

## Tich-Lam Nguyen

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### KEY COMPETENCIES AND EXPERIENCES:

- Planning, implementing and managing research projects
- Interacting with other scientists and researchers from different disciplines
- Having the ability to acquire new knowledge and how to learn practical / instrumental skills quickly
- Maintaining an organized and safe laboratory with excellent record keeping and reporting skills
- Having excellent linguistic, interpersonal, negotiation and communication skills.

### EDUCATION

RMIT University, Australia, PhD, 2000-2005

RMIT University, Australia, B.S. Applied Chemistry with Honours (First Class), 1996-1999

### RESEARCH INTERESTS

Nanotechnology; Sol-Gel technology

Syntheses of nano-crystals and the study of their microstructure, optical and electronic properties.

### CURRENT POSITION

#### Research Assistant and Laboratory Manager, Nanoparticle Group, Melbourne University (2006 - )

- Research Assistant: Duties involve undertaking industry contract work involving the synthesis of nano-crystals using established protocols as well as some preliminary work on establishing new materials;
- Laboratory Manager: Duties involve manage day to day running of the Nanoparticle Laboratory
  - Maintaining a clean, organized and safe laboratory;
  - Ensure that users of the laboratory dispose of chemicals correctly, store hazardous and waste materials correctly and that instrumentation is calibrated and working correctly;
  - Ensure that correct laboratory procedures are adopted by all users;
  - Preparation of reports for the University and external bodies on work done and materials developed.

### RESEARCH EXPERIENCE

#### PhD Thesis, Ass. Prof. Colin Rix and Prof. David Mainwaring, RMIT University (2000 – 2005)

- Project: "Sol-gel Synthesis of Nano-Bimetallic Oxide Thin Films"
- Studying of the molecularly controlled electronic properties of mixed-metal sensor thin-films and using this knowledge to tailor sensor response, for the development of efficient gas sensors with improved selectivity, sensitivity and long term stability. Developing low temperature sol-gel routes to materials that allow the control of their microstructure for Chromium- and Manganese-doped Titania.

#### Research Assistant, Ass. Prof. Charles Young, Melbourne University (1999 – 2000)

- Project: "The chemistry of calixarene tungsten and molybdenum compounds for the study of Mo and W containing enzymes";
- Duties involve syntheses and characterizations of molybdenum and tungsten compounds.

#### Honours Thesis, Dr Colin Rix, RMIT University (1998 – 1999)

- Project: "Transition Metal Complexes with Iminodiacetate ligands";
- Duties involve syntheses and characterizations of N-alkyl substituted iminodiacetic acid ligands, and using them to prepare and characterise some cobalt(III) and chromium(III) complexes. The influence of the nature of the ligands on the electronic properties and redox behaviour of the metal centre were examined.

#### Research Assistant, Dr Mark Humphrey, Australian National University (1998 – 1999)

- Project: "An examination of Ruthenium cluster chemistry with phosphine ligand";
- Duties involve syntheses and characterizations of Ruthenium clusters containing dendrimers with P-donor phosphine ligands.

## TEACHING EXPERIENCE

### Chemistry Laboratory Demonstrator, RMIT University (2000 – 2003)

- Supervision of undergraduate chemistry laboratory classes, 10 to 15 students;
- Demonstration of experimental techniques to students;
- Training of students in laboratory safety;
- Marking of laboratory reports.

**Tuition (1999-2004):** Secondary and VCE Chemistry, primary Mathematics – 15 to 20 students.

## TECHNICAL EXPERIENCE

**Synthetic Chemistry:** Synthesis of nano-crystals, organometallic compounds and inorganic metal complexes.

**Analytical Chemistry:** Instrumental analysis experience: TEM, Rheology, UV-Visible Spectroscopy, Diffuse Reflectance UV-Visible Spectroscopy, Spin-coating of thin films, Powder XRD, Conductivity measurements, TGA, FT-IR, Ellipsometry and NMR.

**Computer:** ChemDraw, Microsoft Office, Adobe Photoshop, Adobe Pagemaker and Cool Edit.

## RESEARCH PUBLICATIONS

### Publications in refereed journals:

Lucas, N.T., Cifuentes, M.P., Nguyen, L.T. and Humphrey, M.G., J. Cluster Sci., 2001, 12, 201-221: "Ruthenium Cluster Chemistry with  $\text{Ph}_2\text{PC}_6\text{H}_4\text{-4-CCH}$ ".

### Refereed conference papers:

P. Murugaraj, T.L. Nguyen, C. Rix and D. Mainwaring, "Enhanced low temperature electrical response of nanocrystalline doped titanium oxide thin films" Proc ACUN-5 "Developments in Composites: Advanced, Infrastructural, Natural and Nanocomposites", 11-14 July 2006, UNSW, Sydney, Australia.

Lam Tich Nguyen, Pandiyan Murugaraj, Colin Rix, David Mainwaring, "Use of Viscoelastic Properties of Metal Alkoxide Sols to Control the Microstructure and Quality of Spin-coated Sol-gel Thin-films" SPIE 2003, December 16-18, Melbourne, Australia.

J.M Booth, L. Nguyen, C.J. Rix, D.E. Mainwaring, Y.X. Li, W. Wlodarski, S.H. Moslith and S. Russo, "Study of a Cr Doped  $\text{TiO}_2$  Derived from Sol-Gel Process for Gas Sensing Applications", COMMAD 2000, Conference on Optoelectronic and Microelectronic Materials and Devices, Dec. 6-8, 2000 Melbourne, Australia.

### Others:

Tich Lam Nguyen, Andrew Hind, "The measurement of absorption edge band gap properties of novel nanocomposite materials". Application article for Varian Inc..

<http://www.varianinc.com/cgi-bin/nav?products/spectr/uv/atworks/uv81&cid=NQOMNMFH>

## **COMMUNITY SERVICES**

- Radio broadcasting for the Vietnamese Program on FM 97.4 (2001 – 2006): hosting the program, conducting interviews and talkback shows, reading the news and playing music.
- Youth organizations: with teams of 6 to 30, managed the operations of these organizations; planning and executing fundraising events for community charity; coordinating youth concerts for up to 600 audience and other social events for the youths.
  - President of the Federal Vietnamese Students Association of Australia (2003 – 2005)
  - Representative of the Len Duong International Vietnamese Youth Network in the Australia - Asia Region (2003 – 2004)
  - President of the Vietnamese Students Association of Victoria (2002 – 2004)
  - Secretary of the Vietnamese Students Association of Victoria (2000 – 2002)
  - Secretary of the Vietnamese Students Association of RMIT University (2000).

## **SCHOLARSHIPS AND AWARDS**

- Australian Postgraduate Research Award (2000 – 2004)
- The CRC for Microtechnology top-up Research Grant (2000 – 2004)
- Markerry Award for Outstanding Research at Postgraduate Level (2001)
- Department of Chemistry, Melbourne University Vacation Scholarship (1999)
- Department of Chemistry, Australian National University Vacation Scholarship (1998)
- Golden Key National Honour Society Membership for Outstanding Scholastic Achievement and Excellence (1997)
- Selected for the RMIT University 1997 Dean's List (1997)
- RMIT University Applied Chemistry Commendations for Academic achievements (1996 and 1999).