

CURRICULUM VITAE

Donald E. Mager, Pharm.D., Ph.D.

October 2016

PERSONAL

Business Address: Department of Pharmaceutical Sciences
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EDUCATION

Aug. 1986-May 1988 State University of New York at Brockport
Brockport, New York

May 1987-Aug. 1987 Rochester Institute of Technology
Rochester, New York

Aug. 1988-May 1991 B.S. Pharmacy
University at Buffalo, State University of New York
Buffalo, New York

Aug. 1997-Feb. 2000 Pharm.D.
University at Buffalo, State University of New York
Buffalo, New York

Jan. 1999-Sept. 2002 Ph.D. Pharmaceutical Sciences
University at Buffalo, State University of New York
Buffalo, New York

POSTGRADUATE TRAINING

Aug. 2002-July 2004 Intramural Research Training Fellow
National Institute on Aging, National Institutes of Health
Laboratory of Clinical Investigation
Baltimore, Maryland

PHARAMCIST LICENSURE

Sept. 1991-Present New York State

PROFESSIONAL APPOINTMENTS

June 1989-May 1991 Pharmacy Intern – Wimbledon Drugs, West Seneca, NY

May 1991-Sept. 1991 Graduate Pharmacy Intern – Fays Incorporated, Albion, NY

Sept. 1991-Jan. 1994 Staff Pharmacist – Fays Inc, Brockport, NY

Jan. 1994-Jan. 1997 Supervising Pharmacist – Fays Incorporated, Buffalo, NY

Jan. 1997-Jan. 1998 Staff Pharmacist – Eckerd Drugs, Buffalo, NY

July 1997-May 1998 Teaching Assistant – University at Buffalo, SUNY

Jan. 1999-July 2002 Research Assistant – University at Buffalo, SUNY

Aug. 2002-July 2004 IRTA Fellow – National Institute on Aging, NIH, Baltimore, MD

Sept. 2002-July 2004 Adjunct Assistant Professor of Pharmaceutical Sciences
University at Buffalo, State University of New York

Aug. 2004-Dec. 2004 Special Volunteer – National Institute on Aging, NIH,
Baltimore, MD

Aug. 2004-June 2010 Assistant Professor of Pharmaceutical Sciences
University at Buffalo, State University of New York

Jan. 2005-Dec. 2008 IPA Investigator – National Institute on Aging, NIH, Baltimore, MD

Jan. 2009-Aug. 2010 Special Volunteer – National Institute on Aging, NIH,
Baltimore, MD

July 2010-July 2016 Associate Professor of Pharmaceutical Sciences
University at Buffalo, State University of New York

July 2016-Present **Professor** of Pharmaceutical Sciences
University at Buffalo, State University of New York

AWARDS and HONORS

1999 University Woodburn/Presidential Fellowship - Interdisciplinary Graduate
Program in Drug Discovery (University at Buffalo, SUNY)

2000-2002 American Foundation for Pharmaceutical Education Pre-doctoral Fellowship

- 2001 PPDM Travel Award Winner (AAPS Annual Meeting, Denver, CO)
- 2001 University at Buffalo Pharmaceutical Sciences Graduate Scholar Award
- 2002 Who's Who Among Students in American Universities and Colleges
- 2002 Eli Lilly and Company Graduate Symposium in Pharmacokinetics, Pharmacodynamics, and Clinical Sciences Award Winner (AAPS Annual Meeting, Toronto, Ontario)
- 2006 University at Buffalo Young Investigator Award
- 2007-2013 Visiting Professor, Université Paris Descartes (month of January)
- 2007 AAPS New Investigator Award in Pharmacokinetics, Pharmacodynamics, and Drug Metabolism, sponsored by Abbott Laboratories
- 2008 Teacher of the Year Award Finalist, School of Pharmacy and Pharmaceutical Sciences, University at Buffalo, SUNY
- 2009 Fellow of the American College of Clinical Pharmacology
- 2016 Visiting Professor, Université Paris Descartes (month of January)

NIH GRANTS

Current Funding

Source: National Institutes of Health, 2P01HL046925-16A1 (PI: Widness, J. A.)
Title: Neonatal Anemia and Thrombocytopenia: Pathophysiology and Treatment
Time period: July 1, 2012 to June 30, 2017
Role: Co-Investigator

Source: National Institutes of Health, R01 CA198096-01 (PI: Straubinger, R.M.)
Title: Tumor priming sequences combined with novel nanoparticle drug carriers for enhanced therapeutic efficacy in pancreatic cancer: a tripartite USA/Northern Ireland/Republic of Ireland consortium
Time period: July 1, 2015 to June 30, 2020
Role: Co-Investigator

PROFESSIONAL SOCIETIES

Graduate Student Association – Department of Pharmaceutical Sciences 1999-2002

American Association of Pharmaceutical Scientists-UB Student Chapter 1999-2002

American Association of Pharmaceutical Scientists 1999-Present

American Association for the Advancement of Science 2003-Present

American Society for Clinical Pharmacology and Therapeutics 2003-Present

American College of Clinical Pharmacology 2004-Present

American Society for Pharmacology and Experimental Therapeutics 2004-Present

American Association of Colleges of Pharmacy 2005-2012

International Society of Pharmacometrics (formerly ASoP) 2011- Present

American Association for Cancer Research 2012-Present

International Pharmaceutical Federation 2012-Present

New York Academy of Sciences 2012-Present

EDITORIAL ADVISORY BOARDS

Biochemical Pharmacology, 2004-2010

Biopharmaceutics and Drug Disposition, 2008-Present

Journal of Pharmacokinetics and Pharmacodynamics, 2010-Present

Drug Metabolism & Disposition, 2013-Present

Nanomedicine: Nanotechnology, Biology, and Medicine, 2014-2016

ASSOCIATE or CONSULTING EDITOR

CPT:Pharmacometrics & Systems Pharmacology, 2012-Present

Journal of Pharmacology and Experimental Therapeutics, 2013-Present

Pharmacology, Research & Perspectives, 2013-Present

COMMITTEE MEMBER, Grant Reviews

NIH, Special Emphasis Panel (ZRG1 EMNR-P50), July 2010

NIH, Special Emphasis Panel (EMNR-K55), March 2011

NIH, MABS Study Section, June 2012

NIH, Special Emphasis Panel (ZRG1 EMNR-R55), January 2013

NIH, Special Emphasis Panel (ZRG1 EMNR-D55), September 2013

NIH, Special Emphasis Panel (ZRG1 MDCN-T52), July 2014

NIH, Special Emphasis Panel (ZRG1 EMNR-D55), December 2014

NIH, Special Emphasis Panel (ZRG1 EMNR-A55), April 2016

PhRMA Foundation, Translational Medicine and Therapeutics, March 2016

ADVISORY COMMITTEES

Food and Drug Administration, Clinical Pharmacology, 2008-Present
Oncologic Drugs Advisory Committee, January 7, 2015
Arthritis Advisory Committee, February 9, 2016
Oncologic Drugs Advisory Committee, April 12, 2016
Arthritis Advisory Committee, July 12-13, 2016
PPG Neonatal Anemia, Grant# HL046925 (PI: Widness JA), University of Iowa,
2009-2012
Biomedical Simulations Resource, USC (PI: D'Argenio DZ), 2009-Present
SimCYP Scientific Advisory Board, 2010-2012, 2015-Present
Certara Scientific Advisory Board, 2012-2015
Shire, Data Safety Monitoring Board, 2014-Present
Galectin, Data Safety Monitoring Board, 2015-Present

BOARD OF DIRECTORS

International Society of Pharmacometrics, 2012-2016

PUBLICATIONS

1. **Mager DE** and Jusko WJ. Pharmacodynamic modeling of time-dependent transduction systems. *Clin Pharmacol Ther.* **70**:210-6 (2001).
2. **Mager DE** and Jusko WJ. General pharmacokinetic model for drugs exhibiting target-mediated drug disposition. *J Pharmacokinet Pharmacodyn.* **28**:507-32 (2001).
3. **Mager DE.** *Pharmacokinetics and Pharmacodynamics of Selected Immunomodulatory Agents.* Dissertation: Department of Pharmaceutical Sciences, University at Buffalo, State University of New York, Buffalo, New York (2002).
4. **Mager DE** and Jusko WJ. Receptor-mediated pharmacokinetic/pharmacodynamic model of interferon-(1a in man. *Pharm Res.* **19**:1537-43 (2002).
5. **Mager DE** and Jusko WJ. Quantitative structure-pharmacokinetic/pharmacodynamic relationships of corticosteroids in man. *J Pharm Sci.* **91**:2441-51 (2002).
6. **Mager DE**, Pyszczynski NA, and Jusko WJ. Integrated QSPR – pharmacodynamic model of genomic effects of several corticosteroids. *J Pharm Sci.* **92**:881-9 (2003).
7. Levy G, **Mager DE**, Cheung WK, and Jusko WJ. Comparative pharmacokinetics of coumarin anticoagulants L: Physiologic modeling of S-warfarin in rats and pharmacologic target-mediated warfarin disposition in man. *J Pharm Sci.* **92**:985-94 (2003).
8. **Mager DE**, Wyska E, and Jusko WJ. Diversity of mechanism-based pharmacodynamic models. *Drug Metab Disp.* **31**:510-8 (2003).

9. Wyska E, **Mager DE**, and Krzyzanski W. Methods of estimation of IC_{50} and SC_{50} parameters for indirect response models from single dose data. *J Pharm Sci.* **92**:1438-54 (2003).
10. **Mager DE**, Moledina N, and Jusko WJ. Relative immunosuppressive potency of therapeutic corticosteroids measured by whole blood lymphocyte proliferation. *J Pharm Sci.* **92**:1521-5 (2003).
11. **Mager DE**, Neuteboom B, Efthymiopoulos C, Munafò A, and Jusko WJ. Receptor-mediated pharmacokinetics and pharmacodynamics of interferon-beta 1a in monkeys. *J Pharmacol Exp Ther.* **306**:262-70 (2003).
12. **Mager DE**, Lin SX, Blum RA, Lates CD, and Jusko WJ. Dose equivalency evaluation of major corticosteroids: Pharmacokinetics and cell trafficking and cortisol dynamics. *J Clin Pharmacol.* **43**:1216-27 (2003).
13. **Mager DE**, Mascelli MA, Kleiman NS, Fitzgerald DJ, and Abernethy DR. Simultaneous modeling of abciximab plasma concentrations and ex vivo pharmacodynamics in patients undergoing coronary angioplasty. *J Pharmacol Exp Ther.* **307**:969-76 (2003).
14. Urquidi-Macdonald M, **Mager DE**, Mascelli MA, Frederick B, Freedman J, Fitzgerald DJ, Kleiman NS, and Abernethy DR. Abciximab pharmacodynamic model with neural networks used to integrate sources of patient variability. *Clin Pharmacol Ther.* **75**:60-9 (2004).
15. **Mager DE**, Merritt MM, Kasturi J, Witkin LR, Urduqui-Macdonald M, Sollers JJ III, Evans MK, Zonderman AB, Abernethy DR, and Thayer JF. Kullback-Leibler clustering of continuous wavelet transform measures of heart rate variability. *Biomed Sci Instrum.* **40**:337-42 (2004).
16. Anderton MJ, Manson MM, Gescher A, Verschoyle R, Steward WP, Williams ML, and **Mager DE**. Physiological modeling of formulated and crystalline 3,3'-diindolylmethane pharmacokinetics following oral administration in mice. *Drug Metab Disp.* **32**:632-38 (2004).
17. Segrave AM, **Mager DE**, Charman SA, Edwards GA, and Porter CJH. Pharmacokinetics of recombinant leukemia inhibitory factor in sheep. *J Pharmacol Exp Ther.* **309**:1085-92 (2004). Co-first author.
18. Williams ML, **Mager DE**, Parenteau H, Gudi G, Tracy TS, Mulheran M, and Wainer IW. Effects of protein calorie malnutrition on the pharmacokinetics of ketamine in rats. *Drug Metab Disp.* **32**:786-93 (2004).
19. **Mager DE**, Abernethy DR, Egan JM, and Elahi D. Exendin-4 pharmacodynamics: Insights from the hyperglycemic clamp technique. *J Pharmacol Exp Ther.* **311**:830-5 (2004).
20. **Mager DE**, Neuteboom B, and Jusko WJ. Pharmacokinetics and pharmacodynamics of PEGylated IFN- β 1a following subcutaneous administration in monkeys. *Pharm Res.* **22**:58-61 (2005).

21. Kobrinsky E, **Mager DE**, Bentil SA, Murata SI, Abernethy DR, and Soldatov NM. Identification of plasma membrane macro- and microdomains from wavelet analysis of FRET microscopy. *Biophys J.* **88**:3625-34 (2005). Co-first author.
22. **Mager DE** and Krzyzanski W. Quasi-equilibrium pharmacokinetic model for drugs exhibiting target-mediated drug disposition. *Pharm Res.* **22**:1589-96 (2005).
23. **Mager DE**, Shirey JD, Cox D, Fitzgerald DJ, and Abernethy DR. Mapping the dose-effect relationship of orbofiban from sparse data with an artificial neural network. *J Pharm Sci.* **94**:2475-2486 (2005).
24. Arnold RD, **Mager DE**, Slack JE, and Straubinger RM. Effect of repetitive administration of doxorubicin-containing liposomes on plasma pharmacokinetics and drug biodistribution in a rat brain tumor model. *Clin Cancer Res.* **11**:8856-65 (2005).
25. **Mager DE**, Wan R, Cheng A, Wareski P, Abernethy DR, and Mattson MP. Caloric restriction and intermittent fasting alter spectral measures of heart rate and blood pressure variability in rats. *FASEB J.* **20**:631-7 (2006).
26. **Mager DE**. Target-mediated drug disposition and dynamics. *Biochem Pharmacol* **72**:1-10 (2006).
27. **Mager DE**. Quantitative structure-pharmacokinetic/pharmacodynamic relationships. *Adv Drug Deliv Rev.* **58**:1326-56 (2006).
28. O'Connor R, O'Leary M, Ballot J, Collins C, Kinsella P, **Mager DE**, Arnold RD, O'Driscoll L, Larkin AM, Kennedy S, Fennelly D, Clynes M, and Crown J. A phase I clinical and pharmacokinetic study of the multidrug resistance protein-1 (MRP-1) inhibitor sulindac in combination with epirubicin in patients with advanced cancer. *Cancer Chemother Pharmacol.* **59**:79-87 (2007).
29. **Mager DE** and Abernethy DR. Use of wavelet and fast Fourier transforms in pharmacodynamics. *J Pharmacol Exp Ther.* **321**:423-30 (2007). Cover feature.
30. Hilmer SN, **Mager DE**, Simonsick E, Cao Y, Ling SM, Windham BG, Harris T, Hanlon J, Rubin S, Shorr R, Bauer DC, and Abernethy DR. A drug burden index to define the functional burden of medications in older people. *Arch Intern Med.* **167**:781-7 (2007). Also featured in Editorial: JV Agostini. *Arch Intern Med.* **167**:753-4 (2007).
31. Hong Y, **Mager DE**, Blum RA, and Jusko WJ. Population pharmacokinetic/pharmacodynamic modeling of systemic corticosteroid inhibition of whole blood lymphocytes: Modeling interoccasion pharmacodynamic variability. *Pharm Res* **24**:1088-97 (2007).
32. Abraham AK, Krzyzanski W, and **Mager DE**. Partial derivative based sensitivity analysis of models describing target-mediated drug disposition. *AAPS J.* **9**(2):E181-7 (2007).
33. **Mager DE**, Kobrinsky E, Masoudieh A, Maltsev A, Abernethy DR, and Soldatov NM. Analysis of functional signaling domains from fluorescence imaging and the 2-D continuous wavelet transform. *Biophys J.* **93**:2300-10 (2007).

34. Siluk D, **Mager DE**, Gronich N, Abernethy DR, and Wainer IW. HPLC-atmospheric pressure chemical ionization mass spectrometric method for enantioselective determination of R,S-propranolol and R,S-hyoscyamine in human plasma. *J Chromatog B*. **859**:213-21 (2007).
35. Gengo F, Rubin L, Robson M, Gengo M, **Mager DE**, Rainka M. Effects of ibuprofen on the magnitude and duration of aspirin inhibition of platelet aggregation: Clinical consequences in stroke prophylaxis. *J Clin Pharmacol*. **48**:117-22 (2008).
36. Hong Y, Gengo FM, Rainka MM, Bates VE, and **Mager DE**. Population pharmacodynamic modeling of aspirin and ibuprofen induced inhibition of platelet aggregation in healthy subjects. *Clin Pharmacokinet*. **47**:129-37 (2008).
37. Ramani K, Miclea RD, Purohit VS, Vethanayagam RS, **Mager DE**, Straubinger RM, and Balasubramanian SV. Phosphatidylserine containing liposomes reduce immunogenicity of recombinant human factor VIII (rFVIII) in a murine model of hemophilia A. *J Pharm Sci*. **97**:1386-98 (2008).
38. Cao Y, **Mager DE**, Simonsick EM, Hilmer SN, Ling SM, Windham BG, Fried LP, and Abernethy DR. Physical and cognitive performance and burden of anticholinergics, sedatives and ACE inhibitors in older women. *Clin Pharmacol Ther* **83**:422-9 (2008).
39. **Mager DE** and Jusko WJ. Development of translational pharmacokinetic-pharmacodynamic models. *Clin Pharmacol Ther*. **83**:909-12 (2008).
40. Hong Y, Rohatagi S, Habtemariam B, Walker JR, Schwartz SL, and **Mager DE**. Population exposure-response modeling of metformin in patients with type 2 diabetes mellitus. *J Clin Pharmacol*. **48**:696-707 (2008).
41. Hong Y, Dingemans J, and **Mager DE**. Pharmacokinetic/pharmacodynamic modeling of renin biomarkers in subjects treated with the renin inhibitor aliskiren. *Clin Pharmacol Ther*. **84**:136-43 (2008).
42. Marathe A, Peterson MC, and **Mager DE**. Integrated cellular bone homeostasis model for denosumab pharmacodynamics in multiple myeloma patients. *J Pharmacol Exp Ther*. **326**:555-62 (2008).
43. **Mager DE**, Woo S, and Jusko WJ. Scaling pharmacodynamics from *in vitro* and preclinical animal studies to humans. *Drug Metab Pharmacokinet*. **24**:16-24 (2009).
44. Abraham AK, Ramanathan M, Weinstock-Guttman B, and **Mager DE**. Mechanisms of interferon- β effects on bone homeostasis. *Biochem Pharmacol*. **77**:1757-62 (2009).
45. Abraham AK, **Mager DE**, Gao X, Li M, Healy DR, and Maurer TS. Mechanism-based pharmacokinetic/pharmacodynamic model of parathyroid hormone-calcium homeostasis in rats and humans. *J Pharmacol Exp Ther*. **330**:169-178 (2009).
46. Marathe A, Krzyzanski W, and **Mager DE**. Numerical Validation and Properties of a Rapid Binding Approximation of a Target-Mediated Drug Disposition Pharmacokinetic Model. *J Pharmacokinet Pharmacodyn*. **36**:199-219 (2009).

47. Walker JR, Brown K, Rohatagi S, Bathala MS, Xu C, Wickremasingha PK, Salazar DE, and **Mager DE**. Quantitative structure-property relationships modeling to predict *in vitro* and *in vivo* binding of drugs to the bile sequestrant, colesevelam (Welchol™). *J Clin Pharmacol*. **49**:1185-1195 (2009).
48. Xu C, Barchet TM, and **Mager DE**. Quantitative structure-property relationships of camptothecins in humans. *Cancer Chemother Pharmacol*. **65**:325-33 (2009).
49. Hilmer SN, **Mager DE**, Simonsick E, Ling SM, Windham BG, Harris T, Shorr R, Bauer DC, and Abernethy DR. Drug burden index score and functional decline in older people. *Am J Med*. **122**:1142-49 (2009).
50. Chevillard L, Mégarbane B, Baud FJ, Risède P, Declèves X, **Mager DE**, Milan N, and Ricordel I. Mechanisms of respiratory insufficiency induced by methadone overdose in rats. *Addict Biol*. 15:62-80 (2010).
51. Zhou R, Mazurchuk RV, Tamburlin J, Harrold JM, **Mager DE**, and Straubinger RM. Differential pharmacodynamic effects of paclitaxel formulations in an intracranial rat brain tumor model. *J Pharmacol Exp Ther*. **332**:479-88 (2010).
52. Yang J, **Mager DE**, and Straubinger RM. Comparison of two pharmacodynamic transduction models for the analysis of tumor therapeutic responses in model systems. *AAPS Journal* **12**:1-10 (2010).
53. Yan X, **Mager DE**, and Krzyzanski W. Selection between Michaelis-Menten and target-mediated drug disposition pharmacokinetic models. *J Pharmacokinet Pharmacodyn*. **37**:25-47 (2010). Cover Feature.
54. Siluk D, **Mager DE**, Kim HS, Wang Y, Furimsky AM, Ta A, Iyer LV, Green CE, and Wainer IW. Pharmacokinetics and metabolism of (R,R)-methoxyfenoterol in rat. *Xenobiotica* **40**:195-206 (2010).
55. Kagan L, Abraham AK, Harrold JM, and **Mager DE**. Interspecies scaling of receptor-mediated pharmacokinetics and pharmacodynamics of type I interferons. *Pharm Res*. **27**:920-932 (2010).
56. Abraham AK, Kagan L, Kumar S, and **Mager DE**. Type I interferon receptor is a primary regulator of target-mediated drug disposition of interferon- α in mice. *J Pharmacol Exp Ther*. **334**:327-32 (2010).
57. Dhindsa S, Miller MG, McWhirter CL, **Mager DE**, Ghanim H, Chaudhuri A, Dandona P. Testosterone concentrations in diabetic and non-diabetic obese men. *Diabetes Care* **33**:1186-92 (2010).
58. Houzé P, **Mager DE**, Risède P, and Baud FJ. Pharmacokinetics and toxicodynamics of pralidoxime effects on paraoxon-induced respiratory toxicity. *Toxicol Sci*. **116**:660-72 (2010).
59. Goldberg ME, Torjman MC, Schwartzman RJ, **Mager DE**, and Wainer IW. Pharmacodynamic profiles of ketamine (R)- and (S)- with 5-day inpatient infusion for the treatment of complex regional pain syndrome. *Pain Physician*. **13**:379-87 (2010).

60. Kagan L, Dreifinger T, **Mager DE**, and Hoffman A. Role of p-glycoprotein in region-specific gastrointestinal absorption of talinolol in rats. *Drug Metab Disp.* **38**:1560-6 (2010).
61. D'Argenio DZ and **Mager DE**. Bridging pharmacology and pathophysiology via systems modeling. *J Clin Pharmacol.* **50**:56S-57S (2010).
62. Xu C and **Mager DE**. Quantitative Structure-Pharmacokinetic Relationships. *Exp Opinion Drug Metab Toxicol.* **7**:63-77 (2011).
63. Goldberg ME, Torjman MC, Schwartzman RJ, **Mager DE**, and Wainer IW. Enantioselective pharmacokinetics of (R)- and (S)-ketamine after a 5-day infusion in patients with complex regional pain syndrome. *Chirality.* **23**:138-43 (2011).
64. Marathe A, Van Wart S, and **Mager DE**. Impact of dose selection on parameter estimation using a rapid binding approximation model of target-mediated drug disposition. *J Pharmacokinet Pharmacodyn.* **38**:223-235 (2011).
65. Kosloski M, Peng A, Varma PR, Fathallah A, Miclea RD, **Mager DE**, and Balu-Iyer SV. Immunogenicity and pharmacokinetic studies of recombinant factor VIII containing lipid cochleates. *Drug Deliv.* **18**:246-254 (2011).
66. Abraham AK, Maurer TS, Gao X, Li M, Healy DR, and **Mager DE**. Pharmacodynamic model of parathyroid hormone modulation by an allosteric calcium-sensing receptor antagonist. *AAPSJ* **13**:265-273 (2011).
67. Kagan L, Gershkovich P, Wasan KM, and **Mager DE**. Physiologically-based pharmacokinetic model of amphotericin B disposition in rats following administration of deoxycholate formulation (Fungizone®): Pooled Analysis of Published Data. *AAPSJ.* **13**:255-264 (2011).
68. Marathe DD, Marathe A, and **Mager DE**. Integrated model for denosumab and ibandronate pharmacodynamics in postmenopausal women. *Biopharm Drug Dispos.* **32**:471-81 (2011).
69. Kagan L, Turner MR, Balu-Iyer SV, and **Mager DE**. Subcutaneous absorption of monoclonal antibodies: Role of dose, site of injection, and injection volume on rituximab pharmacokinetics in rats. *Pharm Res.* **29**:490-9 (2012).
70. Kastrissios H, Walker JR, Carrothers TJ, Kshirsagar S, Khariton T, Habtemariam B, **Mager DE**, and Rohatagi S. Population pharmacokinetic model for a novel oral hypoglycemic formed in vivo: Comparing the use of active metabolite data alone versus using data of upstream and downstream metabolites. *J Clin Pharmacol.* **52**:404-15 (2012).
71. Iyengar R, Zhao S, Chung SW, **Mager DE**, and Gallo JM. Merging systems biology with pharmacodynamics. *Sci Transl Med.* **4**:126ps7 (2012).
72. Li H, **Mager DE**, Bemer MJ, Salinger DH, Vicini P, Sandmaier BM, Nash R, and McCune JS. A limited sampling schedule to estimate mycophenolic acid area under the

- concentration-time curve in hematopoietic cell transplantation recipients. *J Clin Pharmacol*. **52**:1654-64 (2012).
73. Zhao X, Venkata SLV, Moaddel R, Luckenbaugh DA, Brutsche NE, Ibrahim L, Zarate Jr CA, **Mager DE**, and Wainer IW. Simultaneous population pharmacokinetic modeling of ketamine and three major metabolites in patients with treatment-resistant bipolar depression. *Br J Clin Pharmacol*. **74**:304-14 (2012).
 74. Harrold JM, Straubinger RM, and **Mager DE**. Combinatorial chemotherapeutic efficacy in non-Hodgkins lymphoma can be predicted by a signaling model of CD20 pharmacodynamics. *Cancer Res*. **72**:1632-41 (2012).
 75. Ait-Oudhia S, Straubinger RM, **Mager DE**. Meta-analysis of nanoparticulate paclitaxel delivery system pharmacokinetics and model prediction of associated neutropenia. *Pharm Res*. **29**:2833-44 (2012).
 76. **Mager DE**, Mody V, Xu C, Forrest A, Lesniak WG, Nigavekar SS, Minc L, Khan MK, and Balogh LP. Physiologically-based model for *in vivo* disposition of nanoparticles in mice. *Pharm Res*. **29**:2534-42 (2012).
 77. Marathe A, Iyer S, Qiu J, Visich J, and **Mager DE**. Pharmacokinetics and pharmacodynamics of anti-BR3 monoclonal antibody in mice. *Pharm Res*. **29**:3180-7 (2012).
 78. Roy Chaudhuri T, Arnold RD, Yang J, Turowski SG, Qu Y, Spernyak JA, Mazurchuk R, **Mager DE**, and Straubinger RM. Mechanisms of tumor vascular priming by a nanoparticulate doxorubicin formulation. *Pharm Res*. **29**:3312-24 (2012).
 79. Chudasama VL, Schaedeli Stark F., Harrold JM, Tibbitts J, Girish SR, Gupta M, Frey N, **Mager DE**. Semi-mechanistic population pharmacokinetic model of multivalent trastuzumab emtansine (T-DM1) in patients with metastatic breast cancer. *Clin Pharmacol Ther*. **92**:520-7 (2012).
 80. Li H, **Mager DE**, Sandmaier BM, Maloney DG, Bemer MJ, McCune JS. Population pharmacokinetics and dose optimization of mycophenolic acid in HCT recipients receiving oral mycophenolate mofetil. *J Clin Pharmacol*. **53**:393-402 (2013).
 81. Ait-Oudhia S, Lowe PJ, and **Mager DE**. Bridging clinical outcomes of canakinumab treatment in rheumatoid arthritis patients with a population model of IL-1 β kinetics. *CPT: Pharmacomet Syst Pharmacol* **1**:e5 (2012).
 82. Chen T, **Mager DE**, and Kagan L. Interspecies modeling and prediction of human exenatide pharmacokinetics. *Pharm Res*. **30**:751-60 (2013).
 83. Kagan L and **Mager DE**. Mechanisms of subcutaneous absorption of rituximab in rats. *Drug Metab Disp*. **41**:248-55 (2013).
 84. Ait-Oudhia S, Straubinger RM, and **Mager DE**. Systems pharmacological analysis of paclitaxel-mediated tumor priming that enhances nano-carrier deposition and efficacy. *J Pharmacol Exp Ther*. **344**:103-12 (2013).

85. Jiang XL, Shen HW, **Mager DE**, and Yu AM. Pharmacokinetic interactions between monoamine oxidase A inhibitor harmaline and 5-Methoxy-N,N-Dimethyltryptamine, and the impact of CYP2D6 status. *Drug Metab Disp.* **41**:975-86 (2013).
86. Kosloski MP, Pisal DS, **Mager DE**, and Balu-Iyer SV. Allometry of factor VIII and informed scaling of next generation therapeutic proteins. *J Pharm Sci.* **102**:2380-94 (2013).
87. McDermott CL, Sandmaier BM, Storer B, Li H, **Mager DE**, Boeckh MJ, Bemer MJ, Knutson J, and McCune JS. Non-relapse mortality and mycophenolic acid exposure in nonmyeloablative hematopoietic cell transplantation. *Biol Blood Marrow Transplant.* **19**:1159-66 (2013).
88. Kagan L, Gershkovich P, Wasan KM, and **Mager DE**. Dual physiologically based pharmacokinetic model of liposomal and nonliposomal amphotericin B disposition. *Pharm Res.* **31**:35-45 (2014).
89. Van Wart SA, Shoaf SE, Mallikaarjun S, and **Mager DE**. Population pharmacokinetics of tolvaptan in healthy subjects and patients with hyponatremia secondary to congestive heart failure or hepatic cirrhosis. *Biopharm Drug Dispos.* **34**:336-47 (2013).
90. Hong Y, Dingemans J, Sidharta P, and **Mager DE**. Population pharmacodynamic modeling of hyperglycemic clamp and meal tolerance tests in patients with type 2 diabetes mellitus. *AAPS J.* **15**:1051-63 (2013).
91. Chen T, Kagan L, and **Mager DE**. Population pharmacodynamic modeling of exenatide after 2-Week treatment in STZ/NA diabetic rats. *J Pharm Sci.* **102**:3844-51 (2013).
92. Birtwistle MR, **Mager DE**, and Gallo JM. Mechanistic vs. empirical network models of drug action. *CPT: Pharmacomet Syst Pharmacol* **2**:e72 (2013).
93. Harrold JM, Ramanathan M, and **Mager DE**. Network-based approaches in drug discovery and early development. *Clin Pharmacol Ther.* **94**:651-8 (2013).
94. Van Wart SA, Shoaf SE, Mallikaarjun S, and **Mager DE**. Population-based meta-analysis of hydrochlorothiazide pharmacokinetics. *Biopharm Drug Dispos.* **34**:527-39 (2013).
95. Van Wart SA, Shoaf SE, Mallikaarjun S, and **Mager DE**. Population-based meta-analysis of furosemide pharmacokinetics. *Biopharm Drug Dispos.* **35**:119-33 (2014).
96. Kosloski MP, Pisal DS, **Mager DE**, and Balu-Iyer SV. Nonlinear pharmacokinetics of Factor VIII and its phosphatidylinositol lipidic complex in hemophilia a mice. *Biopharm Drug Dispos.* **35**:154-63 (2014).
97. Liu ZJ, Hoffmeister K, Hu Z, **Mager DE**, Ait-Oudhia S, Debrincat MA, Pleines I, Josefsson EC, Kile BT, Italiano J Jr, Ramsey H, Grozovsky R, Veng-Pedersen P, Chavda C, and Sola-Visner M. Expansion of the neonatal platelet mass is achieved via an extension of platelet lifespan. *Blood.* **123**:3381-9 (2014).

98. Bruno R, Mentre F, Tannenbaum S, Wang Y, Corrigan B, and **Mager DE**. ISoP standards and best practices committee. *Clin Pharmacol Ther.* **95**:581-2 (2014).
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100. Ait-Oudhia S, **Mager DE**, and Straubinger RM. Application of pharmacokinetic and pharmacodynamic analysis to the development of liposomal formulations for oncology. *Pharmaceutics.* **6**:137-74 (2014).
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BOOK

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PRESENTATIONS (Past 12 months)

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| Oct 2015 | “Variability in Pharmacodynamics and its Sources” – Podium Presentation, Plenary Session 1. 20 th North American ISSX Meeting, Orlando, FL. |
| Oct 2015 | “Systems Pharmacology” – Podium Presentation. AAPS Annual Meeting, Orlando, FL. |
| Nov 2015 | “Mechanism-based Pharmacodynamics: Systems Biology of Anti-cancer Drugs” – Podium Presentation. Symposium on Increasing Drug Development Success Through Quantitative Systems Pharmacology, Roche, New York, NY. |
| Nov 2015 | “Sources of Pharmacodynamic Variability” – Podium Presentation. Fifth Annual CTSI Symposium on Disease and Therapeutic Response Modeling, Indiana University, Indianapolis, IN. |

- Dec 2015 “Modeling Sources of PK/PD Variability and the Role of ISoP” – Podium Presentation. JSCPT Annual Meeting, JSCPT-ISoP Joint Symposium, Tokyo, Japan.
- Dec 2015 “Pharmacometrics and Systems Pharmacology of Anti-Cancer Drugs” – Podium Presentation. PMDA-Keio University Joint Session on Pharmacometrics, Keio University, Tokyo, Japan.
- Mar 2016 “Pharmacodynamic Modeling of Tumor Priming” – Seminar. Queen’s University Belfast, Belfast, Northern Ireland, UK.
- June 2016 “Clinical Pharmacology and Translational Research in Drug Development and Utilization” – Seminar. University of Toronto, Toronto, Canada.
- June 2016 “Toxicodynamic Modeling of Anticancer Drug Adverse Effects” – Podium presentation. Gordon Research Conference on Drug Safety. Stonehill College, Easton, MA.

ABSTRACTS

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- March 2004 *Dietary Restriction Alters Spectral Measures of Heart Rate and Blood Pressure Variability in Rats.* Mager DE, Wan R, Cheng A, Abernethy DR, and Mattson MP. National Institute on Aging IRP Scientific Retreat, National Institutes of Health, Baltimore, MD.
- May 2006 *Population PK/PD Model of Corticosteroid Inhibition of Lymphocyte Proliferation Including Interoccasion Pharmacodynamic Variability.* Hong Y, Mager DE, Blum RA, and Jusko WJ. Pharmacology Sciences Day, University at Buffalo, SUNY, Buffalo, NY.
- May 2012 Zhao X, Venkata SL, Ramamoorthy A, Moaddel R, Luckenbaugh DA, Brutsche NE, Ibrahim L, Zarate CA Jr, Mager DE, and Wainer IW. *Simultaneous population pharmacokinetic modeling of ketamine and its metabolites in treatment-resistant bipolar depression patients.* FDA Office of Clinical Pharmacology Science Day, Silver Spring, MD.

MENTORED UNDERGRADUATE ABSTRACTS

(b) (4)



PROFESSIONAL SERVICE

Proctor for New York State Pharmacy Board Exam. June 1999.

Graduate Student Association – Department of Pharmaceutical Sciences
Chair (May 1999-May 2000)

American Association of Pharmaceutical Scientists-UB Student Chapter 1999-2002
Chair (Sept. 2000-Sept. 2001), Vice-Chair (Sept. 1999-Sept. 2000)

Advisory Team Member: Pharmaceutical Biotechnology Virtual Laboratory: An
Instructional Tool for the Decision – Making Processes Involved in Pharmaceutical
Research and Development (Procter & Gamble Foundation). 2001.

American Association of Pharmaceutical Scientists

AAPS Newsmagazine Content Advisory Committee (CPTR) 2008-2010
Assisted in establishing the University Paris Descartes Student Chapter 2009
Meritorious Manuscript Award Committee 2009
PPDM/CPTR Abstract Reviewer for National Biotech Conference 2009-2010
CPTR Vice-Chair 2010, Chair-Elect 2011, Chair 2012, Past-Chair 2013
CPTR Outstanding Manuscript Award Committee 2010
AAPS Graduate Symposium Awards in PPDM/CPTR Selection Committee 2011
AAPS Nominations Committee 2012
Biotech 101 Lecturer 2011
Symposium Organizer and Moderator: Systems Pharmacology for the
Assessment and Prediction of Adverse Drug Effects, 2011 AM
Symposium Moderator and Speaker: Biomarkers of CNS Function: From Mice to
Man, 2012 AM
PCC Committee 2013
PPDM New Investigator Award Selection Committee 2013
Translational Sciences 101 Core Team Member 2013-2014
International Advisory Committee 2013-Present
Outstanding Manuscript Award in M&S Selection Committee 2014

International Pharmaceutical Federation (FIP)

PK/PD & Systems Pharmacology Special Interest Group Chair, 2011 – 2015
Program Planning Committee, 2013-Present
Co-Chair 2015-Present
Chair for Meet the Expert and FIP Keynote Sessions, 2014 PSWC
Scientific Advisory Board Member, PSWC Young Scientist Satellite Conference,
June 2016 – May 2017

American College of Clinical Pharmacology

2013 Annual Meeting Programming Committee
Board of Regents Member, 2013 – 2018
Finance Committee Chair, 2014 – Present
Co-Editor: *J Clin Pharmacol*. Biologics Supplement. 55:S1-S132 (2015)

American Society for Clinical Pharmacology and Therapeutics

2013 Quantitative Systems Pharmacology Workshop Planning Committee
2014 Biologics Workshop Planning Committee
2015 ASCPT/ISoP Pre-Conference Workshop Planning Committee
Strategic Planning Task Force, 2014-2015
CTS Steering and Search Committee, 2014-2015
Board Nominations Committee, 2014-2015
2015 ASCPT/ISoP Pre-Conference QSP Workshop Co-Chair

International Society of Pharmacometrics (ISoP)

American Conference on Pharmacometrics Chair, 2013
President-Elect, 2012-2013
President, 2014-2015
Past President, 2015-2016
QSP Special Interest Group Steering Committee, 2015-2017

COMMUNITY OUTREACH

Hosted CHEMSHARE visit to the Department of Pharmaceutical Sciences, University at Buffalo, SUNY, with the goal of introducing pharmaceutical sciences to local high school chemistry and physics educators. April 2006.

VISITING SCIENTISTS (Past 2, Current 0)

RESEARCH STUDENTS

Undergraduate Students (Past 4, Current 0)

M.S. Committee Member (Past 11, Current 1)

M.S. Committee Chair (Past 8, Current 8)

Ph.D. Committee Member (Past 21, Current 12)

External Ph.D. Committee Member (Past 2, Current 0)

Outside Reader (Past 1, Current 0)

External Ph.D. Jury Member (Past 1, Current 1)

Ph.D. Committee Chair (Past 9, Current 5)

Post-Doctoral Fellows (Past 10, Current 1)

UNIVERSITY SERVICE

Department of Pharmaceutical Sciences, University at Buffalo, SUNY

Pharmaceutical Sciences Faculty Search Committee. Jan. – Aug. 2006

Buffalo Pharmaceutics Symposium, Chair. July 2006

Pharmaceutical Sciences Seminar, Chair. Aug 2006 – May 2007

Pharmaceutics Graduate Student Awards Committee. Dec 2006 – Dec 2008
Chair, December, 2008

Center for Protein Therapeutics Management Committee. 2008-Present

Pharmaceutical Sciences Graduate Admissions Committee. 2008-Present

Pharmaceutical Sciences Graduate Studies Committee. 2008-Present

Buffalo Pharmaceutics Symposium, Chair. July 2010

Pharmaceutics Graduate Student Awards Committee. Dec 2011 – Dec 2013
Chair, December 2013 and December 2014

Pharmaceutical Sciences Faculty Search Committee. April 2014

Buffalo Pharmaceutics Symposium, Chair. July 2014

Graduate Course Task Force. June – Sept. 2015

School of Pharmacy and Pharmaceutical Sciences, University at Buffalo, SUNY

Doctor of Pharmacy Admissions Committee. 2004 – 2008

School of Pharmacy & Pharmaceutical Sciences Retreat Committee. June 2006

Decanal Grievance Committee. October 2010

Curriculum Committee. October 2010 – Present
Search Committee for Associate Dean for Curriculum, Assessment and Outcomes Management. 2011
SPPS Faculty Development and Mentoring Committee. 2013-Present
Strategic Planning Subcommittee Co-Chair on Clinical Practice. 2014
Clinical Practice Committee. 2015-Present
Pharmacy Faculty Search Committee. 2016-2017.

University at Buffalo, State University of New York, Buffalo, NY

Judge for 3rd Annual Post-doc Research Symposium. June 2011
Pilot & Collaborative Translational and Clinical Studies Review Panel. January 2012
Search Committee for the Dean of the School of Pharmacy and Pharmaceutical Sciences. 2013
Edward Mallinckrodt Jr. Foundation Ad hoc committee member. April 2013
American Diabetes Research Accelerator Award Ad hoc committee member. June 2013
SUNY Health Network of Excellence Steering Committee, 2013-Present
Rising Scholars Committee, 2013-Present

TEACHING

- PHC411/531 Introduction to Pharmacokinetics and Pharmacodynamics – Required course for Doctor of Pharmacy candidates and B.S. students in Pharmaceutical Sciences – **Course Coordinator**, Fall Semesters 2006 – Present.
“Structural Determinants of Pharmacokinetics” – Guest Lecturer, 2005.
- PHC608 Advanced Pharmacokinetics – Graduate Elective Course
Course Coordinator, Spring Semesters (even years) 2010 – Present.
“Structure-PK/PD Relationships” (4 hours) – Guest Lecturer, 2002, 2005 – 2009.
“Target-Mediated Drug Disposition” (2 hours) – Guest Lecturer, 2005 – 2009.
- PHC609 Pharmacodynamics – Guest Lecturer
“Target-Mediated Drug Disposition and Dynamics” (2 hours), 2002, 2006, 2011, 2013, 2015.
“Simple Direct Effects” (1 hour), 2005, 2015.
“Transduction Processes” (1 hour), 2007 – 2009.
“Nonlinear Transduction” (2 hours), 2011, 2013, 2015.
“Time-Dependent Transduction” (2 hours), 2011, 2013, 2015.
“Inter-species Scaling” (2 hours), 2011, 2013, 2015.
“Dichotomous Responses” (1 hour), 2011.
“Systems PK/PD Models” (2 hours), 2013.
“PK/PD of Drug Effects on Bone” (2 hours), 2013.
- PHC607 Intermediate Pharmacokinetics – Guest Lecturer
“Population Pharmacokinetics” (2 hours), 2001, 2004 – 2005, 2013.
“Art of Modeling” (2 hours), 2007 – Present.
- PHC539 Protein Therapeutics – Guest Lecturer
“Protein Pharmacokinetics” (2 hours), 2007, 2009, 2011, 2013, 2015.
- PHC532 Applied Pharmacokinetics II – Guest Lecturer

"Genetics" (1 hour), 2005 – 2006.

"Age & Weight" (1 hour), 2005 – 2006.

"Warfarin & Anti-Platelet Drugs" (2 hours). 2014-Present.

- PHC250 Apothecarial Adventures – Guest Lecturer
 "Predicting Drug Properties from Molecular Structure" (3 hours), 2005.
 "Role of PK/PD Modeling in Drug Development" (2 hours), 2007, 2008, 2010,
 2011.
- PHC533 Applied Pharmacokinetics III – Guest Lecturer
 "Population Pharmacokinetics" (1 hour), 2000 – 2002. Also available on CD-ROM
 as a distance learning module.
- PHC332 Introduction to Pharmaceutical Research – Guest Lecturer
 "Target-Mediated PK/PD of Interferon-" (1 hour), 2001 – 2002.
- PHM506 Biostatistics – Guest Lecturer
 "Regression and Correlation" (2 hours), 2002.
- PHM510 Disease and Therapeutics – Guest Lecturer
 "Major Depressive Disorders" (1.5 hours), 1999.