

Lalithya C. Jayarathne

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Education

Bachelor of Science, Chemistry; Minor: Pure Mathematics, February 1999
University of Peradeniya, Peradeniya, Sri Lanka.

Research Interests

- Polymer Chemistry
- Nanotechnology

Graduate Research Experience

Advisor: Prof. R. C. Advincula

- Synthesis of CdSe nanoparticles using Schlenk line techniques.
- Characterization of the synthesized CdSe nanoparticles using UV-Visible Spectrometer and FT-IR.
- Layer-By-Layer assembly.
- Characterization of the deposited films using X-Ray photoelectron spectrometer, SEM, XRD and Ellipsometer.
- Sound background in TEM and powder diffraction.

Research Assistant, September 1999 – April 2001

Advisor: Prof. O. A. Ilperuma

- Preparation of TiO₂ (or ZnO/SnO₂) colloidal suspension.
- Deposition of TiO₂ (or ZnO/SnO₂) on conducting plates.
- Preparation of dyes, adsorption of dyes on TiO₂ (or ZnO/SnO₂) plates.
- Preparation of counter electrodes with thin platinum layers.
- Synthesis of conducting polymers chemically and electrochemically.
- Construction of photo-electrochemical cells (PECs).
- Determination of efficiencies of the PECs.

Undergraduate Research Experience

Advisor: Prof. (Mrs.) A. D. L. C. Perera

- Preparation of surface stabilized ferroelectric liquid crystal (SSFLC) cells using dipping and rubbing processes.
- Measurement of cell thickness using UV-Visible spectrums.
- Determination of electro-optical properties of properly aligned SSFLC using micro-spectrophotometer.

Teaching Experience

- Teaching Assistant for undergraduate freshman and organic chemistry labs at the Department of Chemistry, University of Houston from August 11th, 2003 to present.
- Teaching Assistant for undergraduate physical, organic and inorganic chemistry labs at the Department of Physical Science, University of Rajarata from April 2000 – April 2001.
- Teaching Assistant for undergraduate freshman and organic chemistry labs at the Department of Chemistry, University of Peradeniya from April 1999 – September 1999.

Awards/Scholarship

- Robert A. Welch Foundation Scholarship 06/01/2004 - 08/31/2004
- Robert A. Welch Foundation Scholarship 06/01/2005 – 08/31/2005
- Robert A. Welch Foundation Scholarship 09/01/2005 – 01/15/2006

Computer Proficiency

- Operating Systems: Windows XP, Apple OSX.
- MS Office, CS Chem Draw 8.07, Spartan “Electronic Model Kit”.

Work Experience

- Worked as a Chemistry Teacher at Ecole International School, Kandy, Sri Lanka, and January 2003 – August 2003.
- Worked as a Computer Lecturer and Course Coordinator at Vision Institute of Technology, Sri Lanka Feb. 2002 – Dec. 2002.
- Worked as a Computer Coordinator at Informatics Information Technology, Kandy, Sri Lanka, August 2001-Feb 2002