

RONALD J. SAWCHUK, Ph.D.

PERSONAL DATA

Home Address: 14934 Pixie Point Circle SE
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Born: May 29, 1940, Toronto, Ontario, Canada
Marital Status: Married, three children
Citizenship: Dual: U.S. and Canadian

EDUCATION

1959	(High School)	Oakwood Collegiate Institute, Toronto Secondary School Grade XIII)
1963	B.Sc. Phm.	University of Toronto, Toronto Ontario College of Pharmacy Licentiate No. 10748
1966	M. Sc. Phm.	University of Toronto, Toronto
1972	Ph.D.	University of California, San Francisco Pharmaceutical Chemistry (Pharmacokinetics)

PROFESSIONAL AND ACADEMIC EXPERIENCE

1963 - 1965	Teaching Assistant, University of Toronto
1966	Community Pharmacist (part-time), Toronto
1966 - 1968	Teaching Assistant, University of California
1971 - 1972	Instructor in Pharmaceutics, University of Minnesota
1972 - 1977	Assistant Professor of Pharmaceutics, University of Minnesota
1977 - 1983	Associate Professor of Pharmaceutics, University of Minnesota
1974 - 1982	Associate Director, Clinical Pharmacokinetics Laboratory, U of Minnesota
1982 - 1995	Director, Clinical Pharmacokinetics Laboratory, College of Pharmacy, U of Minnesota
1983 - 2010	Professor of Pharmaceutics, University of Minnesota
1983 - 1989	Director of Graduate Studies in Pharmaceutics, University of Minnesota
1983 - 1986	Acting Head, Department of Pharmaceutics, University of Minnesota
1984 (summer)	Quarter Leave, Sandoz Pharma, Pharmacokinetics and Drug Metabolism Dept., Basel, Switzerland (M. Lemaire)
1991 - 1994	Director of Graduate Studies in Pharmaceutics, University of Minnesota
1992 (Summer)	Quarter Leave, Sandoz Pharma, Drug Safety, Basel, Switzerland (W. Niederberger)
1996 - 1999	Member, Board of Directors, Century Mortar Club
1997 (Spring)	Semi-Quarter Leave, Toyama Medical and Pharmaceutical University, Japan (H. Sato)
1997 (Summer)	Semi-Quarter Leave, Novartis AG, PKDM, Basel, Switzerland (J. Vonderscher)
1998 - 1999	Head, Department of Pharmaceutics, University of Minnesota
2001 (Summer)	Faculty Development Leave, Novartis AG, PKDM, Basel, Switzerland (M. Lemaire)
2010 - present	Professor Emeritus of Pharmaceutics, University of Minnesota
2010 - 2014	Research Professor, Part-time, Pharmaceutics, University of Minnesota
2015- present	Adjunct Professor of Pharmaceutics

APPOINTMENTS AND PROFESSIONAL RESPONSIBILITIES

1972 - present	Member, Graduate Program in Pharmaceutics, University of Minnesota
1982 - present	Consultant to the pharmaceutical industry
1995 - 2014	Director, Bioanalytic and Pharmacokinetic Services, University of Minnesota
1995 - 2015	Editorial Board, <i>Saudi Pharmaceutical Journal</i>
1996 - 2007	Editorial Board, <i>Journal of Pharmaceutical Sciences</i>
1996 - present	Member, Graduate Program in Neurosciences, University of Minnesota
2001 - present	Member, Graduate Program in Experimental and Clinical Pharmacology, U of M
2002 - 2010	Member, Graduate Program in Social, Administrative and Clinical Pharmacy, U of M
2008 - 2016	Editorial Advisory Board, <i>AAPS Journal</i>
2009 - 2020	Editorial Board, <i>Xenobiotica</i>

OTHER PROFESSIONAL ACTIVITIES

Prepared two videotapes on "Pharmacokinetics" for undergraduate instruction, 1974
Co-editor of a book with James Blanchard, Ph.D. and B.B. Brodie, Ph.D., entitled "Principles and Perspectives in Drug Bioavailability." S. Karger, Publisher, 1979
Assistant Director, Clinical Pharmacokinetics Laboratory, 1974-82
Consultant in the Establishment and Implementation of the Drug Quality Assurance Program, United Hospitals, St. Luke's Division, St. Paul, 1975
Participant in Critical Incidents Workshop, PDI - College of Pharmacy, 1977
Assessor in the Pharmacy Assessment Exercises, 1978
Coordinator for Continuing Education in Pharmacy, TV Series 1978, 1980
Expert, Bureau of Drugs and Biologics, Food and Drug Administration, 1982-84
Screening Committee, Abstracts, Basic Pharmaceutics Section, APS, APhA, 1981
Review of Grants, Medical Research Council (Canada) 1980-86
Review of Grants, British Columbia Health Care Foundation, 1981-84
Advisory Consultant, Site Visit Team NIH (NINCDS) Yale University School of Medicine, October 1979
Member, Site Visit Team NIH (NINCDS) University of Utah School of Medicine, January 1983
Member, Special Pharmacology Study Section NIH, April-June 1988
Review of Grants, Idaho State Board of Education, 1989-91
Review of Grants, Greater Minnesota Corporation, 1990-91
Organizer and Symposium Co-Chair, "Microdialysis in Drug Metabolism and Disposition Studies", for the Annual AAPS Meeting, San Antonio TX, 1992
Symposium Co-Chair, "Kinetic and Dynamic Challenges of the 90's", for the Annual AAPS Meeting, San Diego, CA, 1994
Organizing Committee Member for the NATO Advanced Study Institute, "Pharmacokinetics: From Theory to Practice", Erice, Italy, April 5-16, 1994
Co-organizer and Participating Instructor, "Pharmacokinetics for the Pharmacist and Pharmaceutical Scientist" University of Milan, Varese, September 10 -15, 1995.
Member, Board of Directors, Century Mortar Club, 1996-present.
National Advisory Committee, FAMU RCMi Program, Tallahassee, FL, 1991-2000
Co-organizer and Participating Instructor, "Pharmacokinetics for the Biomedical and Pharmaceutical Scientist", University of Milan, Varese, September 7 -12, 1997.
Scientific Advisory Committee, 1st Symposium on Microdialysis and Pharmacokinetics, Leiden, The Netherlands April 1998
Organizer and Participating Instructor, "Pharmacokinetics for the Biomedical and Pharmaceutical Scientist", University of Malta, Msida, September 6 -15, 1998.
Founder, Microdialysis Focus Group, American Association of Pharmaceutical Scientists, 1998.
Scientific Advisory Committee, 2nd International Symposium on Microdialysis in Drug Research and Development, Stockholm, Sweden, June 2000
Chair, Microdialysis Focus Group, American Association of Pharmaceutical Scientists, 1998-2000.
Co-Chair, Organizing Committee, 3rd International Symposium on Microdialysis in Drug Research and Development, Minneapolis, MN, USA, June 2002
Visiting Professor, Guilin Medical College, Guilin PRC (2002-2007)
Scientific Advisory Committee, 4th International Symposium on Microdialysis in Drug Research and Development, Vienna, Austria, June 2004

Scientific Advisory Committee, Abbott Laboratories, for the FDA Critical Path Initiative, September 2004
Scientific Advisory Committee, 5th International Symposium on Microdialysis in Drug Research and Development, Leiden, The Netherlands, June 2006
GLP-1 Scientific Advisory Panel, Medtronic, Minneapolis, MN, April 2009-present

CURRENT AND PAST MEMBERSHIP IN PROFESSIONAL AND SCIENTIFIC SOCIETIES

American Association of Pharmaceutical Scientists (Fellow)
American Association for the Advancement of Sciences (Fellow)
American Pharmacists Association (APhA)
American Society for Pharmacology and Experimental Therapeutics
International Society of Anti-Infective Pharmacology
International Society for the Study of Xenobiotics
Technology Park, Heidelberg, Germany
Century Mortar Club (Board of Directors, 1996-98)
Rho Chi Honor Society

SCHOLARSHIPS, HONORS AND AWARDS

1964 Scholarship, Canadian Foundation for the Advancement of Pharmacy
1965-66 National Research Council of Canada
1965 Warner-Lambert Research Fellowship
1968-70 National Institute of Health (NIH) Training Grant
1981-82 Teacher of the Year, College of Pharmacy, University of Minnesota
1986 Recipient of Horace T. Morse-Amoco Foundation Award
1988 Fellow, American Association of Pharmaceutical Scientists
1990 Fellow, American Association for the Advancement of Sciences
1996 Hallie Bruce Memorial Lecture Award
1997 Fellowship, Japanese Society for the Promotion of Science
1999 Meritorious Manuscript Award, American Association of Pharmaceutical Scientists
2001 Weaver Medal of Honor
2004 Distinguished Lecture, Creighton University School of Pharmacy and Health Professions
2005 Academy of Distinguished Teachers, University of Minnesota
2006 Distinguished Lecture, Temple University School of Pharmacy
2007 APhA Research Achievement Award in the Basic Pharmaceutical Sciences

COMMITTEE APPOINTMENTS

COLLEGE OF PHARMACY

1972-73, 1973-74 Student American Pharmaceutical Association Minnesota Chapter (Faculty Advisor)
1972-75 Student Admissions and Academic Standing Committee, College of Pharmacy
1972-73 Task Force on College of Pharmacy Organization
1973-74 Continuing Education Committee
1972-78 Admissions Committee for Pharm.D. Program, College of Pharmacy (Chair 1973-74; 1977-78)
1974-75 University of Minnesota Health Sciences B/C Implementation Committee
1974-77 Constitution and By-laws Committee
1974-75 Unit K Committee, Graduate School
1975-76 Task Force on Pharm.D. Admissions
1976-78 Professional Education Committee
1977-78 Task Force on Travel
1977-78 Anatomy, Physiology, Pathology Study Group
1977-78 Drug Product Design and Evaluation Study Group
1976-78 Search Committee for Biopharmaceutics Faculty Member
1977-78 Search Committee for Assistant Director HCMC
1977-78 Search Committee for Research Associate, CEP Project D-1 (Chairman)
1978-79 Pharm.D. Program Planning Committee (Chairman)
1978-79, 1979-80 Computer Systems Committee (Chairman)
1979-80 Professional Education Committee (Chairman)
1980-81 Educational Policy Committee (Chairman)

1980-82 Externship Committee
 1981-82 Academic Standing Committee
 1981-83 Health Sciences Policy and Review Council
 1981-82 Graduate Faculty Nominations and Course Proposals Committee
 1982-83 Academic Standing Committee (Chairman)
 1982-83 Advisory Committee on Animal Care Facilities
 1983-85 Council of Directors of Graduate Studies
 1982-83 Task Force on Computers
 1983 Search Committee for Department Chairman (Chairman)
 1983 Search Committee for Clinical Faculty at HCMC
 1984 Ad Hoc Committee on External Pharm.D. Program
 1984 Executive Committee (Chairman)
 1984 Search Committee for Dean of College of Pharmacy
 1984 Search Committee for Psychiatry Position, St. Paul-Ramsey Medical Center
 1984 Search Committee for Clinical Faculty at Hennepin County Medical Center
 1985 Endowed Chair in Pharmaceutics Search Committee (Chair)
 1985 Assistant Professor in Pharmaceutics Search Committee (Chair)
 1985 Appointments, Promotion and Tenure Committee
 1985 Space Committee
 1985 Clinical Assistant Professor (MMC) Search Committee
 1985-89 Executive Committee
 1986-87 Appointments, Promotion and Tenure Committee (Chair)
 1986-90 Educational Policy Committee
 1986-87 Subcommittee of Educational Policy Committee
 1986 Search Committee for Endowed Chair (Chair)
 1986-87 College of Pharmacy Strategic Planning Committee
 1986-87 Subcommittee of Strategic Planning Committee to Develop College Goals and Objectives
 1987-90 Continuing Pharmacy Education Advisory Committee (Chair)
 1987-88 Admissions Committee
 1988-89 Admissions Committee (Chair)
 1989-91 Promotion and Tenure Committee
 1991-92 Promotion and Tenure Committee (Chair-Elect)
 1991-92 General Research Support Committee
 1992-93 Promotion and Tenure Committee (Chair)
 1992-93 General Research Support Committee
 1993-94 Academic Standing Committee (Chair-Elect)
 1994-95 Academic Standing Committee (Chair)
 1994-98 College Computer Committee
 1995-96 Promotion and Tenure Committee
 1995-96 Internal Organization and Leadership Task Force
 1996-97 Non-traditional Pharm.D. Task Force
 1997-98 Search Committee for Endowed Chair in Geriatric Pharmacotherapy
 1997-98 Admissions Committee
 1997-98 Search Committee for Immunotherapy Faculty Position (Chair)
 1998-2000 Search Committee for Pharmaceutics Faculty Position
 2000-2001 Educational Policy Committee
 2001-2002 Search Committee for ECP Faculty Position
 2001-2002 Educational Policy Committee (Chair)
 2001-2002 Search Committee for Pharmaceutics Faculty Position
 2001-2002 College of Pharmacy Phar. Sci. 2020 Committee, Capital Campaign (Co-Chair)
 2001-2004 College of Pharmacy Faculty Consultative Committee
 2002-2003 Educational Policy Committee (Past Chair)
 2002-2003 College of Pharmacy Collegiate Review Committee (Chair)
 2002-2003 College of Pharmacy Central Council (Faculty Representative)
 2002-2003 College of Pharmacy Instructional Development Working Group for the Duluth Expansion
 2003-2005 Search Committee for Pharmaceutics Faculty Position at UMD (Chair)
 2004-2007 College of Pharmacy Assessment Committee
 2005-2006 Search Committee for Endowed Chair in Geriatric Pharmacotherapy
 2006-2007 Search Committee for Pharmaceutics Faculty Position
 2018 Organizing and Advisory Committee, Celebrating 125 Years

UNIVERSITY COMMITTEE APPOINTMENTS

1974-78	Subcommittee on Academic-Industrial Interface, Academic Relations Committee, 3M Technical Forum
1975-76	Health Sciences Primary Health Care Program Committee (Alternate), Solicitor for the University of Minnesota Consolidated Fund Drive
1977-78	Alternate Senator (U. of Minnesota)
1978-81	Senator (U. of Minnesota)
1984-85	Health Sciences Learning Resources Committee
1986	College Delegate to All-University Single Quarter Leave Working Group, Academic Affairs
1989	Health Sciences Policy and Review Council, Graduate School
1989-91; 1991-93	Biological Sciences (formerly Plant and Animal Sciences) Policy and Review Council, Graduate School
1991-93	Graduate Faculty Nominations Subcommittee, Biological Sciences Policy and Review Council, Graduate School
1992-93	Graduate Faculty Nominations Subcommittee (Chair), Biological Sciences Policy and Review Council, Graduate School
1995-1998	Biological Sciences Policy and Review Council, Graduate School
1997-98	Faculty Research Development Proposal Review Committee for the Academic Health Center
2001-2004	Academic Health Center Faculty Consultative Committee
2001-2002	SCFP Subcommittee on Twin Cities Facilities and Support Services (STCFSS)
2003	AHC Seed Grant Review Committee
2003	AHC FCC Internal Screening Committee for Academy of Excellence Nominees
2004-2007	All-University Honors Committee, University of Minnesota

STATE, NATIONAL, AND INTERNATIONAL COMMITTEE APPOINTMENTS

1974-76	Representative to AACP Council of Faculties
1977-78	AACP Task Force on Guidelines for Pharm.D. Accreditation
1980-82	Academic Advisory Committee, Kellogg Pharmaceutical Scientist Program
1981	Screening Committee for Academy of Pharmaceutical Sciences, Basic Pharmaceutics Section
1989-present	Member, Scientific Committee, International Pharmaceutical Technology Symposium (FIP)
1990	Academic Affairs Committee, AACP (Member)
1990	Program Committee, Controlled Release Society Annual Meeting (Member)
1989-91	Continuing Education Committee, State Board of Pharmacy (Member)
1990-95	USP Committee of Revision (Member)
1991-93	NIH/NINDS Antiepileptic Drug Development Program (Consultant)
1995	Fellows Nominations Committee for AAPS, PPDM Section
1995	Screening Committee for AAPS PPDM Section Abstracts
1997-2000	Fellows Nominations Committee for AAPS, PPDM Section
1999-2000	Committee on AAPS Section Structure and Procedure Guideline
2000-2001	PPDM Vice Chair, American Association of Pharmaceutical Scientists
2000-2002	Co-Chair, Organizing Committee, 3 rd International Symposium on Microdialysis in Drug Research and Development
2001-2002	PPDM Chair Elect, American Association of Pharmaceutical Scientists
2001-2002	Annual Program Planning Committee, American Association of Pharmaceutical Scientists
2001-2002	Program Coordinating Committee, American Association of Pharmaceutical Scientists
2002-2003	PPDM Section Chair, American Association of Pharmaceutical Scientists
2002-2003	PPDM Committee for Graduate Student Symposium Awardees, American Association of Pharmaceutical Scientists
2002-2003	Short Course Program Review Team, American Association of Pharmaceutical Scientists
2003-2004	PPDM Section Past-Chair, American Association of Pharmaceutical Scientists
2004-2007	Member-at-Large, American Association of Pharmaceutical Scientists Executive Council
2004-2006	Clinical and Operational Working Group (CORWG), NASA
2004-2005	AAPS Executive Council Liaison to the Clinical Sciences section of AAPS
2005-2006	AAPS Executive Council Liaison to the DDD section of AAPS
2005-2006	AAPS Executive Council Liaison to the PDD section of AAPS
2005-2006	AAPS Executive Council Liaison to the 2006 Annual Meeting Program Committee
2005-2006	AAPS Executive Council Liaison to the 2006 Annual Meeting Screeners
2005-2006	AAPS Executive Council Liaison to the 2006 Program Coordination Committee

2006	AAPS Reference Resources Task Force
2006-2007	AAPS Executive Council Liaison to the APQ section of AAPS
2006-2007	AAPS Executive Council Liaison to the PT section of AAPS
2006-2007	AAPS Executive Council Liaison to the International Affairs Committee
2009-2011	Epilepsy NINDS Steering Committee
2009-2011	NINDS Consortium to Study Bioequivalence of Anti-Epileptic Drug Products

INVITED PRESENTATIONS

- Continuing Education Program (6 hours) Minneapolis, MN, 1973.
Upper Midwest Hospital Conference, 1974.
Continuing Education Program (6 hours) Rochester, MN, 1974.
University of Illinois, Chicago, IL, 1974.
Department of Clinical Pharmacology, University of Minnesota, 1974.
ACCP Annual Meeting and Teachers' Seminar (Workshop Leader), Lake Kiamesha, NY, 1975.
Debate Symposium, "Drug Product Selection," St. Paul, MN, 1977.
Continuing Education for Minneapolis Veteran Pharmacists (2 hours), Minneapolis, MN, 1978.
Continuing Education in Pharmacy (2 hours), Mankato, MN, 1978
Continuing Education in Pharmacy "Seminar at Sea" (4 hours of instruction), 1978.
HPLC Workshop, Invited Lecturer, Bloomington, MN, 1978.
University of Kentucky, Lexington, KY, 1979.
American Association of Clinical Chemists, Midwest Section, Minneapolis, MN, 1979.
University of Illinois, Chicago, IL, 1979.
Smith Kline Corp., Philadelphia, PA, 1979.
Department of Pathology, St. Cloud Hospital, St. Cloud, MN, 1979.
Comprehensive Epilepsy Program, Minneapolis, MN, 1979.
University of North Carolina, Chapel Hill, NC, 1979.
Burroughs Wellcome Co., Research Triangle Park, NC, 1979.
St. Paul-Ramsey Medical Center, St. Paul, MN, 1989.
Continuing Education in Pharmacy (4 hours) Minneapolis, MN, September-October, 1981.
Medical Research Council of Canada, Visiting Professor, University of British Columbia, Vancouver, 1982.
Invited Lecturer, National Institutes of Health, Epilepsy Branch, Bethesda, MD, 1982.
Geriatric Research, Education and Clinical Center, Bloomington, MN, September, 1982.
Continuing Education in Pharmacy (6 hours), Duluth, MN, September, 1982.
Ciba-Geigy, Pharmaceuticals Division, Ardsley, December 2, 1982.
Swiss Federal Institute of Technology, Zurich, Switzerland, June 19, 1984.
Biopharmacy Division, Sandoz AG, Basel, Switzerland, June 22, 1984.
Biopharmacy Division, Sandoz AG, Basel, Switzerland, July 24, 1984.
"Cyclosporine Pharmacokinetics in the Rabbit: In Vivo Disposition and In Situ Absorption Studies," Rhone-Poulenc Visiting Professor, University of Toronto, Ontario, February 5, 1985.
"Pharmacokinetics and Pharmacodynamics," Drug Therapy Symposium VI, St. Paul, MN, February 27, 1985.
"Absorption and Disposition Studies with Cyclosporine," Sandoz, AG, Basel, Switzerland, July 15, 1985.
"Absorption of Cyclosporine from Rabbit Small Intestine Using an In Situ Perfusion Model," Vorstand des Instituts für Pharmazie U. Lebensmittelchemie der Ludwig-Maximilians-Universität, Munich, West Germany, July 17, 1985.
"Analytic considerations in the Investigation of the Pharmacokinetics of Cyclosporine," Medizinischen Hochschule, Hanover, West Germany, September 11, 1985.
"Mixed-Order Absorption of a Sustained Release Carbamazepine Tablet in Humans," Institut für Pharmazeutische Technologie der Johann Wolfgang Goethe-Universität, Frankfurt am Main, West Germany, May 15, 1986.
"Simultaneous First- and Zero-order Absorption of Commercial Carbamazepine Tablets," 5th Symposium on Biopharmaceutics and Pharmacokinetics, Piestany, Czechoslovakia, May 22, 1986.
"Simultaneous First- and Zero-order Absorption of Tegretol in Human Volunteers," National Institutes of Health, Epilepsy Branch, NINCDS, Bethesda, MD, November 6, 1986.
"Comparison of Plasma AUCs using the Traditional Point-by-Point and Pooled Sample Methods: Application in the Analysis of Human Pharmacokinetics of Carbamazepine and its metabolites," Food and Drug Administration, Rockville, MD, July 20, 1987.
"The Absorption and Disposition Kinetics of Carbamazepine and its Metabolites in Humans," Ciba-Geigy, Summit, NJ, July 23, 1987.
"Pharmacokinetics in Contemporary Pharmacy Practice," Minneapolis Veteran Pharmacists Association, Richfield, MN, September 15, 1987.

The following four lectures were given in Beijing, Chengdu, and Guilin, China during a visit sponsored by the Chinese Academy of Medical Sciences in late October/early November 1987:

1. "Theory and Application of a Pharmacokinetic Model in Individualizing Dosing Regimens for the Aminoglycosides."
2. "First- and Zero-order Absorption of Carbamazepine from Commercial Tablets in Epileptic Patients and Normal Volunteers."
3. "Significance of Nonlinear Disposition Kinetics in the Adjustment of Dosing Regimens."
4. "Relative Bioavailability of Phenytoin Formulations: Problems in Assessment Due to Michaelis-Menten Elimination Kinetics."

"Does Tegretol need to be Dosed TID?" Comprehensive Epilepsy Program, Minneapolis, MN, March 21, 1988.

"The Kinetics of Absorption of Carbamazepine (Tegretol) and its Metabolism in Humans," Vorstand des Instituts der Pharmazie, Ludwig-Maximilians Universität, Munich FRG, June 8, 1988.

"Pharmacokinetic and Physiologic Considerations in Oral Controlled Drug Delivery," Novel Drug Delivery Symposium, Minneapolis, MN, September 20, 1988.

"Clinical Applications of the Two-Compartment Open Model," Regional Kidney Disease Program, Hennepin County Medical Center, Minneapolis, MN, November 16, 1988.

The following five lectures were presented in a Continuing Education in Pharmacy Program: "Concepts and Applications in Pharmacokinetics, Parts I and II"; "Therapeutic Response and Toxicity"; "Monitoring Drug Therapy"; and "Bioavailability and Bioequivalence", St. Thomas, Virgin Islands, March 8-13, 1989.

"The Pharmacokinetics of Zidovudine (AZT) with Some Observations on the Interaction with Probenecid," Queen's University of Belfast, Belfast, North Ireland, June 15, 1989.

"Pharmacokinetic and Analytical Considerations in Monitoring Zidovudine (AZT) Levels in Children with Aids," Fourth International Congress on Pediatric Laboratory Medicine, Washington, DC, August 23, 1989.

"Inhibition of Zidovudine Metabolism and Excretory Transport," Department of Pharmacodynamics, Semmelweis University of Medicine, Budapest, Hungary, September 13, 1989.

"Evaluating Bioequivalence," Western Michigan Society of Hospital Pharmacists, Grand Rapids, MI, March 2, 1990.

"Effect of Temperature and Medium of Analysis on Cyclosporine Concentration," Canadian Consensus Meeting on Cyclosporine Monitoring, Minaki Lodge, Canada, May 11, 1990.

"Studies of the Interaction between Zidovudine (AZT) and Probenecid in Animals and Humans." Pharmaceuticals and Process R & D, Ayerst Laboratories Inc., Rouse's Point, NY, August 17, 1990.

"Mechanistic Studies to Examine the Effect of Probenecid on the Brain Uptake of Zidovudine," Shanghai Medical University, Shanghai, P.R.C., October 13, 1990.

A lecture series (16 hrs) on the topic of "Clinical Pharmacokinetics and Therapeutic Drug Monitoring" was given to staff members of the Chinese Academy of Medical Sciences and Hospital Pharmacists, Beijing, P.R.C., October 15-20, 1990.

"Comparative Intestinal Absorption of Compounds of Varying Lipophilicity, and the Effect of Absorptive Water Flux." Lederle Laboratories, Pearl River, NY, September 12, 1991.

"Analysis of Zidovudine Distribution into Specific Brain Regions Utilizing Microdialysis," Bristol Myers-Squibb Research Institute, Princeton, NJ, September 17, 1991.

"Distribution of AZT Into Specific Brain Regions in the Rabbit Utilizing Microdialysis," University of Illinois College of Medicine, Peoria, IL, October 9, 1991.

"Studies on the Transport of Nucleosides into Specific Brain Regions Using Microdialysis with *In Vivo* Calibration." University of Florida, College of Pharmacy, Gainesville, FL, December 6, 1991.

"Analysis of Zidovudine Distribution into Specific Brain Regions Utilizing Microdialysis," University of Arizona College of Pharmacy, Tucson, AZ, February 17, 1992.

"Regional Considerations in the *In Situ* Intestinal Absorption of Glycylcycline and Minocycline, and the Effect of Solvent Drag," Lederle Laboratories, Pearl River, NY, May 11, 1992.

"Comparative Absorption of Fluorothymidine and Related Nucleosides in Different Anatomic Intestinal Regions," Lederle Laboratories, Pearl River, NY, May 11, 1992.

"Microdialysis Techniques for the Study of Drug Distribution, and the Problem of Recovery *In Vivo*," Europhor Toulouse, France, June 19, 1992.

"The Use of Microdialysis in Studying the Distribution of Exogenous Substances in Biological Tissues," Sandoz Pharma, Basel Switzerland, June 24, 1992.

"Inhibition of Brain Distribution and Systemic Clearance of AZT by Probenecid," Sandoz Pharma, Basel Switzerland, June 30, 1992.

"Uptake of Zidovudine (AZT) into Rabbit Brain Using Microdialysis with *In Vivo* Calibration," Knoll AG, Ludwigshafen, Germany, July 1, 1992.

"Microdialysis in the Study of the Distribution and Metabolism of Exogenous Substances," Pharmaceutical Chemical Institute, University of Heidelberg, Heidelberg, Germany, July 2, 1992.

"The Relationship Between Urine and Plasma Concentrations of Lipophilic Drugs: Implications for Therapeutic Drug Monitoring," Sandoz Pharma, Basel Switzerland, July 8, 1992.

"Estimation of the Elimination Rate Constant for Metabolites which Exhibit Formation-Rate Limited Disappearance," Sandoz Pharma, Basel Switzerland, July 23, 1992.

"Experimental Determination of Free Tissue Levels Using Microdialysis," 4th Biennial Conference on Chemotherapy of Infectious Diseases and Malignancies, Prague, Czechoslovakia, August 31, 1992.

"Estimating half-lives of anticonvulsants from pharmacologic data," Natural Resources Research Institute, UMD, October 13, 1992.

"*In Situ* Intestinal Absorption of Tetracycline Derivatives and the Effect of Absorptive Water Flux," Lederle Laboratories, Pearl River, NY, November 13, 1992.

"Reversibility of Carbamazepine Autoinduction upon Dose Termination in Normal Volunteers," Abbott Laboratories, Abbott Park, IL, December 2, 1992.

"Barriers to the Oral Delivery of Drugs," Wyeth-Ayerst Research, Radnor, PA, February 23, 1993.

"Preliminary Results of Studies which Examine the Distribution of the NMDA Antagonist, EAB 515, to Rat Brain," Sandoz Pharma, Basel Switzerland, April 26, 1993.

"Microdialysis Calibration Using the Zero-Net Flux Method and Retrodialysis in Studying the Distribution of Exogenous Substances to Rat Brain," Sandoz Pharma, Basel Switzerland, April 26, 1993.

"Investigation of the Pharmacodynamics of the NMDA Antagonist, EAB 515, in the Rat During Intravenous and Intracerebroventricular Administration." Sandoz Research Institute, Berne, Switzerland, April 28, 1993.

"Comparative Distribution of AZT to Brain Tissue Extracellular Fluid During Intravenous and Intracerebroventricular Infusion." Food and Drug Administration, Rockville, MD, May 21, 1993.

"Interspecies Scaling of Pharmacokinetics in the Evaluation and Development of New Antiepileptic Drugs." Natural Resources Research Institute, University of Minnesota—Duluth, Duluth, MN, August 11, 1993.

"Application of Pharmacokinetic Principles in Practice." Minneapolis Veteran Pharmacists Association, St. Louis Park, MN, September 21, 1993.

"Microdialysis as a Tool to Study Drug Delivery to the Brain." North Jersey American Chemical Society Drug Metabolism Discussion Group, Somerset, NJ, October 7, 1993.

"Graduate Studies and Research Careers in Pharmaceutics." University of Minnesota—Duluth Department of Chemistry, Duluth, MN, December 3, 1993.

"Microdialysis in Pharmacokinetic and Drug Metabolism Studies." 95th Annual Meeting, American Society for Clinical Pharmacology and Therapeutics, New Orleans, LA, April 1, 1994.

"Modeling and Simulation of Complex Pharmacokinetic Systems." NATO Advanced Study Institute, Erice, Italy, April 12, 1994.

"Microdialysis in the Study of Drug Distribution." NATO Advanced Study Institute, Erice, Italy, April 13, 1994.

"Pharmacokinetic Studies Utilizing Microdialysis." Department of Pharmaceutical Chemistry, University of Kansas, Lawrence, KS, May 2, 1994.

"Pharmacokinetic Studies Utilizing Microdialysis and On-Line HPLC." 4th International Workshop in Bioanalysis, Lawrence, KS, July 12, 1994.

"Application of Microdialysis in Pharmacokinetic Studies." Gordon Research Conference in Drug Metabolism, Holderness School, Plymouth, NH, July 20, 1994.

"Microdialysis and its Application in Pharmacokinetic Studies." Ciba-Geigy, Pharmacokinetics and Bioanalytics Division, Ardsley, NY, July 25, 1994.

"Assessing Drug Transport in the Brain with Microdialysis." 9th Annual Meeting, American Association of Pharmaceutical Scientists, San Diego, CA, November 6-10, 1994.

"Applications of Microdialysis in Preclinical Pharmacokinetic Studies." 3M Pharmaceuticals, 3M Center, St. Paul, MN, November 29, 1994.

"Problems in Assessing the Absorption of Carbamazepine from Sustained Release Dosage Forms in Epileptic Patients." Pharmavene, Inc., Gaithersburg, MD, February 23, 1995.

"Selected Preclinical Pharmacokinetic Studies with Tacrine." Parke-Davis Pharmaceuticals, Ann Arbor, MI, May 5, 1995.

"Brain Distribution and Metabolism Studies with Tacrine and Two Hydroxylated Metabolites." Department of Pharmaceutics and Pharmacodynamics, University of Illinois, Chicago, IL, July 28, 1995.

"Microdialysis and its Application in Preclinical Drug Distribution and Absorption Studies." Chiron Corporation, Emeryville, CA, August 18, 1995.

"The Principle of Quantitative Microdialysis and its Application in Preclinical Drug Distribution Studies." Genentech, Inc., South San Francisco, CA, October 9, 1995.

"Graduate Programs and Research Opportunities in Pharmaceutics." 13th Annual Symposium on Pharmaceutical Sciences Graduate Programs, Merrillville, IN, October 21, 1995.

"Principles of Microdialysis and Applications in Preclinical Drug Distribution and Absorption Studies," Wyeth-Ayerst, Pearl River, NY, December 6, 1995.

"Microdialysis in Preclinical Drug Distribution Studies." Dupont Merck, Newark, DE, December 8, 1995.

"Microdialysis and its Application to the Study of Drug/Metabolite Distribution in the Central Nervous System," University of Pittsburgh, Pittsburgh, PA, January 25, 1996.

"Therapeutic Drug Monitoring: A Fodor's Guide." Hallie Bruce Memorial Lecture Award, Minnesota Society of Health-Services Pharmacists, Minneapolis, MN, April 13, 1996"

"Preclinical Studies of Drug Distribution to the Brain using Microdialysis." Pharmaceutical Peptides Inc, Cambridge, MA, May 2, 1996.

"Microdialysis and its Application in Nonclinical Studies of Drug Distribution and Absorption." Bristol-Myers Squibb, Princeton, NJ, June 24, 1996.

"Continuous Monitoring by Microdialysis in Neuropharmacokinetic Investigations." Faculty of Pharmacy, University of Tanta, Tanta, Egypt, March 5, 1997.

"Preclinical Studies of Drug Distribution to the Brain using Microdialysis," Toyama Medical and Pharmaceutical University, Toyama, Japan, April 11, 1997.

"Application of Pharmacokinetic Principles in Individualizing Aminoglycoside Dosing," Toyama Medical and Pharmaceutical University, Toyama, Japan, April 11, 1997.

"Preclinical Studies of Drug Distribution to the Brain using Microdialysis," Meiji College of Pharmacy, Tokyo, Japan, April 18, 1997.

"Individualizing Aminoglycoside Dosing and Once-a-Day Aminoglycosides," Meiji College of Pharmacy, Tokyo, Japan, April 18, 1997.

"Education of Pharmacists and Pharmaceutical Scientists at the University of Minnesota," 260th Meeting on Continuing Education of Pharmacists, Okuda-Shinmachi, Toyama, Japan, April 26, 1997.

"Pharmacokinetic Basis of Drug-drug Interactions," Novartis Workshop on Metabolic Drug-Drug Interactions, Schluchsee, Germany, October 14, 1997.

"Microdialysis and its Application in Preclinical Pharmacokinetic Studies," Merck Research Laboratories, West Point, PA, December 16, 1997.

"Microdialysis and its Application in Preclinical Pharmacokinetic Studies," Merck and Co, Inc. Rahway NJ, December 17, 1997.

"Brain Distribution Studies employing Microdialysis and Crossover Designs," *1st International Symposium in Drug Research and Development*, Noorwijkerhout, Netherlands, April 3, 1998.

"Application of Sample Pooling in the Time Domain to Estimate CL, Vss and MRT in the Search for Lead Compounds." Chiron Corporation, Emeryville, CA, May 5, 1998.

"Microdialysis as a Sampling Technique in Preclinical Pharmacokinetic Studies." Pfizer Inc, Groton CT, June 18, 1998

"Assessing Drug Delivery to the CNS Using Microdialysis Sampling." School of Medicine, University of Minnesota, Duluth, October 19, 1998.

"Pharmacokinetic Studies Using Microdialysis Sampling." American Association of Pharmaceutical Scientists Annual Meeting, San Francisco CA, November 18, 1998.

"Applications of Microdialysis in Pharmacokinetics: Brain, Blood, and Middle Ear Fluid." Bristol-Myers Squibb, Wallingford CT, May 14, 1999.

"Applications of Microdialysis in Preclinical Pharmacokinetics: Brain, Blood and Middle Ear Fluid." Parke-Davis, Ann Arbor, MI, May 21, 1999.

"Blood Sample Pooling and the Determination of Mean Residence Times in High-Throughput Pharmacokinetic Screening". Parke-Davis, Ann Arbor, MI, May 21, 1999.

"Role of controlled release formulations in the steady-state pharmacokinetics and pharmacodynamics of anticonvulsants" Impax Pharmaceuticals, Inc, Hayward CA, June 9, 1999.

"Investigating Neuropharmacokinetics and Drug Delivery to the CNS using Microdialysis." *8th International Conference on In Vivo Methods: Monitoring Molecules in Neuroscience*. Stonybrook NY, June 19-23, 1999.

"Use of Microdialysis in Pharmacokinetics" at the 8th BMSR Workshop on *Advanced Methods of Pharmacokinetic and Pharmacodynamic System Analysis*, Marina del Rey, CA May 25-26, 1999.

"Applications of Microdialysis in Preclinical Pharmacokinetics." Amgen, Inc., Thousand Oaks, CA, June 28, 1999.

"Pharmacokinetic –Pharmacodynamic Principles in Drug Development." Chiron Corporation, Emeryville, CA, August 20, 1999.

"Microdialysis and its Application in Pharmacokinetics: Brain, Blood, and Middle Ear Fluid." Abbott Labs, Abbott Park IL Aug 27, 1999.

"Distribution kinetics of antibiotics to the chinchilla middle ear" Department of Biopharmaceutical Sciences, Uppsala University, Uppsala, Sweden, March 16, 2000.

"In Vivo Microdialysis as a Tool to Study Site Specific Drug Delivery" *Millennial World Congress of Pharmaceutical Sciences*. San Francisco CA, April 17, 2000.

"In Vivo Microdialysis as a Tool to Study Site Specific Drug Delivery" *Engbretson Symposium on Drug Discovery and Development*. Minneapolis, MN. May 18, 2000.

"In Vivo Microdialysis as a Tool to Study Drug Delivery". *19th Annual Robert S. Rozman Memorial Symposium*, Langhorne PA, May 25, 2000.

"Basic Principles of Microdialysis, Experimental Setup". *Course on Basic and Advanced Aspects of In Vivo Microdialysis*", Stockholm, Sweden, June 14, 2000.

“Recovery: Basic Idea and Practical Methods”. *Course on Basic and Advanced Aspects of In Vivo Microdialysis*”, Stockholm, Sweden, June 14, 2000.

“Studies of Distribution of Antibiotics to the Middle Ear by Microdialysis” *2nd International Symposium on Microdialysis in Drug Research and Development*, Stockholm, Sweden, June 15, 2000.

“Basic Concepts in Clinical Pharmacokinetics” A 2-Day Course. Abbott Laboratories, Abbott Park IL and Victory Hospital, Waukegan, IL, July 18-19, 2000

“Microdialysis and its Application in Preclinical Pharmacokinetics: Brain, Blood, and Middle Ear Fluid.” Dupont Pharmaceuticals, Wilmington, DE July 12, 2000.

“Pharmacokinetic –Pharmacodynamic Principles in Drug Development.” Abbott Labs, Abbott Park IL Jan 9, 2001

“Biopharmaceutical and Pharmacokinetic Considerations in Delivering Drug to the CNS” Medtronic Neuro Division, Minneapolis. January 25, 2001

“Clinical Pharmacokinetic Principles in Drug Development.” Novartis Pharma, Tokyo, April 12, 2001

“In Vivo Microdialysis as a Tool to Study Site Specific Drug Delivery” Showa University, Tokyo, Japan, April 13, 2001

“In Vivo Microdialysis as a Tool to Study Drug Delivery in Preclinical Studies”. Xi’an Medical College, Xi’an, PRC. April 25, 2001

“Principles of Pharmacokinetics and their Application in Drug Development” Novartis Pharma, Basel, Switzerland, July 3, 2001.

“Microdialysis and its Application in Preclinical Studies of Drug Delivery to Target Tissues” Boehringer-Ingelheim Pharma KG, Dept. of Pharmacokinetics & Drug Metabolism, Biberach, Germany, July 5, 2001.

“Estimation of Intrinsic Clearances and Organ Partition Coefficients in an Organ Perfusion Model” Novartis Pharma, Basel, Switzerland, July 26, 2001.

“Pharmacodynamic Modeling of the Sigmoid Emax Model” Novartis Pharma, Basel, Switzerland, July 31, 2001.

“Prediction of the Pharmacokinetics of Cefdinir in Children from the Results of Animal Studies. Omnicef® Clinical Advisory Meeting, Dallas, TX, February 9, 2002.

“Applications of Microdialysis in Studying Drug Delivery to Specific Targets”. Guilin Medical School, Guilin PRC, March 28, 2002

“Microdialysis: A Tool to Study Brain Uptake?” Gordon Research Conference on the Barriers of the CNS, Tilton School, Tilton NH, June 25, 2002

“A Model for the Distribution of Drugs between Plasma, CSF and Parenchyma”, Workshop on Microdialysis Techniques in the CNS, Gordon Research Conference on the Barriers of the CNS, Tilton School, Tilton NH, June 26, 2002

“Microdialysis in the Study of Drug Delivery to the Central Nervous System”, Department of Pharmaceutics, Seoul National University, Seoul, South Korea, November 25, 2002.

“Investigating Antibiotic Delivery to the Middle Ear”. Chong Kun Dang Pharma, Cheonan, South Korea, November 27, 2002.

“Microdialysis and its Application in Preclinical Pharmacokinetic and Drug Delivery Investigations”, 32nd Annual Meeting of the Korean Pharmaceutical Society, Seoul, South Korea, November 28, 2002.

“Applications of Pharmacokinetic Principles in Drug Development”. Schering-Plough Research Institute. Kenilworth, NJ. December 19, 2002

“A Course in Pharmacokinetics in Pharmaceutical Development”. Abbott Laboratories. Harrison Conference Center, Lake Bluff, IL. May 15-16, 2003

“Characterizing Antibiotic Delivery to the Middle Ear for the Treatment of Otitis Media. Biomedical Simulations Resource Workshop: Advanced Methods of PK/PD Systems Analysis. Marina del Rey, CA. June 20-21, 2003.

“Cerebrospinal Fluid Distribution of Intrathecally Administered Antiviral Nucleosides”. Monitoring Molecules in Neuroscience. 10th International Conference on In Vivo Methods. Department of Neuroscience, Karolinska Institutet Stockholm, Sweden. June 24-27, 2003

“Microdialysis Sampling in Drug Development: Applications in Preclinical Research.” Sunrise School, American Association of Pharmaceutical Scientists Annual Meeting, Salt Lake City, UT, October 26, 2003.

“Clinical Pharmacokinetics in Pharmaceutical Development.” Abbott Laboratories. Harrison Conference Center, Lake Bluff, IL. July 23-24, 2003.

“The Role of Pharmacokinetics in Drug Discovery.” Abbott Laboratories. Harrison Conference Center, Lake Bluff, IL. March 18, 2004.

“Microdialysis and its Application in Preclinical Pharmacokinetic and Drug Delivery Investigations.” CDER, Food and Drug Administration, Rockville, MD. March 29, 2004.

“Interspecies Scaling, PB-PK modeling and Microdialysis in Antibiotic Drug Development.” Novartis Institute for Biomedical Research, Cambridge, MA. April 9, 2004.

“Does it get to the Target Site? Microdialysis as a Tool to Study Preclinical Drug Distribution and Delivery” Amgen Inc., Thousand Oaks, CA. April 30, 2004.

“Microdialysis of Antibiotics.” 4th International Symposium on Microdialysis in Drug Research and Development, Vienna, Austria, June 19, 2004.

“The Chinchilla Microdialysis AOM Model” Pfizer Global Pharmaceuticals, New York, NY. June 25, 2004.

- “Advantages of the Chinchilla Microdialysis Model” Scientific Basis for Tissue-Directed Antimicrobial Therapy Symposium, Boston MA, July 21-22, 2004.
- “Evaluating Drug Distribution to the Target Site and Predicting Tissue Exposure in Humans from Animal Data” Scientific Advisory Committee, Abbott Laboratories. The FDA Critical Path Initiative and the Role of Modeling/Simulation in Improving the Efficiency of Drug Development. Lake Forest, IL. September 8-9, 2004.
- “Assessing Drug Delivery to the Target Site: The Role of Microdialysis in Measuring Tissue Exposure in Animals and Humans.” Distinguished Lecture, Creighton University School of Pharmacy and Health Professions, Omaha NE, November 30, 2004.
- “Microdialysis—Introduction to Basic Principles and Applications”. AAPS Workshop on Microdialysis Principles, Application, and Regulatory Perspectives, Nashville TN, November 4, 2005.
- “A Phase I Open-Label, Dose-Ranging Study to Investigate the Safety and Tolerability of Gabapentin Injection Administered Intrathecally in Individuals with Chronic, Intractable Pain: A Pharmacokinetic Report”. Medtronic WHQ, Fridley, MN, February 16, 2006.
- “Public Outreach and AAPS: Students are the Future of Our Association”. Temple University School of Pharmacy, Philadelphia, PA. February 20, 2006.
- “Assessing Drug Delivery: Using Microdialysis to Measure Target Site Exposure in Animals and Humans”. Wyeth Distinguished Lecture Series, Temple University School of Pharmacy, Philadelphia, PA. February 20, 2006.
- “Pharmacokinetics for Scientists Engaged in Drug Discovery”. Lundbeck Research, USA. Paramus NJ. February 24, 2006.
- “Pharmacokinetic Issues related to Intrathecal Drug Dosing”. Medtronic WHQ, Fridley, MN, March 15, 2006.
- “TTM Technology: Antibiotic Distribution to Middle Ear Fluid” Abbott Laboratories, Abbott Park, IL. May 16, 2006.
- “Trans-tympanic Membrane (TTM) Drug Delivery to the Middle Ear” Alcon Laboratories, Fort Worth TX. Feb 2, 2007.
- “Bugs and Drugs: Does the Anti-infective Agent get to the Target Site?”. Science Luncheon Presentation. APhA Annual Meeting. Atlanta, GA. March 18, 2007
- “Future Perspectives on the Contributions of Microdialysis in Drug Research and Development” Keynote Address. Fifth International Symposium on Microdialysis in Drug Research and Development. Leiden, NE. April 25, 2007.
- “Drug Delivery to the Middle Ear across the Tympanic Membrane for Therapy of Acute Otitis Media”. Global Gators 6th Symposium on Clinical Pharmacy and Clinical Pharmacology. Munich, Germany. June 9, 2007.
- “The Pharmacokinetics of Hydrophilic Drugs during Intrathecal Infusion: the Concept of a Targeted Delivery Advantage”. Novartis Pharma AG, Basel, Switzerland. June 13, 2007.
- “Trans-tympanic Membrane Delivery of an Antibiotic into Chinchilla Middle Ear” Alcon Laboratories, Fort Worth TX. October 15, 2008.
- “A Phase I Study to Investigate the Safety and Pharmacokinetics of Intrathecal Gabapentin Injection in Individuals with Chronic Pain”. University of Poitiers, Poitiers, France, April 29, 2009.
- “Cerebrospinal fluid flow, and the convective/diffusive transport of drugs in the CSF” Abbott GmbH and Co., Ludwigshafen, Germany. Oct 15, 2010.
- “The Neuropharmacokinetics of Hydrophilic Drugs during Intrathecal Infusion: the Concept of a Targeted Brain Delivery Advantage” Abbott GmbH and Co., Ludwigshafen, Germany. Oct 15, 2010.
- “A Brief Introduction to Pharmacokinetics” Upsher-Smith Laboratories, Inc., Maple Grove, MN. December 2, 2010.
- “CSF flow, and convective/diffusive transport of drugs” Upsher-Smith Laboratories, Inc., Maple Grove, MN. December 2, 2010.
- “Modeling the delivery of drugs to target sites in the CNS” Upsher-Smith Laboratories, Inc., Maple Grove, MN. December 2, 2010.

TEACHING AT THE UNIVERSITY OF MINNESOTA

Undergraduate

1971 - 1972	Co-instructor in Phar 5680 "Pharmacokinetics"
1971 - 1975	Discussant in Pharm.D. Conferences
1972 - 1973	Participating instructor in Phar 5670
1972 - 1978	Discussion leader in Pharm.D. I conferences
1972 - 1985	Course director, Phar 5680 "Pharmacokinetics"
1975 - 1995	Course director, Phar 5685 "Clinical Pharmacokinetics"
1991 - 1999	Course director, Phar 5681 "Basic Pharmacokinetic Modeling"
1996 - 1998	Course director and Participating instructor, Phmc 5460 "Pharmacokinetics"
1998 - 2003	Course director and instructor, Phar 6216 "Pharmacokinetic Simulation and Data Analysis using SAAM"
1999 - 2004	Course director and Participating instructor, Phar 6163 "Pharmacokinetics"
1998 - 2004	Participating instructor in Phar 6164 "Biopharmaceutics"
2004 - 2010	Participating instructor, Phar 6163 "Pharmacokinetics"

Graduate

1972 - 1999	Course director in Phm 8420 "Modeling Approaches in Pharmacokinetics"
1972 - 1999	Participating instructor in Phm 8421, Phm 8425
1972 - 2005	Participating instructor in Phm 8100 (Seminar) and Phm 8101 (Pharmaceutics Readings)
1984 - 1999	Participating instructor in Phm 8425 "Advanced Topics in Pharmacokinetics"
1986 - 1999	Course co-director in Phm 8105 "Pharmacokinetics Research Seminar"
2000 - 2006	Course co-director in Phm 8150 "Pharmacokinetics Research Seminar"
2000 - 2006	Course Co-director and Participating instructor in Phm 8421 "Advanced Pharmacokinetics"
2004 - 2010	Participating instructor in Phm 8481 "Advanced Neuropharmaceutics"
2006 - 2010	Participating instructor in Phm 8421 "Advanced Pharmacokinetics"
2016-present	Participating instructor in Phm 8421 "Advanced Pharmacokinetics"
2017	Course Director and Instructor, "Pharmacokinetic Simulation and Data Analysis using SAAM"
2020	Course Director and Instructor, "Pharmacokinetic Modeling and Simulation with SAAM II and PopKinetics"

TEACHING AT OTHER SITES

- "An Introduction to Clinical Pharmacokinetics" Abbott Laboratories. Abbott Park, IL. January 9-10, 2001.
- "An Introduction to Clinical Pharmacokinetics" Abbott Laboratories. Abbott Park, IL. March 29-30, 2001.
- "An Introduction to Clinical Pharmacokinetics" Abbott Laboratories. Abbott Park, IL. May 17-18, 2001.
- "An Introduction to Clinical Pharmacokinetics" Abbott Laboratories. Harrison Conference Center, Lake Bluff, IL. November 8-9, 2001.
- "An Introduction to Pharmacokinetics" Abbott Laboratories. Harrison Conference Center, Lake Bluff, IL. March 14-15, 2002.
- "An Introduction to Pharmacokinetics" Abbott Laboratories. Abbott Park, IL. July 22-23, 2002.
- "An Introduction to Pharmacokinetics" Abbott Laboratories. Parsippany, NJ. Aug 26-27, 2002.
- "An Introduction to Pharmacokinetics" Bristol-Myers Squibb. Wilmington, DE. September 19-20, 2002.
- "Applications of Pharmacokinetic Principles in Drug Development". Schering-Plough Research Institute. Kenilworth, NJ. December 19-20, 2002
- "A Course in Pharmacokinetics in Pharmaceutical Development". Abbott Laboratories. Harrison Conference Center, Lake Bluff, IL. May 15-16, 2003
- "An Introduction to Pharmacokinetics" Abbott Laboratories. Harrison Conference Center, Lake Bluff, IL. July 23-24, 2003.
- "Short Course in Pharmacokinetics for Drug Discovery" Abbott Laboratories. Lake Bluff, IL. March 17-18, 2004.
- "Preclinical Pharmacokinetics in Pharmaceutical Discovery." Bristol-Myers Squibb, Princeton, NJ. May 6-7, 2004.
- "Introduction to Pharmacokinetics" Abbott Laboratories. Abbott Park, IL, July 27-28, 2004.
- "Introduction to Clinical Pharmacokinetics" Millennium Pharmaceuticals, Inc. Cambridge, MA, December 2-3, 2004.
- "Introduction to Clinical Pharmacokinetics" Gilead Sciences, Foster City, CA. December 8-9, 2005.
- "Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist" Co-instructor. Boehringer-Ingelheim Pharmaceuticals, Inc., USA. Ridgefield, CT, April 13-14, 2006

“An Introduction to Pharmacokinetics” Lundbeck Research, USA, Inc. Paramus, NJ, February 24, 2006.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist” Co-instructor. Abbott Laboratories. Abbott Park, IL. June 4-5, 2007.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist” Co-instructor. Theravance, Inc. South San Francisco, CA. August 20-21, 2007.

“Basic Pharmacokinetic Concepts” Co-instructor. US Patent and Trademark Office. Alexandria, VA. October 4, 2007.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist” Co-instructor. Allergan, Inc. Irvine, CA. July 24-25, 2008.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Abbott Laboratories, Abbott Park, IL. August 19-20, 2008.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Gilead Sciences, Foster City, CA. October 9-10, 2008.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Genentech, South San Francisco, CA. July 23-24, 2009.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Abbott Laboratories. Abbott Park, IL. July 30-31, 2009.

“Neuropharmacokinetic Concepts for CNS Drug Delivery”. Co-instructor. Abbott Laboratories. Abbott Park, IL. January 8, 2010.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Abbott Laboratories. Abbott Park, IL. August 4-5, 2010.

“Basic Pharmacokinetic Concepts for the Upsher-Smith Pharmaceutical Scientist”. Co-instructor. Upsher-Smith Laboratories, Maple Grove, MN. September 21-23, 2011.

“Basic Pharmacokinetic Short Course for Pharmaceutical Scientists”. Co-instructor. Novartis Pharma, Florham Park, NJ. November 17-18, 2011.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Abbott Laboratories. Independence Grove, IL. April 12-13, 2012.

“Basic Pharmacokinetic Short Course for Pharmaceutical Scientists”. Co-instructor. Novartis Institutes for Biomedical Research, Emeryville, CA. September 16 -17, 2013.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Genentech, South San Francisco, CA. May 7-8, 2014.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Abbvie. Independence Grove, IL. July 16-17, 2014.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Genentech, South San Francisco, CA. May 27-28, 2015.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Abbvie. Independence Grove, IL. June 17-18, 2015.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. For non-pharmacokineticists. Co-instructor. Abbvie. Independence Grove, IL. June 1, 2016.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. For pharmacometricians. Co-instructor. Abbvie. Independence Grove, IL. June 2, 2016.

“Basic Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Vertex Pharmaceuticals Inc. Boston, MA. Oct 11-12, 2016.

“Pharmacokinetic Short Course for Genentech Pharmaceutical Scientists”. Co-instructor. Genentech, South San Francisco, CA. May 11-12, 2017.

“Pharmacokinetic Concepts for the Pharmaceutical Scientist”. Co-instructor. Gilead Sciences, Foster City, CA. November 8-9, 2018

“Pharmacokinetic Short Course for Genentech Pharmaceutical Scientists”. Co-instructor. Genentech, South San Francisco, CA. October 24-25, 2019.

“Pharmacokinetic Virtual Short Course for Genentech Pharmaceutical Scientists”. Co-instructor. Genentech, South San Francisco, CA. (Virtual Course taught over 4 days with Zoom), April 27 - May 7, 2020.

“Pharmacokinetic Virtual Short Course for Genentech Pharmaceutical Scientists”. Co-instructor. Genentech, South San Francisco, CA. (Virtual Course taught over 6 days with Zoom), May 26 – June 8, 2020.

**Graduate Students supervised as
Primary Advisor and Year of Degree Award**

1978	Wargin, W.A.	Ph.D.
1978	El-Yazigi, A.	Ph.D.
1980	Mugure Pyron	M.S.
1981	Sue-Chi Wu	M.S.
1983	Hsuehling Su	M.S.
1984	Dale Yu	Ph.D.
1984	Walid Awni	Ph.D.
1985	Lillian Riad	M.S.
1985	Rose Eggerth	Ph.D.
1987	Hisham Abou-Auda	Ph.D.
1989	Mohsen Hedaya	Ph.D.
1989	Ajit K. Shah	Ph.D.
1989	Lillian Riad	Ph.D.
1991	Helen Chan	Ph.D.
1992	William Elmquist	Ph.D.
1992	Shekman Wong	Ph.D.
1994	Yanfeng Wang	Ph.D.
1994	Bimal Malhotra	Ph.D.
1996	Richard Brundage	Ph.D.
1997	Zheng Yang	Ph.D.
1998	Belinda Cheung	Ph.D.
2001	Yue Huang	Ph.D.
2001	Guanfa Gan	Ph.D.
2002	Joanna Peng	Ph.D.
2002	Tong Zhu	Ph.D.
2004	Ji Ping	Ph.D.
2004	Wei Liu	Ph.D.
2005	Yan Song	Ph.D.
2007	Nael Mostafa	Ph.D.
2007	Zhihong Li	Ph.D.

GRANTS, CONTRACTS, and OTHER SUPPORT

1972-73	University of Minnesota Graduate School
1973-74	University of Minnesota Media Production Fund
1975-78; 1978-80	NIH/NINCDS Comprehensive Epilepsy Program Contract (Principal Investigator, Project D-1)
1976; 1977	Medical Education and Research Foundation Grant (Co-investigator with John W. McBride, M.D.)
1976-78	FDA Contract to Study the Pharmacokinetics and Toxicology of Phenytoin Sodium Products in Clinical Patients
1980-81; 1981-83	Grant to Support Research Involving the Analysis of Cyclosporin A in Biological Fluids (Sandoz, Inc.)
1982-83; 1983-84	"Pharmacokinetics and Biopharmaceutic Studies of Cyclosporin A in Selected Animal and <i>In Vitro</i> Systems" (NIH; Principal Investigator; Co-investigator, R.P. Enever)
1984	Comparative Bioavailability of Sodium Phenytoin in Normal Volunteers (Zenith Labs)
1984	Relative Bioavailability of Carbamazepine in Chewable and Conventional Tablets (Ciba-Geigy)
1984	Transdermal Delivery of Propranolol (Medtronics)
11/84 - 1/85	Absorption and Metabolism of Carbamazepine in Normal Volunteers (Ciba-Geigy)
1/85 - 4/85	Transdermal Absorption of β -Blockers (Medtronics, Inc.)
11/85 - 4/86	Relative Bioavailability of Sustained Release Oral Dosage Forms of Carbamazepine (Ciba-Geigy)
1/86 - 6/86	Analysis of Analgesics in Receptor Media (Medtronics)
8/86 - 12/86	Bioequivalence of Carbamazepine Oral Dosage Forms (Ciba-Geigy)
1/86 - 12/88	Pharmacokinetics of Diltiazem in the Rabbit (Marion)

2/87 - 9/87 Bioequivalence of Carbamazepine Dosage Forms Demonstrating Varying Dissolution Rates (Ciba-Geigy)

6/1/87 - 10/15/87 Effect of Urine Flow on the Renal Clearance of Carbamazepine and its Metabolites in Humans (Ciba-Geigy)

1/88 - 6/88 Effect of Fasting on the Absorption of Diclofenac Sodium in Normal Human Volunteers (Ciba-Geigy)

4/1/89 - 3/31/92 Enhancing Brain Uptake of AZT by Transport Inhibition, (NINCDS / NIH)

7/1/89 - 6/30/90 Induction of Carbamazepine Metabolism as a Function of Dosing Rate in Normal Volunteers (Ciba-Geigy)

9/91 - 6/92 Brain Distribution of EAB-515 in the Rabbit (Sandoz, Ltd.)

11/91 - 5/92 *In Situ* Absorption from Rabbit Intestine (Lederle Laboratories)

3/92 - 8/92 Clinical Studies of the Absorption of an Oral Immunosuppressant (Apotex Laboratories)

11/92 - 10/93 Brain Distribution of an NMDA-Receptor Antagonist in the Rat (Sandoz, Ltd.)

10/92 - 5/93 Brain Uptake of a CNS-Active Agent (Warner-Lambert)

11/92 - 3/93 *In Situ* Absorption from Rabbit Intestine (Lederle Laboratories)

9/94 - 5/95 Population Pharmacokinetic Analysis of A General Anesthetic in Man (Abbott Laboratories)

7/94 - 5/95 Brain Uptake of a Cholinesterase Inhibitor and its Metabolites (Warner-Lambert)

10/94 - 9/95 Distribution of Antiviral Nucleosides into Rat Cortex (Bristol-Myers Squibb)

9/95 - 8/96 Bioanalytical Methods Development of Selected Drugs and Metabolites (MedTox)

1/96 - 9/96 Pharmacokinetic Analysis of IL-2 in the Pig (Chiron)

1/96 - 6/98 Analysis of Selected Macrolides by High-pressure Liquid Chromatography (TAP)

4/96 - 10/97 Brain Penetration of Fosphenytoin and Phenytoin in the Rabbit (Warner-Lambert)

4/96 - 9/96 Analysis and Brain Uptake of PPI-457 (Pharmaceutical Peptides, Inc)

7/97 - 3/98 Regional Intestinal Absorption of Anti-CMV agents (Bristol-Myers Squibb)

8/97 - 6/98 EM574 Absorption in the Rabbit in situ (TAP)

7/97 - 9/97 Pharmacokinetics of Macrolides in Protocol EM-97-006 (TAP)

11/97 - 12/97 Drug Interaction Pharmacokinetic Analysis (McNeil)

8/97 - 3/98 Analysis and Pharmacokinetics of Macrolides in EM-97-008 (TAP)

10/97 - 12/97 Pharmacokinetics of Slow Release Agents in the CNS (Chiron)

1/98 LC/MS/MS Equipment Grant (TAP)

2/98 - 12/99 Analysis of Macrolides and Metabolites in EM-97-013 (TAP)

3/98 - 12/99 Chemical Stability of Selected Agents (Medtronic)

5/98 Validation of Analysis of Macrolides in Dog Plasma (TAP)

8/98 Validation of Analysis of Macrolides in Rabbit Plasma (TAP)

8/98 Stability of Anticancer Drugs in Solution (Medtronic)

8/98 EM574 Toxicokinetics in the Dog (TAP)

12/98 EM574 Toxicokinetics in the Rabbit (TAP)

1/99 Pharmacodynamics of EM574 on LES Pressure (protocol 004) (TAP)

3/99 Effect of Time of Dosing on Absorption of EM574 (protocol 007)(TAP)

4/99 Effect of Gastric Emptying on the Pharmacokinetics of EM574 and its Metabolites (protocol 002) (TAP)

2/99 Stability of FUDR and Heparin in Solution (Medtronic)

2/99 Pharmacodynamics and PKs of EM574 and its Metabolites During Chronic Dosing (protocol 029) (TAP)

3/00 - 8/01 Pharmacokinetics of CDTR and Distribution to Middle Ear Fluid (TAP)

8/00 - 6-01 Distribution of Ketolides to Middle Ear Fluid (Abbott)

10/01 - 09/03 Pharmacokinetics of Ketolides (Abbott)

12/01 - 11/03 Pharmacokinetics and Distribution of cefdinir (Abbott)

12/02 – 12/03 Effect of a P-Glycoprotein Inhibitor on the Middle Ear Distribution of Clarithromycin (Abbott)

12/02 – 6/04 Distribution a Cephalosporin into Middle Ear Fluid in Children with Otitis Media (H LaRoche)

12/02 – 12/04 Development and Testing of Formulations for Delivery of Antibiotics to the Middle Ear (Abbott)

5/03 - 4/05 A New Approach for the Therapy of Otitis Media (Abbott)

8/04 - 7/05 Distribution of Macrolide Antibiotics to tissue sites (Pfizer)

5/05 - 11/05 Testing the Distribution of Amoxicillin into Middle Ear Fluid in the Chinchilla following Pulsatile Dose Administration (Advancis)

1/06 – 9/06 Distribution of Macrolide antibiotics to Pulmonary Tissue and Skeletal Muscle (Pfizer)

9/07 – 10/08 Transtympanic Membrane Delivery of an Antibiotic to the Middle Ear (Alcon)

11/07 – 12/08 Development of an Acute Otitis Media Middle Ear Microdialysis Model in the Chinchilla with Implanted Tympanostomy Tube (Alcon)

1/10 – 12/10 Testing the Penetration of an Antibiotic into Chinchilla Middle Ear using Transtympanic Membrane Delivery Formulations – Phase II (Alcon)

1/11 – 12/11	Testing the Penetration of an Antibiotic into Chinchilla Middle Ear using Transtympanic Membrane Delivery Formulations – Phase II B (Alcon)
1/12 – 6/12	Testing the Penetration of Moxifloxacin into Chinchilla Middle Ear– Phase II, Supplement II (Alcon)
7/12 – 12/12	Testing the Penetration of Moxifloxacin into Chinchilla Middle Ear– Phase III (Alcon)
1/13 – 8/14	Testing the Penetration of Fluoroquinolones into Chinchilla Middle Ear– Phase IV (Alcon)

PATENTS

United States Patent. Number 7,220,431 “METHODS AND COMPOSITIONS FOR APPLYING PHARMACOLOGIC AGENTS TO THE EAR.” UMN Docket # Z01159. RJ Sawchuk and BW Cheung. Issue Date: May 22, 2007. Filing Date: November 27, 2002: #06,306,517

PUBLICATIONS

BOOKS AND CHAPTERS

J. Blanchard, R.J. Sawchuk and B.B. Brodie, Editors. Principles and Perspectives in Drug Bioavailability. S. Karger, Basel, 1979.

J. Blanchard and R.J. Sawchuk, "Drug Bioavailability: An Overview" in Principles and Perspectives of Drug Bioavailability, J. Blanchard, R.J. Sawchuk and B.B. Brodie (Editors), S. Karger, Basel, 1979.

I.E. Leppik, J. Shope, R.J. Sawchuk, W.A. Hauser and B. Van Dyne, "Variability of Antiepileptic Drug Levels During Chronic Therapy" in Epileptology, M. Dam, L. Gram and K. Penry (Editors), Raven Press, NY, 1981.

R.J. Sawchuk, "Drug Absorption and Disposition in Burn Patients" in The Pharmacokinetic Basis of Drug Treatment, N. Massoud, L.Z. Benet, and J.G. Gambertoglio (Editors), Raven Press, NY, 1984.

“Use of Microdialysis in Drug Delivery Studies.” Theme Issue. W.F. Elmquist and R.J. Sawchuk (Editors) *Advanced Drug Delivery Reviews* 45, Nos. 2-3 (2000).

R. J. Sawchuk and B.W.Y. Cheung, “Application of Microdialysis in Pharmacokinetic Studies.” in Handbook of Microdialysis: Methods, Applications and Clinical Aspects, B.H.C. Westerink and T.I.F.H. Cremers (Editors), Academic Press, Amsterdam, 2007.

PROFESSIONAL PUBLICATIONS

R.J. Sawchuk, "The Plateau Principle in Drug Therapy. Part 1: The Principle and Its Application." *Minn. Pharmacist* 27(6): 19 (1973).

R.J. Sawchuk, "The Plateau Principle in Drug Therapy. Part 2: Factors Governing Plateau Levels During Chronic Drug Therapy." *Minn. Pharmacist* 27(7): 8 (1973).

M.C. Meyer, A.B. Straughn, L.J. Leeson, R.H. Levy and R.J. Sawchuk, "Meprobamate Bioavailability Monograph." *JAPhA* NS17, 173 (1977).

R.J. Sawchuk and T.S. Rector, "Burn-Induced Alterations in Drug Absorption and Disposition." *Minn. Pharmacist* 35: 6-9 (1981).

SCIENTIFIC PUBLICATIONS (NON-REFEREED)

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ABSTRACTS

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64. M.A. Hedaya and R.J. Sawchuk. "Pharmacokinetic analysis of the enhanced distribution of zidovudine into rabbit cerebrospinal fluid caused by probenecid." V. International Conference on AIDS, Montreal, June 4-9, 1989.
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100. W.F. Elmquist, I.E. Leppik and R.J. Sawchuk. "Physiological modeling of the dependence of renal clearance on urine flow II: phenytoin and HPPH in humans." American Association of Pharmaceutical Scientists Annual Meeting, Washington, DC, November 17-21, 1991.
101. R.J. Sawchuk. "Study of zidovudine distribution into the CNS utilizing microdialysis." 25th Annual Higuchi Research Seminar, Lake of the Ozarks, MO, March 8-11, 1992.
102. Y.F. Wang and R.J. Sawchuk. "Microdialysis studies of brain/plasma distribution of AZT during intraventricular and intravenous infusion." AAPS Seventh Annual Meeting, San Antonio, TX, November 15-19, 1992.

103. S.L. Wong, K. Van Belle, and R.J. Sawchuk. "A microdialysis study of probenecid's effect on the transport kinetics of zidovudine in rabbit brain." AAPS Seventh Annual Meeting, San Antonio, TX, November 15-19, 1992.
104. S.L. Wong, and R.J. Sawchuk. "Pharmacokinetic interaction of zidovudine and salicylic acid during continuous infusion." AAPS Seventh Annual Meeting, San Antonio, TX, November 15-19, 1992.
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108. W.F. Elmquist and R.J. Sawchuk. "Simulation of the effect that the time delay in sampling from the bladder has on urine concentrations: implications for therapeutic drug monitoring using urine specimens." AAPS Seventh Annual Meeting, San Antonio, TX, November 15-19, 1992.
109. J.P. Zhong, Y.F. Wang and R.J. Sawchuk. "Absorption of three antiviral nucleosides from different anatomic regions of rabbit intestine." AAPS Seventh Annual Meeting, San Antonio, TX, November 15-19, 1992.
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111. R.J. Sawchuk. "Comparative distribution of AZT into brain tissue extracellular fluid during intravenous and intraventricular infusion using microdialysis." 26th Annual Higuchi Research Seminar, Lake of the Ozarks, MO, March 14-17, 1993.
112. Y. Wang and R.J. Sawchuk, "Comparison of renal clearance of AZdU following IV bolus and constant-rate Infusion." 8th Annual Meeting, American Association of Pharmaceutical Scientists, Orlando, FL, November 14-18, 1993.
113. Y. Wang and R.J. Sawchuk. "Assessment of oral absorption of AZT and AZdU in the rabbit using deconvolution." 8th Annual Meeting, American Association of Pharmaceutical Scientists, Orlando, FL, November 14-18, 1993.
114. Y. Wang, Y. Wei and R.J. Sawchuk. "Microdialysis studies of carrier-mediated transport of AZT from brain to plasma during intracerebroventricular infusion." 8th Annual Meeting, American Association of Pharmaceutical Scientists, Orlando, FL, November 14-18, 1993.
115. B.K. Malhotra, M. Lemaire, and R.J. Sawchuk. "Investigation of the CNS distribution of EAB 515 in freely moving rats by microdialysis." 8th Annual Meeting, American Association of Pharmaceutical Scientists, Orlando, FL, November 14-18, 1993.
116. A.K. Shah, R.C. Brundage, K.D. Lake and R.J. Sawchuk. "Estimation of plasma free fraction (fu) of cyclosporine (CYA) in the rabbit and heart transplant (HT) patients by NONMEM using a physiological model of renal clearance (CLr)." 8th Annual Meeting, American Association of Pharmaceutical Scientists, Orlando, FL, November 14-18, 1993.
117. B.K. Malhotra, R.C. Brundage, M. Lemaire, and R.J. Sawchuk. "Modeling of the CNS distribution of EAB 515 following IV and ICV administration." 5th Symposium: Frontiers of Pharmacokinetics and Pharmacodynamics, Baltimore, MD, April 18-20, 1994.
118. R.C. Brundage, B.K. Malhotra, J.A. Maloney and R.J. Sawchuk. "Brain distribution of tacrine and the 1-hydroxy and 2-hydroxy tacrine metabolites determined by microdialysis in freely-moving rats." 5th Symposium: Frontiers of Pharmacokinetics and Pharmacodynamics, Baltimore, MD, April 18-20, 1994.
119. Y. Wang and R.J. Sawchuk. "CNS Distribution of inulin-[¹⁴C]-carboxylic acid in rabbits." 9th Annual Meeting, American Association of Pharmaceutical Scientists, San Diego, CA, November 6-10, 1994.

120. B.K. Malhotra, R.C. Brundage and R.J. Sawchuk. "Simultaneous microdialysis of portal and jugular blood following IV bolus and oral lavage in freely-moving rats." 9th Annual Meeting, American Association of Pharmaceutical Scientists, San Diego, CA, November 6-10, 1994.
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123. B.W.Y. Cheung, Y. Wang and R.J. Sawchuk. "Preliminary studies of effects of hydroxy-propyl-beta-cyclodextrin on carbamazepine distribution into rabbit brain." 9th Annual Meeting, American Association of Pharmaceutical Scientists, San Diego, CA, November 6-10, 1994.
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126. B.K. Malhotra, M. Lemaire, J.F. Brouillard and R.J. Sawchuk. "High-performance liquid chromatographic (HPLC) analysis of EAB 515 in brain and blood microdialysate (on-line) and in plasma ultrafiltrate of freely-moving rats." 10th Annual Meeting, American Association of Pharmaceutical Scientists, Miami Beach, FL, November 5-9, 1995.
127. R.J. Sawchuk, R.C. Brundage, E.D. Kharasch and M.D. Karol. "Physiological-based pharmacokinetic (PBPK) modeling of sevoflurane, a volatile anesthetic." 10th Annual Meeting, American Association of Pharmaceutical Scientists, Miami Beach, FL, November 5-9, 1995.
128. R.C. Brundage, S. Thomas Fogue and R.J. Sawchuk. "Comparative distribution of a series of aminoacridines of varying polarities into rat cortex using microdialysis." 10th Annual Meeting, American Association of Pharmaceutical Scientists, Miami Beach, FL, November 5-9, 1995.
129. Z. Yang, R.C. Brundage, L.L. Cartier, J.A. Maloney and R.J. Sawchuk. "Development of a microdialysis method to study brain distribution of stavudine (d4t) in freely-moving rats." 10th Annual Meeting, American Association of Pharmaceutical Scientists, Miami Beach, FL, November 5-9, 1995.
130. B.K. Malhotra, R.C. Brundage and R.J. Sawchuk. "Estimation of presystemic disposition of drugs based upon combination of area ratios and deconvolution." 10th Annual Meeting, American Association of Pharmaceutical Scientists, Miami Beach, FL, November 5-9, 1995.
131. M.A. Osman, R. J. Sawchuk, and M.K. Youssef. "In Situ Absorption of the Antiviral drug, stavudine, from the rabbit intestine." European Symposium on Formulation of Poorly Available Drugs for Oral Administration, Paris, February 5- 6, 1996.
132. M.A. Osman, R.J. Sawchuk, and M.K. Youssef. "Ganciclovir (DHPG), an antiviral nucleoside that exhibits high absorptive clearance in the rabbit colon *in situ*." European Symposium on Formulation of Poorly-available Drugs for Oral Administration, Paris, February 5- 6, 1996.
133. B. K. Malhotra, M. Lemaire, J.F. Brouillard, and R.J. Sawchuk. "High-performance liquid chromatographic (HPLC) analysis of EAB 515 in brain and blood microdialysate (on-line) and in plasma ultrafiltrate of freely-moving rats." 11th Annual Meeting, American Association of Pharmaceutical Scientists, Seattle, WA, October 29-31, 1996.

134. R.J. Sawchuk, R.C. Brundage, E.D. Kharasch, and M.D. Karol. "Physiologically-based pharmacokinetic (PBPK) modeling of sevoflurane, a volatile anesthetic." 11th Annual Meeting, American Association of Pharmaceutical Scientists, Seattle, WA, October 29-31, 1996.
135. R.C. Brundage, S.T. Fogue, and R.J. Sawchuk. "Comparative distribution of a series of aminoacridines of varying polarities into rat cortex using microdialysis." 11th Annual Meeting, American Association of Pharmaceutical Scientists, Seattle, WA, October 29-31, 1996.
136. Z. Yang, R.C. Brundage, L.L. Cartier, J.A. Maloney, and R.J. Sawchuk. "Development of a microdialysis method to study brain distribution of stavudine (d4T) in freely-moving rats." 11th Annual Meeting, American Association of Pharmaceutical Scientists, Seattle, WA, October 29-31, 1996.
137. B.K. Malhotra, R. C. Brundage, and R. J. Sawchuk. "Estimation of presystemic disposition of drugs based upon combination of area ratios and deconvolution." 11th Annual Meeting, American Association of Pharmaceutical Scientists, Seattle, WA, October 29-31, 1996.
138. Z. Yang and R.J. Sawchuk. "A modified solvent drag model and its application in studying intestinal absorption of polar drugs." 12th Annual Meeting, American Association of Pharmaceutical Scientists, Boston, MA, November 2-6, 1997.
139. Z. Yang and R.J. Sawchuk. "Estimating the intestinal absorptive clearance of drugs: consideration of water absorption during in situ single-pass perfusion studies." 12th Annual Meeting, American Association of Pharmaceutical Scientists, Boston, MA, November 2-6, 1997.
140. Z. Yang, P. Manitpisitkul, F.P. LaCreta, C.K. Knupp, R.H. Barbhैया, and R.J. Sawchuk. "*In situ* studies of the regional absorption of lobucavir and ganciclovir from rabbit intestine." American Association of Pharmaceutical Scientists Annual Meeting, San Francisco, CA, November 15-19, 1998.
141. Z. Yang, Y. Huang, G. Gan, and R.J. Sawchuk. "Microdialysis evaluation of the brain distribution of stavudine following intranasal administration." American Association of Pharmaceutical Scientists Annual Meeting, San Francisco, CA, November 15-19, 1998.
142. Z Yuan, P. Ji, S. Giebink, and R.J. Sawchuk. "Antibiotic Middle Ear Pharmacokinetics by Microdialysis." American Association of Pharmaceutical Scientists Annual Meeting, San Francisco, CA, November 15-19, 1998.
143. R.J. Sawchuk, P. Ji, Y. Huang. "Distribution of Amoxicillin to Middle Ear Fluid Using Microdialysis Sampling." Higuchi Research Seminar, Lake of the Ozarks, MO, March 14-17, 1999.
144. Y. Huang, and R.J. Sawchuk. "Antibiotic Pharmacokinetics in Chinchilla Middle Ear using Microdialysis." Association of Pharmaceutical Scientists Midwest Regional Meeting, Chicago, IL, May 17, 1999
145. R.J. Sawchuk, P. Ji, Y. Huang, and S. Giebink. "Kinetics of Transport of Antibiotics to Middle Ear Fluid Using Microdialysis Sampling." Seventh International Symposium on Recent Advances in Otitis Media, Fort Lauderdale, FL, June 1-5, 1999.
146. G. Gan, and R.J. Sawchuk. "Intestinal Absorption and Pre-Systemic First Pass Elimination of Minocycline and Propranolol in Rabbits" *American Association of Pharmaceutical Scientists Annual Meeting*, New Orleans, LA, November 14-18, 1999.
147. B.W.Y. Cheung, L.L. Cartier, H. Q. Russlie, and R.J. Sawchuk. "Using Sample Pooling Methods in the Determination of AUC and AUMC in Pharmacokinetic Studies" *American Association of Pharmaceutical Scientists Annual Meeting*, New Orleans, LA, November 14-18, 1999.
148. Y. Huang, L.L. Cartier, and R.J. Sawchuk. "Analysis of Clarithromycin by Chemiluminescence: In Vitro/InVivo Microdialysis Studies" *American Association of Pharmaceutical Scientists Annual Meeting*, New Orleans, LA, November 14-18, 1999.
149. P. Guo, P. Ji, B.W.Y. Cheung, J.B. McCarthy, and R.J. Sawchuk. "Fibronectin Peptide (FN C/H V-Y) Assay and Stability in Human and Rat Plasma" *American Association of Pharmaceutical Scientists Annual Meeting*, New Orleans, LA, November 14-18, 1999.

150. R. J. Sawchuk, B. W. Y. Cheung, L. L. Cartier, H. Q. Russlie, T. Zhu, Y. Huang, G. S. Giebink, D. Mulford and M. Mayer. "Kinetics of Cefditoren Distribution to Middle Ear Fluid in The Unanesthetized Chinchilla" *40th Interscience Conference on Antimicrobial Agents and Chemotherapy*. Toronto, ON, September 17-20, 2000
151. G.S. Giebink, T.M. Sheehy, M. Quartey, R.J. Sawchuk, M. Mayer Cefditoren Pharmacodynamics for Streptococcus Pneumoniae (Pnc) Acute Otitis Media (AOM) in the Chinchilla Model" *40th Interscience Conference on Antimicrobial Agents and Chemotherapy*. Toronto, ON, September 17-20, 2000.
152. Y. Huang, R. J. Sawchuk. "Studies of the Middle Ear Distribution Kinetics of Amoxicillin in the Awake Chinchilla Using Microdialysis". *American Association of Pharmaceutical Scientists Annual Meeting*, Indianapolis, IN, October 29- November 2, 2000.
153. J.Z. Peng, R.C. Brundage, and R.J. Sawchuk. "Study of Presystemic Elimination of 4-mono-methylamino-antipyrine (MAAP) after Consecutive Doses in Freely Moving Rats Using On-line Microdialysis". *American Association of Pharmaceutical Scientists Annual Meeting*, Indianapolis, IN, October 29- November 2, 2000.
154. T. Zhu, Y. Huang, L.L. Cartier, R. J. Sawchuk "In Vitro Microdialysis and Protein Binding Studies of Cefditoren" *American Association of Pharmaceutical Scientists Annual Meeting*, Indianapolis, IN, October 29- November 2, 2000.
155. G. Gan, L. L. Cartier, Y. Huang, Z. Yang, R. J. Sawchuk "Intestinal Absorption and Presystemic Elimination of the Prokinetic Agent, EM574, in Rabbits" *American Association of Pharmaceutical Scientists Annual Meeting*, Indianapolis, IN, October 29- November 2, 2000.
156. L. C. Musib, J. C. Cloyd, A.K. Birnbaum, T. J. Hietpas, R. J. Sawchuk, I. E. Leppik, T. R. Browne, S. F. Holloway, G. S. Holden, J. O. Rarig. "Preliminary Report on Phenytoin Bioavailability in the Elderly Using an Intravenous Stable-Labeled Isotope". *American Association of Pharmaceutical Scientists Annual Meeting*, Indianapolis, IN, October 29- November 2, 2000.
157. Z. Yang, L. M. Zadjura, C. J. D'Arienzo, D. B. Wang-Iverson, R. J. Sawchuk "Use of Sample Pooling in Drug Discovery to Screen for Pharmacokinetic Properties of Compounds in Rats" *American Association of Pharmaceutical Scientists Annual Meeting*, Indianapolis, IN, October 29- November 2, 2000.
158. R.J. Sawchuk, Y. Huang, P. Ji, M. Quartey, G.S. Giebink. "Influx/Efflux Penetration Clearance of Amoxicillin between Plasma and Middle Ear Fluid in Freely Moving Chinchillas using Microdialysis" *4th Extraordinary International Symposium on Recent Advances in Otitis Media*, Sendai, Japan, April 16-20, 2001.
159. T. Zhu, B. W. Cheung, L.L. Cartier, G. S. Giebink, D.J. Mulford, M.D. Mayer, R.J. Sawchuk. "Study of Cefditoren Distribution Kinetics to Middle Ear Fluid in Freely-moving Chinchillas Using Microdialysis." *American Association of Pharmaceutical Scientists Annual Meeting*, Denver, CO, October 21-25, 2001.
160. W. Liu, B.W. Cheung, L.L. Cartier, T. Zhu, M.M. Paris, R.J. Sawchuk. "In vitro/In vivo Microdialysis and Protein Binding Studies of the ketolide antibiotic, ABT-773." *American Association of Pharmaceutical Scientists Annual Meeting*, Denver, CO, October 21-25, 2001.
161. Y. Huang, R.J. Sawchuk. "Estimation of Amoxicillin Influx and Efflux Clearance between Plasma and Middle Ear Fluid Following Simultaneous Systemic and Local Ear Doses in Awake Chinchilla Using Microdialysis." *American Association of Pharmaceutical Scientists Annual Meeting*, Denver, CO, October 21-25, 2001.
162. J.Z. Peng, R.C. Brundage, R.J. Sawchuk. "The Influence of Drug Pre-exposure on First-pass Metabolism of Tacrine in Rats." *American Association of Pharmaceutical Scientists Annual Meeting*, Denver, CO, October 21-25, 2001.
163. J.Peng, R.J.Sawchuk, and R.P.Remmel "Mechanism-based inactivation of CYP1A2 by tacrine" *11th North American Meeting of the International Society for the Study of Xenobiotics*, Orlando, FL. October 27-31, 2002.
164. Y. Song, L.L.Cartier, B.W Cheung, R J Sawchuk. "An Animal Model for Multi-site CSF Disposition Studies of Intrathecally Administered Agents". *American Association of Pharmaceutical Scientists Annual Meeting*, Toronto, Ontario, Canada. November 10-14, 2002.

165. J.Z. Peng, R.Rommel, R.J.Sawchuk. "Modeling And Simulation Of In Vivo PK Profiles Based On Mechanism-based Inhibition From In Vitro Studies: Inactivation Of CYP1A2 by Tacrine" *American Association of Pharmaceutical Scientists Annual Meeting*, Toronto, Ontario, Canada. November 10-14, 2002.
166. Y. Song, L.L.Cartier, B. Cheung, R.J. Sawchuk. "Multi-site CSF Disposition Studies of Intrathecally Administered Antiviral Nucleosides in a Novel Animal Model". *8th International Meeting of the International Society for the Study of Xenobiotics*, Dijon France. April 27-31, 2003
167. W. Liu, B. W. Y. Cheung, R. J. Sawchuk. "Distribution Kinetics of Cethromycin in the Chinchilla Middle Ear". *8th International Symposium on Recent Advances in Otitis Media*. Fort Lauderdale, FL. June 3 - 7, 2003
168. P. Ji, L. Cartier, B. W. Y. Cheung, R. J. Sawchuk. "Distribution Kinetics of Cefdinir Between Plasma And Middle Ear Fluid In The Freely Moving Chinchillas". *American Association of Pharmaceutical Scientists Annual Meeting*, Salt Lake City, UT. October 26-30, 2003.
169. W. Liu, B. W. Y. Cheung, R J Sawchuk. "Efflux Transport Of Cethromycin Following Direct Intra-bulla Dosing In The Chinchilla Middle Ear". *American Association of Pharmaceutical Scientists Annual Meeting*, Salt Lake City, UT. October 26-30, 2003.
170. Y. Song and R. J. Sawchuk. "Pharmacokinetics of Zidovudine and Stavudine in the Cerebrospinal Fluid after Intrathecal Administration in a Novel Rabbit Model". *American Association of Pharmaceutical Scientists Annual Meeting*, Baltimore, MD. November 8, 2004.
171. N. Mostafa and R. J. Sawchuk. "Determination of Ofloxacin Clearance from the Middle Ear Fluid using Microdialysis". *American Association of Pharmaceutical Scientists Annual Meeting*, Nashville, TN. November 7, 2005.
172. Z. Li, B. W. Y. Cheung, L. Cartier, and R. J. Sawchuk. "The Possible Role of P-glycoprotein in the Distribution of Clarithromycin to the Middle Ear". *American Association of Pharmaceutical Scientists Annual Meeting*, Nashville, TN. November 7, 2005.
173. R. J. Sawchuk, L. M. Page, and R. L. Rauck. "Pharmacokinetics of Gabapentin Injection in Cerebrospinal Fluid and Plasma with Intrathecal Administration". FDA Science Forum, Washington, DC. April 18, 2006.
174. R. J. Sawchuk. "Bugs and Drugs: Does the Anti-infective Agent get to the Target Site?" *American Pharmacists Association Annual Meeting*, Atlanta, GA. March 18, 2007.
175. R. J. Sawchuk. "Future Perspectives on the Contributions of Microdialysis in Drug Research and Development" Fifth International Symposium on Microdialysis in Drug Research and Development. Leiden, NE. April 25, 2007.
176. R.J. Sawchuk. "Drug Delivery to the Middle Ear across the Tympanic Membrane for Therapy of Acute Otitis Media". Global Gators 6th Symposium on Clinical Pharmacy and Clinical Pharmacology. Munich, Germany. June 9, 2007.
177. T. Wang, R. J. Sawchuk and W. F. Elmquist. "Modeling Distributional Kinetics: Comparison of Two Methods Based on a Partial-Areas Analysis". *American Association of Pharmaceutical Scientists Annual Meeting*, San Diego, CA, November 13, 2007.
178. L. Laksiri, C. Dahyot-Fizelier, S. Lefeuvre, S. Marchand, O. Mimoz, R. J. Sawchuk, and W. Couet. "Microdialysis Study of Imipenem Distribution in the Peritoneal Fluid of Patients with Peritonitis". *Interscience Conference on Antimicrobial Agents and Chemotherapy*, Washington, DC. October 26, 2008.
179. R. J. Sawchuk, G. M. Wall, B. W. Y. Cheung, L. L. Cartier, and D. B. Madhura. "Trans-tympanic Membrane Delivery of an Antibiotic into Chinchilla Middle Ear: a Model for the Treatment of Otitis Media". *European Society for Pediatric Infectious Diseases Meeting 2010*, Nice, FR, May 4-8, 2010.
180. R. J. Sawchuk, B. W. Y. Cheung, L. L. Cartier, D. B. Madhura, and L. Maertens. "An Acute Otitis Middle Ear Model in the Chinchilla with Implanted Tympanostomy Tubes". *European Society for Pediatric Infectious Diseases Meeting 2012*, Thessaloniki, GR, May 8-11, 2012.