

W. Andrew MacFarlane

Ph.D., M.Sc. (UBC) B.Sc. (Victoria)

Employment History

2002 – Assistant Professor of Chemistry, University of British Columbia

2001 – 2002 Research Associate, TRIUMF

1999 – 2001 Research Associate, University of Toronto, Physics

1997 – 1999 NSERC Postdoctoral Fellow, Lab. de Physique des Solides, Orsay, France

Most Significant Contributions of Last 5 years

1. Development and Application of β NMR at TRIUMF

“ β detected NMR of ^8Li implanted in a thin silver film”, G.D. Morris, W.A. MacFarlane, *et. al.* Phys. Rev. Lett. **93** 157601 (2004).

“Beta-Detected Nuclear Quadrupole Resonance with a Low Energy Beam of $^8\text{Li}^+$ ”, Z. Salman, E.P. Reynard, W.A. MacFarlane, J. Chakhalian, K.H. Chow, S. Kreitzman, S. Daviel, C.D.P. Levy R. Poutissou and R.F. Kiefl, Physical Review B **70** 104404 (2004).

“ β NMR of Palladium Foil”, T.J. Parolin, Z. Salman, J. Chakhalian, D. Wang, T.A. Keeler, Md. Hossain, R.F. Kiefl, K.H. Chow, G.D. Morris, R.I. Miller and W.A. MacFarlane, to appear in Physica B (2006).

2. Ultrasonic Attenuation in Strontium Ruthenate

“Ultrasound Attenuation in Sr_2RuO_4 : An Angle Resolved Study of The Superconducting Gap Function”, C. Lupien, W.A. MacFarlane, C. Proust, L. Taillefer, Z.Q. Mao and Y. Maeno, Phys. Rev. Lett. **86**, 5986-5989 (2001).

3. NMR in the Cuprate High Tc Superconductors

“Dynamics of the Local Moment Induced by Nonmagnetic Defects in Cuprates”, W.A. MacFarlane, J. Bobroff, H. Alloul, P. Mendels, N. Blanchard, G. Collin, J.-F. Marucco, Phys. Rev. Lett. **85**, 1108-1111 (2000).

“Planar ^{17}O NMR study of $\text{Pr}_y\text{Y}_{1-y}\text{Ba}_2\text{Cu}_3\text{O}_{6+x}$ ”, W.A. MacFarlane, J. Bobroff, P. Mendels, L. Cyrot, H. Alloul, N. Blanchard, G. Collin, J.-F. Marucco, Phys. Rev. B **66**, 024508 (2002).

“Cu NMR Study of Detwinned Single Crystals of Ortho-II YBCO6.5”, Z. Yamani, W.A. MacFarlane, B.W. Statt, D. Bonn, R. Liang and W.N. Hardy, Physica C **405**, 227-239 (2004).

Selected Competitive Grant Funding over Last 5 years

1. “Thin Films of Novel Materials: Synthesis, Characterization and β NMR Investigations”, \$45,300 per annum from NSERC Canada (2003-2007). Principal Investigator: W.A. MacFarlane

2. “Pulsed Laser Deposition System for β NMR”, \$400,000 half from CFI, New Opportunities Programme and half from the BCKDF (2004) and \$12,000 per year from the CFI Infrastructure Operating Fund (2005-2009). Principal Investigator: W.A. MacFarlane

3. “In Situ Spectroscopic Ellipsometer for Pulsed Laser Deposition Film Growth”, \$150,300 from NSERC Canada (2003). Principal Investigator: W.A. MacFarlane

4. Coapplicant for a Major Facilities Access Grant “The Centre for Material and Molecular Science at TRIUMF” from NSERC Canada \$350,000 per year (2004,2005). Principal Investigator: P.W. Percival