

# *Curriculum Vitae*

## **MICHAEL ADRIAN BROOK**

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### **CO-WORKERS**

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#### **M.SC. STUDENTS**

| STUDENT  | YEAR(S) | TOPIC  | CURRENT STATUS                                  |
|--|---------|--|---|
| Lihua Liu  | 2004    | Biopolymer modified silicones  |   |
| Lucy Ye  | 2004    | Bicompatible TiO <sub>2</sub>  |   |
| Hazem Amarne   | 2004    | Boronates as structuring agents  |   |
| Weian Zhao   | 2004    | Functional Colloids  |   |
| Dave Thompson  | 2003    | Tethered nucleotides   |   |
| Sanela Martic  | 2003    | MALDI Matrices   |   |
| Kui Guo  | 2001-04 | Protein in Sol Gel Silica  | Scientist,<br>Novopharm                         |
| Forrest (Li) Gan   | 2001-03 | Silicone peptides  | Ph.D., McMaster                                 |
| Cindy Liu  | 2001-03 | Tris-Modified Silicone Surfactants and Their<br>Interactions with Proteins   | Burlington<br>Toiletries<br>Montreal, Scientist |
| Paul Zelisko   | 1999-01 | Silicone-protein copolymers  | Ph.D., McMaster                                 |
| Amro Ragheb  | 1999-01 | Anti-fouling coatings  | Ph.D., McMaster                                 |
| David Valentini  | 1994-96 |  | Scientist, Glaxo                                |
| <i>The coupling of synthetic and biological polymers: silicone - starch composites</i> |         |  |   |
| David Bayles   | 1994-96 | Towards an $\alpha$ -silyl cation  | Ph.D., McMaster                                 |
| Grant Crowe  | 1992-94 | <i>The <math>\beta</math>-effect of extracoordinate silanes</i>  | Scientist, Apotex                               |
| Tom Stefanac   | 1992-94 |  | Scientist, Allelix                              |
| <i>Silane based radical polymerization: functionalized homopolymers and copolymers</i> |         |  |   |
| Mike Roth  | 1992-94 |  | Scientist, PMC Film<br>Tottenham, Ont.          |
| <i>Controlled formation of new Si-based polymeric systems</i>                          |         |  |   |
| Graham McGibbon  | 1989-91 |  | Scientist, Boeringer-<br>Ingelheim, Montreal    |
| <i>Gas phase measurements of the <math>\beta</math>-effect for vinyl cations</i>       |         |  |   |
| Weifeng Yu   | 1988-91 |  | Scientist, EPA<br>Oakville                      |
| <i>The roles of ligands on silicon</i>   |         |  |   |
| Andrea Osterroth   | 1988-90 | <i>Poly(methyl methacrylate) sterically stabilized with silicones</i><br>(co-supervised with R..H. Pelton, Chemical Engineering) |   |
| Thomas Sebastian   | 1987-89 | <i>Polytrichlorosilylstyrenes</i>  | Scientist, Zenon<br>Environ., Burl. ON          |
| Mahmud Hadi  | 1986-88 | The $\beta$ -effect  | MBA   |

#### **PH.D. STUDENTS**

| STUDENT          | YEAR(S) | TOPIC  | CURRENT STATUS |
|------------------|---------|--|----------------|
| Forrest (Li) Gan | 2003-   | Silicone peptides  |                |
| Elodie Pacard    | 2002    | Colloidal Silica<br>Joint with Christian Pichot, ENS-Lyon France |                |
| Paul Zelisko     | 2001-   | Silicone-protein copolymers                                      |                |

|                             |         |  |                         |
|-----------------------------|---------|--|-------------------------|
| Masaaki Amako               | 2001-   | Organometallics in silicones   |                         |
| Amro Ragheb                 | 2001-   | Coupling Agents  |                         |
| Mustafa Mohamed             | 1996-01 | <i>Surface modification by silane photolysis</i>   |                         |
| Sonya Balduzzi              | 1995-01 | <i>Functional silane and cobalt protecting groups</i>  |                         |
| Ahmed Alzamy                | 1999-00 | <i>Silicone-protein copolymers</i>   | withdrawn               |
| Frank Laronde               | 1995-00 | <i>C<sub>2</sub>-symmetric Lewis acid catalysts: The role of imidazole in the stereoselective hydrosilylation of carbonyl compounds.</i>           | Scientist MDS           |
|                             |         | Proteomics   |                         |
| Rodica Stan                 | 1994-99 | <i>Synthesis of novel organofunctional silicones and silanes for interface control</i>   | Scientist, GE, WV       |
| Vasiliki Bartzoka<br>Chem.. | 1994-99 | <i>Silicone-protein interactions</i>   | Scientist, Taro         |
| Mark Stradiotto             | 1995-99 | <i>The dynamics and reactivity of <math>\eta^1</math>-indenyl complexes</i><br>(co-supervised with with M. J. McGlinchey)                          | Asst. Prof. Dalhousie   |
| Paul Charpentier            | 1993-97 | Supported Metallocene Polymerization Catalysts<br>(co-supervised with with A. Hamielec, Chemical Engineering)                                      | PDF Duke                |
| Ralph Ruffolo               | 1992-97 | <i>Silanes and allylsilanes as possible precursors for transition metal-stabilized silylium ions</i><br>(co-supervised with with M. J. McGlinchey) | M. Environment ON       |
| Howard Ketelson             | 1992-96 | <i>The colloidal stability and surface chemistry of Stöber silica</i><br>(co-supervised with R..H. Pelton, Chemical Engineering)                   | Scientist, Alcon        |
| Courtney Henry              | 1990-94 | Electrophilic additions, vinylsilanes  | Prof. Sheridan College  |
| Carol Dallaire              | 1988-92 | <i>The <math>\beta</math>-effect for vinyl cations</i>   | Scientist, MDS<br>Laval |
| Melvin Farquharson          | 1985-86 | Lewis Acids  | Deceased                |

### P.D.F.s

| STUDENT            | YEAR(S) | TOPIC  | CURRENT STATUS                                       |
|--------------------|---------|--|--|
| Jian (Jack) Guo    | 2004-   | Biocompatible silicone surfaces              |  |
| Ferdinand Gonzaga  | 2003    | Silicone surfactants                         |  |
| Yan Gao            | 2003    | Proteins in silica                           |  |
| Dan Chen           | 2000-   | Plasticized sol-gels                         |  |
| Zheng Zhang        | 2001-04 | Proteins in silica                           | PDF  |
| HongJian Tian      | 2001-04 | Contact lens cleaning                        | PDF Waterloo   |
| Hong Chen          | 2001-04 | Protein compatible surfaces                  | Assistant Prof.,<br>Wuhan University of Technology   |
| Shouhai Gao        | 2001-01 | Contact lens cleaning                        |  |
| Alexander Tseitlin | 1997-98 | Wood-plastic composites                      | Research Chemist,<br>Siltech, Toronto                |
| Gilles Sèbe        | 1996-97 | Wood-polyolefin Composites                   | Assoc. Prof.,<br>Bordeaux                            |
| Gang Hu            | 1995-97 | Silicone Hydrophobes on Hydrophilic Polymers | Superior Coatings<br>Ltd. Winnipeg.                  |
| Jianxiong Jiang    | 1992-96 | Silicone Rubbers                             | Scientist, Chengdu<br>Silicone Research<br>Institute |
| Christine Gottardo | 1995-96 | Lab Manager and Paper silanization           | Asst. Prof.,<br>Lakehead Univ.                       |
| Christophe Le Roux | 1993-94 | Radical Reactions of Hydrovinylsilanes,      | CNRS, Toulouse                                       |

|                     |  |                                |
|---------------------|--|--------------------------------|
| C.-K. Yeom          | 1992-94 Pervaporation Membranes                          | Korean Membrane Company        |
| Hari Gupta          | 1992-93 Silicone Membranes                               | PDF, McMaster                  |
| Pankaj Modi         | 1991-92 Oligosilylstyrenes, composite membranes          | PDF McMaster                   |
| Wei Li              | 1991-92 Membranes from silicones                         | Scientist, China               |
| T. Mancilla-Percino | 1990-91 $\beta$ -effect; Friedel-Crafts with ketones     | Prof. CINVESTAS<br>Mexico City |
| Stefan Müller       | 1988-89 The $\beta$ -effect; Friedel-Crafts with ketones | Scientist, BASF<br>Germany.    |

#### TECHNICIANS

| STUDENT        | YEAR(S) | TOPIC                             | CURRENT STATUS     |
|----------------|---------|-----------------------------------|--------------------|
| Renita D'Souza | 2004    |                                   |                    |
| Kui Guo        | 2001    | Silica Sol Gels                   |                    |
| Cindy Liu      | 2000    | Chelating silicones               |                    |
| Tom Stefanac   | 1994    | Recycling silicone                | see M.Sc. student  |
| Chunfeng Guo   | 1991-3  | Coupling reagents, glass coatings | Parkhurst Knitwear |

#### SUMMER STUDENTS/IN COURSE STUDENTS

| STUDENT           | YEAR(S) | TOPIC  | CURRENT STATUS                           |
|-------------------|---------|--|--|
| N. Oakley         | 2004    | Sterically bulky silicones                                   |  |
| S. Krakar         | 2004    | Non-leaching silicone gels                                   |  |
| L. Tran           | 2004    | Enantioselective reduction                                   |  |
| Meghan Marshall   | 2003-4  | Western Blots of Proteins on Silicone<br>(with H. Sheardown) | 2003                                     |
| Jill Ranger       | 2003-5  | Proteins and silicones                                       | 3 <sup>rd</sup> year student             |
| Lisa Wilkinson    | 2003-4  | Silica aggregation   | 4 <sup>th</sup> year student Queen's     |
| Lee Freiburger    | 2003-4  | Metallomesogen synthesis                                     | 3 <sup>rd</sup> year student             |
| Renita D'Souza    | 2002-4  | Silica formulations (done in school year AND summer)         |  |
| Mike Hrynyk       | 2002-4  | Proteins in silicone rubber (done in school year AND summer) |  |
| Joanne Poloczek   | 2003    | Borosilylation (with Steve Westcott, Mt. Allison)            | 3 <sup>rd</sup> year student             |
| Stefanie Mortimer | 2003    | Proteins on modified silica surfaces                         | 4 <sup>th</sup> year student             |
| Aoife O'Carroll   | 2003    |  | 3 <sup>rd</sup> year student             |
| Jonathan Schinkel | 2003    | Metallomesogen synthesis                                     | 4 <sup>th</sup> year student Mt. Allison |
| Susan Jo          | 2003    | Drug delivery from silicone elastomers                       | 2 <sup>nd</sup> year student             |
| Cynthia Kwong     | 2002-3  | Cleaning contact lenses (done in school year AND summer)     |  |
| Ken Mak           | 2002-3  | New silicone emulsions (done in school year)                 |  |
| Allison Chapman   | 2002    | Contact lens cleaning  |  |
| Stefanie Mortimer | 2002    | Proteins on modified silica surfaces                         |  |
| Michele Riordon   | 2002    | Silicone-protein conjugates                                  |  |
| Meaghan Walsh     | 2002    | Sol-gel protein in silica                                    |  |
| Jannine Crowley   | 2001    | Silicone Emulsions   |  |
| Meaghan Walsh     | 2001    | Enzyme Emulsions   |  |
| Laveena Munshi    | 2001    | Chelating Silicones  | Medical School                           |
| Jannine Crowley   | 2000    | Anti-fouling Coatings  |  |
| Ines Alonso       | 2000    | Silicones and Steric Stabilization                           | Ph.D. Bilbao                             |
| Andre Lapierre    | 2000    | Enantioselective Reductions                                  | Ph.D. Pittsburgh                         |

|                   |         |   |  |
|-------------------|---------|---|--|
| Krista Kerr       | 1999    | Enantioselective ketone reduction           |  |
| Dino Alberico     | 1999    | Thermoplastic elastomeric silicones         | Ph.D. Guelph                           |
| Bryan Davies      | 1998    | Chelating Silicones                         | 3 <sup>rd</sup> Year McMaster          |
| Friedrika Becker  | 1997    | Ethylene Oxide Sterilization of Silicones   | Ph.D. Duisburg                         |
| Marko Baller      | 1997    | Decouplable Coupling Agents.                | Ph.D. Basel                            |
| Bryan Davies      | 1997    | Silicone Wood Composites                    | 2 <sup>nd</sup> Year McMaster          |
| Stacey Bridges    | 1996    | Wood-PE Composites                          | Grad. Student                          |
| Denny Lin         | 1995    | Chiral tartrate silanes                     | M.Sc. Toronto                          |
| Herman Yang       | 1994-96 | DMSO for D <sub>3</sub> production          | Quantum Computers                      |
| Hanan Atala       | 1994-95 | Amino acid derived surfactants              |  |
| Helen B. Penny    | 1992    | Hydrosilanes                                |  |
| Ralph Ruffolo     | 1992    | Tartrate modified silicones                 | PDF Toronto                            |
| M. Tomaschewski   | 1987    | The $\beta$ -effect; Acylation              | Scientist, BioChem.<br>Thera., Laval   |
| Patricia Falletta | 1986-87 | Polysilylstyrenes                           | Scientist, CCIW                        |
| Jennifer Townsend | 1986    | Polysilylstyrenes                           | Scientist, Ont. Min.<br>of Environment |
| Axel Neuy         | 1988-89 | $\beta$ -effect                             | Ph.D. Universität<br>Duisburg, Germany |
| Peter Hülser      | 1985-86 | The Silicon $\alpha$ - and $\beta$ -Effects | SurTec GmbH,<br>Germany.               |

#### FOURTH YEAR PROJECT STUDENTS

| STUDENT           | YEAR(S) | TOPIC   | CURRENT STATUS              |
|-------------------|---------|---|-----------------------------|
| Stephanie Krakar  | 2004    | Oligocarboxylate silicones  |                             |
| Jill Ranger       | 2004    | Surface bound nucleosides   |                             |
| Stefanie Mortimer | 2003    | Heparin delivery  | M.Sc., N. Carolina          |
| Lauren Scott      | 2003    | Antithrombogenic surfaces   | M.Sc., UBC                  |
| Andy Cleaver      | 2000    | Enantioselective Reductions                                       |                             |
| Ines Alonso       | 1999    | Silicones and Steric Stabilization                                |                             |
| Andre Lapierre    | 1999    | Enantioselective Reductions                                       |                             |
| Dwayne Stresman   | 1998    | Siloxycarbenes (with J. Warkentin)                                |                             |
| Dino Alberico     | 1998    | Cp-silicones, thermal crosslinking                                |                             |
| Gladys Chan       | 1998    | Protein-Silicone Latexes  | Medical school              |
| Joerg Urschey     | 1997    | Fluorescent Silicones   |                             |
| Andrea Straatmann | 1997    | Water borne coupling agents                                       |                             |
| Armin Schneider   | 1996    | Hydrosilation catalysts   | Diplomearbeit,<br>Duisburg  |
| Jeff Kent         | 1996    | Enzymes on Silicone Surfaces                                      |                             |
| Alex Andronov     | 1995    | Amphiphilic Polymers  | M.Sc. Berkely               |
| Hanan Atala       | 1995    | Diels-Alder Based Coupling Agents                                 |                             |
| Thomas Kuhnen     | 1995    | Inorganometallic Polymers   | Ph.D. Duisburg              |
| Andrew Stadler    | 1994    | Organomodified silicone colloids                                  |                             |
| Jay Atanasoff     | 1994    | Pt hydrosilation  |                             |
| Chris Roos        | 1993    | Silanone from thermal decomposition                               | Ph.D. Frankfurt             |
| Dagmar Ulbrich    | 1993    | Pausen Khand Reactions Using Disilyl-dicobalt<br>Alkyne complexes | Ph.D. Frankfurt,<br>Germany |
| Jason Bernais     | 1993    | Silicone-cellulose copolymers                                     | MBA                         |
| Mike Roth         | 1991    | see M.Sc. student   |                             |

|                     |         |   |  |
|---------------------|---------|---|--|
| Bjorn Ramacher      | 1991    | Tetrakis(trimethylsilylalkynylsilanes       | Ph.D. Duisburg                                 |
| Rick Barker         | 1990    | Silicone stabilized colloids                | Scientist, Pioneer<br>Balloon, Stoney<br>Creek |
| Ralf Jueschke       | 1989    | The $\beta$ -effect; Diastereoselectivity   | Ph.D. Duisburg                                 |
| Bernhard Hladik     | 1989    | Silicone radical reactions                  | Ph.D. Duisburg                                 |
| Stefan Wenzel       | 1990    | Silylstyrene condensations                  | Ph.D. Duisburg                                 |
| Daniel Chau         | 1989    | Slow release drugs                          | Newalta Corp.                                  |
| Sean Guenette       | 1988-89 | Slow release drugs                          | Ph.D. Ottawa                                   |
| Axel Neuy           | 1988-89 | The $\beta$ -effect                         | Ph.D. Duisburg                                 |
| Christina Kremers   | 1987-88 | Silane polymers and chiral silaheterocycles | Ph.D. Duisburg                                 |
| Elizabeth Jefferson | 1987-88 | The $\beta$ -effect with Styrylsilanes      | PDF, Toronto                                   |
| George Elia         | 1986-87 | Mechanism of Mukaiyama Reaction             |  |
| Patricia Falletta   | 1986-87 | Polysilylstyrenes,                          | Scientist, CCIW                                |
| Peter Hülser        | 1985-86 | The Silicon $\alpha$ - and $\beta$ -Effect  | SurTec GmbH,<br>Germany.                       |