

CURRICULUM VITAE

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EDUCATION

1988 - 1991 Ph.D. (Chemistry) - Carleton University and the National Research Council of Canada, Ottawa, Ontario.
Supervisor - Dr. John Ripmeester
Thesis Title - Solid State NMR Studies of Molecular Motion, Chiral Selectivity and Reactivity of Guest Molecules in Tri-o-Thymotide Clathrates.

1985 - 1988 M.Sc. (Chemistry) - University of Guelph, Guelph Ontario.
Supervisor - Dr. Colin A. Fyfe
Thesis Title - High Temperature ²H NMR Studies of Liquid Crystalline Polymers.

1981 - 1985 B.Sc. (with Honours in Chemistry) - Dalhousie University, Halifax, Nova Scotia.
Research Supervisor (for Honours Project) - Dr. Roderick E. Wasylshen
Honours Project Title - NMR Studies of Hydrogen Selenide and Some of its Derivatives.

AWARDS AND SCHOLARSHIPS

2007 University of Ottawa Support Staff of the Year Award

1990 - 1991 Ontario Graduate Scholarship

1985 - 1987 University of Guelph Department of Chemistry Scholarship

1981 - 1982 Dalhousie University Entrance Scholarship

EMPLOYMENT

1992 - present *Position* - NMR Facility Manager

Location - Department of Chemistry, University of Ottawa, Ottawa, Ontario.

Description - As NMR Manager I am responsible for the financial and scientific operation of the NMR facility of the University of Ottawa. The facility consists seven NMR spectrometers from both Bruker and Varian and has the capability to do liquids, solids and microimaging. My main responsibilities include the supervision of the departmental NMR technician, the supervision of the maintenance of the equipment, the training of new users, and keeping the department abreast of new NMR techniques. In this position, I am also responsible to teaching NMR spectroscopy courses at both the fourth year and graduate levels.

1988 - 1991 *Position* - Teaching Assistant (held concurrently while doing Ph.D. studies)

Location - Department of Chemistry, Carleton University, Ottawa, Ontario.

Description - This position involved laboratory instruction and supervision of third year students in inorganic chemistry and first year students in general chemistry.

Summer 1988 *Position* - Research Assistant

Location - Department of Chemistry and Biochemistry, University of Guelph, Guelph Ontario.

Supervisor - Dr. Manfred Brauer

Description - The purpose of the work was to build and test an NMR probe designed to observe ^{31}P resonances in the livers of live rats and to build a surface coil NMR probe to be used in obtaining ^{23}Na magnetic resonance images of small animals. The ^{31}P NMR probe was successfully used to observe the ADP and ATP resonances in live rats.

1985 - 1988 *Position* - Teaching Assistant (held concurrently while doing M.Sc. studies).

Location - Department of Chemistry and Biochemistry, University of Guelph, Guelph, Ontario.

Description - This position involved the laboratory instruction and supervision of first year students in general chemistry and organic chemistry.

Summer 1985 *Position* - Research Assistant

Location - Department of Chemistry, Dalhousie University, Halifax, Nova Scotia.

Supervisor - Dr. Roderick E. Wasylshen

Description - This position entailed preparative chemistry and the use of solid state NMR techniques to study molecular motion.

VOLUNTEER EXPERIENCE

1998 - 2002 Member of the University of Ottawa Emergency Response Team

1992 - 1994 Organizer of the Ottawa NMR Discussion Group

1994 - 1995 Organizer of the VIIIth annual MOOT NMR Minisymposium (held in Ottawa, Sept. 1995)

1992 - 1994 A member of the organizing committee for "The 8th International Symposium on Molecular Recognition and Inclusion"

1987 - 1988 President of the Graduate Students Association Club of the University of Guelph

RESEARCH INTERESTS

- Correlating the physical properties of solid materials with the dynamic behaviour of the constituent molecules
- Solving problems of chemical interest with modern NMR techniques.
- The use of NMR techniques to study the behaviour of solid materials.
- Gaining a better understanding of how molecules behave while trapped inside inclusion compounds
- The study of chemical reactions in the solid state using NMR techniques
- Developing a better understanding of the action of catalysts using solid state NMR techniques
- Using NMR techniques to better understand molecular dynamics both in solution and in the solid state.

REFERENCES

available upon request

PUBLICATIONS

37. Glenn A. Facey and Ilia Korobkov. "Investigation of the Disorder of Dibromo- and Dichloromethane in their Tri-*o*-thymotide Clathrates using X-ray Diffraction and Solid-State ^2H NMR Spectroscopy", *Canadian Journal of Chemistry* **89**, 854-862 (2011).
36. Peter D. Frischmann, Glenn A. Facey, Phoung Ghi, Amanda J. Gallant, David L. Bryce, Francesco Leij and Mark J. MacLachlan. "Capsule Formation, Carboxylate Exchange, and DFT Exploration of Cadmium Cluster Metallocavitands: Highly Dynamic Supramolecules", *Journal of the American Chemical Society* **132**, 3893-3908 (2010).
35. Sebastien Monfette, Angela K. Crane, João A. Duarte Silva, Glenn A. Facey, Eduardo N. dos Santos, Maria H. Araujo, Deryn E. Fogg. "Monitoring Ring Closing Metathesis: Limitations on the Utility of ^1H NMR Analysis", *Inorganica Chimica Acta* **363**, 481-486 (2010).
34. Morris I. Schnitzer, Carlos .M. Monreal, Glenn A. Facey, Peter B. Fransham, "The Conversion of Chicken Manure to Biooil by Fast Pyrolysis I. Analysis of Chicken Manure, Biooils and Char by C-13 and H-1 NMR and FTIR Spectrophotometry", *Journal of Environmental Science and Health Part B - Pesticides, Food Contaminants and Agricultural Wastes* **42**, 71-77 (2007).
33. Wenxing Kuang, Glenn A. Facey, Christian Detellier, "Organo-mineral Nanohybrids. Incorporation, Coordination and Structuration Role of Acetone Molecules in the Tunnels of Sepiolite", *Journal Materials Chemistry* **16**, 179-185 (2006).
32. Glenn A. Facey, Wenxing Kuang, Christian Detellier, "Multinuclear Magnetic Resonance Spectroscopy Studies of the Structuration of the Tunnels of Sepiolite in the Presence of Intracrystalline Pyridine Molecules", *Journal of Physical Chemistry B* **109**, 22359-22365 (2005).
31. Wenxing Kuang, Glenn A. Facey, Christian. Detellier, "Dehydration and Rehydration of Palygorskite and the Influence of Water on the Nanopores", *Clays and Clay Minerals* **52**, 635-642 (2004).
30. Yael Israeli, Glenn A. Facey, Christian Detellier. "Reorientational Dynamics of p-sulfanatocalix[4]arene and its La(III) Complex in Water", *Magnetic Resonance in Chemistry* **42** 573-576 (2004).
29. W.X. Kuang, G.A. Facey, C. Detellier. "Nanostructural Hybrid Materials Formed by Sequestration of Pyridine Molecules in the Tunnels of Sepiolite", *Chemistry of Materials* **15** 14956-4967 (2003).
28. T. Marche, M. Schnitzer, H. Dinel, T. Pare, P. Champagne, H.R. Schulten, G. Facey. "Chemical Changes During Composting of a Paper Mill Sludge - Hardwood Sawdust Mixture", *Geoderma* **116**, 345-356 (2003).
27. Basil Hubbard, Wenxing Kuang, Arvin Moser, Glenn A. Facey and Christian Detellier. "Structural Study of Maya Blue: Textural, Thermal and Solid State Multinuclear Magnetic Resonance Characterization of the Palygorskite-Indigo and Sepiolite-Indigo Adducts", *Clays and Clay Minerals* **51**, 318-326 (2003).
26. Mark R. Weir, Glenn A. Facey and Christian Detellier. "Solid State Nuclear Magnetic Resonance Study of Sepiolite and Partially Dehydrated Sepiolite"; *Clays and Clay Minerals* **50** 240-247 (2002).
25. M.R. Weir, G.A. Facey and C. Detellier. " ^1H , ^2H , and ^{29}Si Solid State NMR Study of Guest Acetone Molecules Occupying the Zeolitic Channels of Partially Dehydrated Sepiolite Clay"; *Studies in Surface Science and Catalysis, vol. 129 : Nanoporous Materials II: Proceedings of the 2nd Conference on Access in Nanoporous Materials*. Edd. B. Delmon, J.T. Yates, Abdelhamid Sayari, Mietek Jaroniec and Thomas J. Pinnavaia, Elsevier. 551-558 (2000).
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23. Glenn A. Facey, Tina P. Fong, Dmitry Gusev, Peter M. Macdonald, Robert H. Morris, Marcel Schlaf, and Wei Xu. "Probing the Motion of the η^2 -Dideuterium Ligand by Solution and Solid-state 2H NMR Spectroscopy"; **Canadian Journal of Chemistry** 77, 1899-1910 (1999).
22. Eric B. Brouwer, Gary D. Enright, Christopher I. Ratcliffe, Glenn A. Facey and John A. Ripmeester. "Weak Intermolecular Interactions and Molecular Recognition: Structure and Dynamics of the Benzene and Pyridine *p*-tert-Butylcalix[4]arene Inclusions"; **Journal of Physical Chemistry B** 103, 10604-10616 (1999).
21. G.W. Buchanan, M. Gerzain, G.A. Facey and C. Bensimon, "The 1:2 Complex of LiClO₄ with Benzo-10-Crown-3 Ether as Studied by X-ray Crystallography and Solid State ¹³C NMR Spectroscopy. Pseudooctahedral Coordination Involving the Lithium Ion"; **Journal of Molecular Structure** 470, 95-104 (1999).
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19. Vladimir F. Kuznetsov, Corinne Bensimon, Glenn A. Facey, Vladimir V. Grushin and Howard Alper, "Neutralization" of Palladium Hydroxides, [L₂Pd₂(R)₂(μ-(OH)₂)]_n, by M-H Acids, [CpM(CO)₃H] (M=W, Mo, Cr); **Organometallics** 16, 97-106 (1997).
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15. Marielle Gerzain, Gerald W. Buchanan, Alex B. Driega, Glenn A. Facey, Gary Enright and Robert A. Kirby, "Solid State Structure of 1,2-Dimethoxybenzene (Veratrole) and Related Methoxybenzenes. X-Ray Crystallographic and ¹³C Nuclear Magnetic Resonance Tensor Analysis"; **Journal of the Chemical Society, Perkin Transactions 2** 2697-2693 (1996).
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9. C.A. Fyfe, B.J. Fahie, J.R. Lyerla, J. Economy, N. Niessner, A. Muhlebach, G.A. Facey, "Demonstration of the Liquid-Crystalline Behavior of a Rigid-Backbone Polyester in a Magnetic Field", *Macromolecules*, 25, 1623-1624 (1992).
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2. Marco L. H. Gruwel, Glenn Facey, and Roderick E. Wasylshen; "A Deuterium NMR Study of Ammonium Thiocyanate-d₄"; *Journal of Chemical Physics* 85, 6240-6242 (1986).
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