MARTIN MCMILLAN

P.O. Box 641
Upton, NY 11973-0641
(610) 513-9253
mcmillan@bnl.gov

EDUCATION

Ph.D. Chemical Engineering 1987, Yale University, New Haven, Connecticut
Professor Gary L. Haller, Research Advisor

M.Phil. Chemical Engineering 1984, Yale University

M.S. Chemical Engineering 1982, Yale University

B.S.E. Electrical Engineering 1981, Duke University, Durham, North Carolina

RESEARCH RELATED SKILLS

Protein Crystallography
Small Molecule Crystallography
Protein Expresssion
Protein Crystallization
Molecular Modeling
Computer Programming (FORTRAN, C, C++, Python, Perl)
X-ray Equipment Design
Synchrotron Radiation Experimental Techniques
Nuclear Magnetic Resonance Spectroscopy with emphasis on Solid State NMR
Fluency in German

EMPLOYMENT

2/04 - Beamline Scientist, National Synchrotron Light Source, Upton, NY
6/97-3/03 Research Fellow, 3-Dimensional Pharmaceuticals, Inc., Exton, Pennsylvania
11/94- Adjunct Senior Research Scientist, Hauptman-Woodward Medical Research Institute, Buffalo, New York

EMPLOYMENT (continued)

2/88-6/97 Physical Chemist, Eastman Kodak Company, Rochester, New York
3/87-2/88 Postdoctoral Associate, Chemistry Department, Cornell University, Ithaca, New York
8/87-2/88 Operator, Cornell High Energy Synchrotron Source, Cornell University9/81-3/87
Assistant in Research, Chemical Engineering Department, Yale University, New Haven, Connecticut
6/81-8/81 Laboratory Technician in Electrochemistry, Degussa, A.G., Frankfurt, Germany
6/80-8/80 Laboratory Technician in Process Engineering, Degussa
6/79-8/79 Laboratory Technician in Electrochemistry, Degussa

AWARDS AND HONORS

Gulf Fellow, Yale Chemical Engineering Department, 9/83-9/84
Yale University Fellowship, 9/81-9/82
Magna Cum Laude with Honors, Duke University, 5/81
Tau Beta Pi, member of North Carolina Gamma, 11/80
Eta Kappa Nu, Electrical Engineering Honor Society, Delta Lamda, 4/80

PROFESSIONAL ACTIVITIES

Industrial Macromolecular Crystallographic Association Collaborative Access Team (IMCA-CAT), Advanced Photon Source, Argonne National Laboratory, Co-Chairman Beamline Oversight Committee 2002-2003
American Crystallographic Association Member
Chairman Cornell High Energy Synchrotron Source Users Group 1990-1992

PUBLICATIONS, PATENTS, AND ABSTRACTS

"Geometric and Electronic Effects of SMSI in Group VIII-TiO_2 Systems"
G.L. Haller, V.E. Henrich, M. McMillan, D.E. Resasco, H.R. Sadeghi, S. Sakellson
Proc. 8th Intern. Congr. Catal., Berlin, 1984, V-135

"Solid-State Magic-Angle Spinning ^{27}Al NMR Used to Study Alumina Support and Surface Compound Structures of Catalysts"
M. McMillan, J.S. Brinen, G.L. Haller
J. Catal. **97**, 243 (1986)

"EXAFS Evidence for Direct Metal-Metal Bonding in Reduced Rh/TiO_2 Catalysts"
S. Sakellson, M. McMillan, G.L. Haller
J. Phys. Chem. **90**, 1733 (1986)

"EXAFS and MAS NMR Investigations of Active Phase-Support Interactions"
M. McMillan
Ph.D. Disseration, Yale University, 1987 (unpublished)

"XANES Evidence for Direct Metal-Metal Bonding and Electron Transfer in Reduced Rh/TiO_2 Catalysts"
D.E. Resasco, R.S. Weber, S. Sakellson, M. McMillan, G.L. Haller
J. Phys. Chem. **92**, 189 (1988)

"A ^{29}Si NMR Investigation of the Structure of Amorphous Silica-Alumina Supports"
M. McMillan, J.S. Brinen, J.D. Carruthers, G.L. Haller
Colloids and Surfaces **38**, 133 (1989)

"In-Situ Surface EXAFS at Chemically Modified Electrodes"
M.J. Albarelli, J.H. White, G.M. Bommarito, M. McMillan, H.D. Abruña
J. Electroanal. Chem. **248**, 77 (1988)

"In-Plane Structure of Underpotentially Deposited Copper on Gold(111) Determined by Surface EXAFS"
O.R. Melroy, M.G. Samant, G.L. Borges, J.G. Gordon II, J.H. White, M.J. Albarelli, G.M. Bommarito, M. McMillan, H.D. Abruña
Langmuir **4**, 728 (1988)

PUBLICATIONS, PATENTS, AND ABSTRACTS (continued)

"In-Situ Surface Extended X-ray Absorption Fine Structure at Chemically Modified Electrodes"
M.J. Albarelli, J.H. White, M. McMillan, G.M. Bommarito, H.D. Abruña
ACS Symposium Series **378**, 216 (1988)"

Is There Any Beam Yet? Uses of Synchrotron Radiation in the in Situ Study of Electrochemical Interfaces"
H.D. Abruña, J.H. White, M.J. Albarelli, G.M. Bommarito, M.J. Bedzyk, M. McMillan
J. Phys. Chem. **92**, 7045 (1988)

"Solid-State Nuclear Magnetic Resonance Spectroscopic Investigation of Hydrotreating Catalysts and Related Material"
O.C. Han, C.Y. Lin, N. Sustache, M. McMillan, J.D. Carruthers, K.W. Zilm, G.L. Haller
Appl. Catal. **A98**, 195 (1993)

"High Bromide Chloride Containing Silver Iodohalide Emulsions Exhibiting an Increased Proportion of Iodide"
J.E. Maskasky, C.A. Reyes, M. McMillan
U.S. Patent 5,238,804 Aug. 24, 1993

"High Chloride Silver Iodohalide Emulsions Exhibiting an Increased Proportion of Iodide"
J.E. Maskasky, C.A. Reyes, M. McMillan
U.S. Patent 5,288,603

"High Bromide Chloride Containing Silver Iodohalide Emulsions Exhibiting an Increased Proportion of Iodide"
J.E. Maskasky, C.A. Reyes, M. McMillan
U.S. Patent 5,378,599

"A Step-Wise Mechanism for Oxidative Addition of Bromine to Organoselenium(II) and Organotellurium(II) Compounds"
M.R. Detty, A.E. Friedman, M. McMillan
Organometallics **13**, 3338 (1994)

"The Crystal Structure of Human Rhinovirus 50"
R.A. Alexander, J. Kofron, D.C. Pevear, J. Hughes, G. Russo F.J. Dutko, V.L. Giranda
M. McMillan
Poster Abstract for ACA Annual Meeting 1994

PUBLICATIONS, PATENTS, AND ABSTRACTS (continued)

"Experiences in Using Direct Methods for Crystal Structure Determination from Electron Diffraction Data"
M. McMillan
Poster Abstract for ACA Annual Meeting 1994

"X-ray Crystallographic, NMR, and Spectroscopic Characterization of a Step-Wise Mechanism for Oxidative Addition of Halides to Organotellurium(II) Compounds"
M.R. Detty, A.E. Friedman, M. McMillan
Poster Abstract for ACA Annual Meeting 1994

"A Step-Wise Mechanism for Oxidative Addition of Iodine to Organotellurium(II) Compounds as Observed by Stopped-Flow Spectroscopy"
M.R. Detty, A.E. Friedman, M. McMillan
Organometallics **14**, 1442 (1995)

"Electron Transport in 4H-1,1-Dioxo-4-dicyanomethylidenethiopyrans. Investigations of X-ray Structures of Neutral Molecules, Electrochemical Reduction to the Anion Radicals, Absorption Properties and EPR spectra of the Anion Radicals"
M.R. Detty, R.S. Eachus, J.R. Lenhard, M. McMillan, A.M. Lanzafame, H.R. Luss, J.E.Eilers
J. Org. Chem. **60**, 1674 (1995)

"^{1}H NMR Exchange Reactions in Te(IV) Derivatives with Cleavage of Te-N Bonds"
M.R. Detty, J.M. Hewitt, M. McMillan
Organometallics **14**, 5258 (1995)

"The Structure of Four Methyltetrazole-Containing Antiviral Compounds in Human Rhinovirus Serotype14"
V. Giranda, G. Russo, P. Felock, T. Bailey, T. Draper, J. Guiles, F. Dutko, G. Diana, D. Pevear, M. McMillan
Acta Cryst. **D51**, 496 (1995)

"Polymorphism in Protein Crystals"
M. McMillan
Invited Lecture Abstract, IUCr Congress XVIII, Glasgow, Scotland (1999)

PUBLICATIONS, PATENTS, AND ABSTRACTS (continued)

"Potent, Bioavailable Thrombin Inhibitors: Drug Candidates from Structure Based Drug Design, Combinatorial Chemistry, and Chemi-Informatics"
J.C. Spurlino, F.R. Salemme, M. McMillan, R.Bone, R.M. Soll, B. Tomczuk, T. Lu, C.R. Illig, L. Murphy, A. Radzicka, T. Randle, S. Eisennagel, F. Lewandowski
Invited Lecture Abstract, IUCr Congress XVIII, Glasgow, Scotland (1999)

"Preparation and Characterization of $Cs_7Cd_{3-x}Pb_xBr_{13}$"
K.D. Sieber, P.S. Bryan, H.R. Luss, M. McMillan, J.L. Hobson, B.R. Sever, L.B. Todd, S.A. Ferranti
J. Solid State Chem. (submitted)

“Structure of Human Domain(II) Fibroblast Growth Factor Receptor 1 at 1.65Å Resolution”
M. McMillan, J.C. Spurlino, F. Lewandowski, B.A. Springer, M.W. Pantoliano, J. Myslik
(manuscript in preparation)

REFERENCES

Dr. John C. Spurlino
Senior Director
3-Dimensional Pharmaceuticals, Inc.
665 Stockton Drive
Exton, PA 19341
(610) 458-6046
jcs@3dp.com

Dr. George DeTitta
Executive Director and Chief Executive Officer
Hauptman-Woodward Medical Research Institute
73 High Street
Buffalo, NY 14203-1196
(716) 856-9600 ext. 325
detitta@hwi.buffalo.edu

Dr. Vincent L. Giranda
Cancer Research Division
R47S-AP9A
Abbott Laboratories
100 Abbott Park Road
Abbott Park, IL 60064-6117
(847) 937-0268
girandav@abbott.com

Professor Michael R. Detty
University at Buffalo
Department of Chemistry
627 Natural Sciences Complex
Buffalo, NY 14260-3000
(716) 645-6800 ext. 2200
mdetty@buffalo.edu

REFERENCES (continued)

Professor Joel D. Brock
Applied and Engineering Physics
Clark Hall
Cornell University
Ithaca, NY 14853
(607) 255-0639
jdb20@cornell.edu

Professor Hector D. Abruña
Department of Chemistry
Cornell University
Baker Laboratory
Ithaca, NY 14853
(607) 255-4720
hda1@cornell.edu