

MOHAMED ZUHAIR MOHAMED RISHARD

HIGHLIGHTS

- Nearly four years of research experience in analysis of structurally interesting molecules by infrared, Raman, ultraviolet, and laser induced fluorescence spectroscopy and by ab initio calculations.
- Experience in working with Bomem DA8.02 FT-spectrometer, JY-U1000 Raman spectrometer, BioRad FTS-60 IR spectrometer, and mechanical and diffusion vacuum pumps.
- One year research experience in analyzing surface basicity of metal oxides by gas chromatography during the undergraduate studies.
- Working experience in studying surface oxides of activated charcoal by titrimetry at Haycarb Limited, Sri Lanka.

EDUCATION

Ph.D., Chemistry

Texas A & M University, College Station, TX, Expected December 2006

Thesis: Determination of Vibrational Potential Energy Surfaces of Electronic Ground and Excited States: A Spectroscopic Approach (Thesis Advisor: Dr. Jaan Laane)

B.S., Chemistry

University of Colombo, Sri Lanka, 2000

EXPERIENCE

- 2001- Present **Department of Chemistry, Texas A & M University**, College Station, TX
Research Assistant. Investigating the vibrational potential energy surfaces of the molecules 2-cyclohexenone, 2-methyl-2-cyclopentenone, and 1,4-dihyronaphthalene in the electronic ground and excited states by IR, Raman, UV and FES spectroscopic techniques. Currently building an experimental set-up for UV-pulsed Cavity Ringdown Spectroscopy to study the triplet excited state of interesting molecules.
Teaching Assistant. Instructor in undergraduate freshman chemistry, chemistry for engineering students, and physical chemistry laboratories.
- 2000-2001 **Department of Chemistry, University of Colombo**, Sri Lanka
Assistant Lecturer. Instructor for undergraduate physical chemistry laboratory
- 2000
3 months **Haycarb Limited, Sri Lanka**
Intern. Studied the surface oxide species responsible for the high adsorption properties of activated carbon by titrimetry.

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HONORS AND AWARDS

A. E. Martell Travel Award, Department of Chemistry, Texas A & M University,
June 2005

Dr. C. L. de Silva Memorial Prize in Chemistry, University of Colombo, Sri Lanka,
December 1996

Merit Scholarship, Institute of Chemistry, Ceylon
1995

PUBLICATIONS

“Ultraviolet Cavity Ringdown Spectra of 2-cyclohexen-1-one, and its Potential Energy Function and structure for the electronic Ground State.” E. J. Giles, J. Choo, D. Autrey, M. Rishard, S. Drucker, and J. Laane, *Can. J. Chem.*, **82**, 867-872 (2004)

“High Temperature Vapor-phase Raman spectra of Non-rigid Molecules. J. Laane, J. Yang, D. Autrey, Z. Arp, K. Haller, M. Rishard, K. McCann, A. Combs, A. Jensen, and D. Meyer, *Proc. Int. Conf. Raman Spectroscopy*, **19**, 188-189 (2004)

SELECTED PRESENTATIONS

Ultraviolet Cavity Ringdown Spectra of 2-cyclohexen-1-one. Mohamed Rishard, J. Choo, D. Autrey, J. Laane, S. Drucker, and E. Giles, APS regional meeting, Nacogdoches, Texas, March 2005

Ultraviolet Cavity Ringdown Spectra of 2-cyclohexen-1-one and its Inversion Potential Energy Function. Mohamed Rishard, J. Laane, J. Choo, D. Autrey, S. Drucker, and E. Giles, Ohio State International Symposium on Molecular Spectroscopy, Columbus, Ohio, June 20-24, 2005

High Temperature Vapor-Phase Raman Spectra of Non-Rigid Molecules. J. Laane, J. Yang, D. Autrey, Z. Arp, K. Haller, M. Rishard, K. McCann, A. Combs, A. Jensen, International Conference on Raman Spectroscopy, Brisbane, Australia, August 2004