Dr. Ammani Krishnaswamy

**Education**

Ed.D. Curriculum and Instruction, University of Houston, Houston

Date of Completion: December, 2014

Advisor: Dr. Eugene Chiappetta

Area of Specialization: Curriculum and Instruction with Emphasis on Science Education

Project: Comparative Analysis of High School Chemistry textbooks from India and the United States based on the Nature of Science (NOS).

M.S. Chemistry, Georgetown University, Washington, D.C.

Date of completion: April 2005

M.S Chemistry, Indian Institute of Technology (IIT), Chennai, India

Date of Completion: July 2002

B.S Chemistry, Stella Maris College, India

Date of Completion: July 2000

**Professional Certificate:**

Professional Certificate in Green Chemistry and Chemical Stewardship from the School of Public Health, University of Washington (*In Progress.*)

# Honors and Awards

* Sabbatical Award for the academic year 2019-2020 for exploring the 12 principles of green chemistry in general chemistry courses.
* Awarded iPad-Mini as a part of the Adjunct-Technology Program at Southwest college
* Certificate of recognition for outstanding student evaluations, Houston Community College, 2011.
* Certificate of Achievement in recognition of valuable contributions to the module development and launching of the first Quality Enhancement Program (QEP) Chemistry Pilot Course, Houston Community College, 2012-2013.
* Bedicheck-Orman Professional Development Grant, Houston Community College, 2012.
* Dr. Eugene L. Chiappetta Texas Chemical Council Scholarship/Grant in Science Education, University of Houston, 2012.
* Dr. Yesodhara Doraiswamy Award for outstanding performance in Organic Chemistry, Bachelor’s, Stella Maris College, India, 2000.
* Dr. Arumuga Lakshmi Award for outstanding performance in Inorganic Chemistry, Bachelor’s, Stella Maris College, India, 2000.

**Teaching Experience: 2002 – Present**

Full Time Faculty (2013- Present) -- Houston Community College

*Assignments*

Introductory Chemistry (for Health Science Majors)

General Chemistry I (for Health Science, Pre-Med and Engineering Majors)

General Chemistry II (for Health Science, Pre-Med and Engineering Majors)

Adjunct Chemistry Instructor (08/2010 – Present) -- Houston Community College

*Assignments*

Introductory Chemistry (for Health Science Majors)

General Chemistry I (for Health Science, Pre-Med and Engineering Majors)

Full Time High School Science Teacher (08/2005 – 06/2010) -- Robert M. Beren Academy, Houston

*Assignments*

Advanced Placement Chemistry (Equivalent to General Chemistry I and II at College Level)

Advanced Placement Physics B (College Level Physics)

Chemistry (Regular & Pre-AP Level), Physics(Pre-AP)

Integrated Physics/Chemistry (Regular & Honors Level)

Earth Science

Teaching Assistant (08/2002 – 04/2005) Georgetown University, Washington, D.C.

(6 semesters including two summer terms)

*Assignments*

General Chemistry Laboratory 1 and 2

Advanced Inorganic Laboratory (Synthetic Methods Laboratory)

**Research Experience**

# Synthesized a β-diketiminate dicopper nitrene complex and characterized it using X-ray crystallography, 1H, 13C and Variable temperature NMR.

# Synthesized and characterized an Amberlite XAD-16 resin functionalized with 1, 3 propanolamine. The % trace metal ions such as of cadmium, manganese and lead in natural water samples such as tap and well water after pre-concentration onto the functionalized resin was found using Flame Atomic Absorption Spectroscopy.

**Publications**

* Badiei, Y., Krishnaswamy, A., Melzer, M., & Warren, T.H. (2006). Transient Terminal Copper Nitrene Intermediates from Discrete Dicopper Nitrenes. *Journal of American Chemical Society*, *128,* 15056-15057.
* Amisial, L.D., Dai, X., Kinney, R.A., Krishnaswamy, A., & Warren, T.H. (2004). Cu(I) Beta - Diketiminates for Alkene Aziridination: Arene Binding and Catalytic Nitrene Transfer from PhI=NTs.*Inorganic Chemistry*, *43(21)*, 6437.

**Computer/Technical Skills**

* Microsoft Word, Excel, PowerPoint and Movie Maker
* Internet Research using various search engines, SciFinder Scholar, Science Direct, Education Resources Information Center (ERIC)), and EBSCO.
* Graphical Tools - ChemDraw, Concept Mapping using Inspiration
* Statistical Package for the Social Sciences (SPSS – version 19) designed by IBM – This package may be used to calculate several statistical parameters and run tests such as F-Tests, and T-Tests. The package is valuable tool for program/course evaluations in schools and colleges.
* Webpage design using the software NVu (New View).
* Digital Storytelling using Microsoft Photostory and Microsoft movie maker.

**Skills for Teaching Online Courses**

# Completed the following courses as pre-requisites to teach online classes at Houston Community College:

* Professional Certificate in Online Teaching – University of Wisconsin – Madison (*In progress*)
* Introduction to Distance Education (DE). Houston Community College, 2012.
* Eagle Online Training. Houston Community College, 2012. Designed a course shell for Introductory Chemistry (CHEM 1305/1405) as a part of the course project.
* Library and Information Literacy. Houston Community College, 2012.

**Instrumentation Skills**

* NMR (1H, 13C, 31P and Variable Temperature, Evan’s Method for magnetic moment)
* IR, UV-visible spectroscopy, X-ray diffraction (single crystal)
* Elemental Analysis, Gas Chromatography-Mass Spectrometry
* Glove-box and Schlenk air-sensitive handling
* Melting Point Apparatus

**Presentations**

* Krishnaswamy, A. (April 2012). *Using Concept Maps as an Effective Teaching and Learning Tool in the Science Classroom*. Presentation at First Science, Technology, Engineering and Mathematics Conference (STEM) at Houston Community College 2012, Houston Community College, Houston.
* Krishnaswamy, A. (Feb 2012). *Using Concept Maps as an Effective Teaching and Learning Tool in the Science Classroom*. Presentation at Faculty Conference 2012, Houston Community College, Houston.
* Krishnaswamy, A. (May 2010). *Inspired by Inspiration, Using Electronic Concept Maps as an Effective Teaching Tool.* Presentation at Teaching and Learning with Technology Conference 2010, Mesa Community College, Arizona.
* Krishnaswamy, A., & Warren, T.H. (August, 2004). *Synthesis, Structure and Reactivity of Unique Dicopper Nitrenes.* Poster session presented at the 228th ACS National Meeting, Philadelphia, PA.
* Krishnaswamy, A., & Warren, T.H. (August, 2004). *Synthesis, Structure and Reactivity of Unique Dicopper Nitrenes.* Poster session presented at the Sci-Mix-Inorganic Session at the 228th ACS National Meeting, Philadelphia, PA.
* Krishnaswamy, A. (August , 2004). *Synthesis, Structure and Reactivity of Unique Dicopper Nitrenes.* Symposium conducted at the Georgetown Inorganic Symposium. Georgetown University, Washington, D.C.

**Workshops Attended**

* Metropolitan Association of Teachers of Science, Spring Conference 2009, Houston.
* Chemicals and the Environment-Science Teachers in Industry, Summer 2008, University of Houston.
* Rice University 4X4 Physics Symposium, April 4 2009
* National Science Teachers Association (NSTA) Regional Symposium, Dec 3-5 2009 Phoenix, Arizona.
* How Do Teachers Communicate Effectively in Science Classrooms? GK-12 Project Orientation, May 2009, College of Education - University of Houston.

**Participation in Inter-Disciplinary Activities**

* Reviewer for *Journal of College Science Teaching – 2Y Community College*
* Served as part of QEP team to develop science study skills for EDUC 1300 – (Summer 1) 2013.
* Case Study Module Developer and Implementer as a part of Quality Enhancement Program (QEP) –June (Summer 1) 2012.
* Completed internship for the GK-12 STEM Project at the College of Education, University of Houston in June 2009.
* Participated actively in interdisciplinary learning communities developed at Robert M. Beren Academy.

**Professional Development Courses**

* Publishing on the Web (Instructional Technology/Instructional Strategies). Public Broadcasting Services (PBS) Teacherline, 2010.
* The course objective was to master the basic knowledge and skills required for Web publishing. The capstone project of the course was to design an effective Webpage. The Webpage may be accessed at <http://home.comcast.net/~ammanik/homepage.html>
* Teaching and Learning with Graphic Organizers – Featuring Inspiration (Instructional Technology/Instructional Strategies). Public Broadcasting Services (PBS) Teacherline, 2009.
* Concept maps are visually rich graphic organizers which are effective teacher-centered instructional tools and student-centered learning tools. The capstone project of the course was to design concept maps for the unit “Chemical Reactions.”
* Curriculum Mapping I by Heidi Hayes Jacobs (Instructional Strategies). Public Broadcasting Services (PBS) Teacherline, 2008.
* The course objective was to understand how to incorporate mapping in classrooms. As part of the capstone project a curriculum map was designed for AP Chemistry Course and this map was also approved by the College Board.
* Creating Units to Support Different Learning Styles (Instructional Technology/Instructional Strategies). Public Broadcasting Services (PBS) Teacherline, 2006.
* The course objective was to design a curriculum that meets the learning needs of different types of students. The final project was a cross-curricular unit on Nuclear Chemistry. It was designed to incorporate several activities and technologies to support diverse learning styles of students.
* Technology in the Classroom. University of Houston, 2009.
* The course objective was to learn and design instructional activities using a variety of technological tools. As part of the final capstone project, a variety of instructional activities using tools such as Inspiration (for concept mapping), NVu (webpage design), and concept powerpoint etc were showcased.

# Affiliations

* American Chemical Society, Member.