courses Interested to Teach (Lectures and Laboratory Courses) but not limited to:
  - **Graduate-level Courses:** Physical Chemistry, Photophysics, Photochemistry, Molecular Spectroscopy, Analytical Chemistry, Kinetics, and contemporary topics like modern Microscopic Techniques, some advanced topics in Organic and Inorganic Chemistry, Nanomaterials, Photovoltaics etc.
  - **Undergraduate-level Courses including advanced:** General Chemistry, Organic Chemistry, Physical Chemistry, Analytical Chemistry, Quantitative Analysis, Instrumental Analysis, Inorganic Chemistry, Biochemistry, Polymer Chemistry and other modern topics of current developments in chemistry.

#### **Teaching Experience:**

- Currently as a full-time Faculty, teaching General Chemistry I & II and Organic Chemistry I, including laboratories.
- Experience with various analytical techniques.
- Previously taught General Chemistry II lectures and General Chemistry I & II Labs, Organic Chemistry II laboratory.
- Experience in delivery of instruction by incorporating diversity of delivery.
- Maintain accurate and complete course records.
- Knowledge and strong experience with Teaching Methods and Instructional Technology (Moodle, D2L, Cool Tools). Trained in the D2L.
- Usage of appropriate pedagogical tools such as iClickers, collaborative learning strategies, problem-based learning, etc.
- Teaching both majors and non-major student population with diversity.
- Supervised graduate and undergraduate students for various research projects throughout my research career.
- Taught Natural Science subject to high school students during my Bachelor's of Education degree, as part of my Educational Training Curriculum following the teaching philosophy of student-centered learning strategies
  - Prepared lesson plans for high school students for natural science subject.
  - Delivered 30-40 lessons (45min./class).
  - Evaluated the students in the course taught.

**Courses approved to Teach at TSTC:** CHEM 1305/1105, 1306/1106, 1311/1111, 1312/1112, 2323/2123, 2325/2125.

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#### **PRESENTATIONS**

- Participated and presented poster as Fluorescence sensors for group I and group-II metals based on 4 amino derivatives of 3-hydroxyflavone: G. Saroja, Xavier Poteau and Robert G. Brown in VI<sup>th</sup> International Conference on Methods and Applications of Fluorescence Spectroscopy in Paris, France.
  - Presented poster as Photo physical studies on fluorescence probes based on 4-amino- and 4-N, N-dimethylaminophthalimide chromospheres: G. Saroja, B. Ramachandram and A. Samanta in XI<sup>th</sup> International Conference on Photochemical Conversion and Storage of Solar Energy (IPS-11) at Indian Institute of Science, Bangalore, India.
  - Presented Poster as *Preliminary investigations of solubilized pyrenes as aqueous scintillator agents*: V.A. Pesce, S. Ginagunta, Martoff in **4th Annual Academic Research Initiative (ARI) Grantees Conference**, Alexandria, 400 Courthouse Square, Alexandria, Virginia, on Tuesday, April 26, 2011 through Thursday, April 28, 2011.
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**REFERENCES AVAILABLE UPON REQUEST**

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**US-CITIZEN FOR WORK AUTHORIZATION**