

## Curriculum Vitae - 02/20/2024

### Personal Information

- John Kevin Fallon
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### Education

- Ph.D., King's College London, 10/1994 - 12/1999, Drug Metabolism and Bioanalysis
- B.Pharm. (Second Class Honours, First Division), University of Bradford, 09/1987 - 07/1991, Pharmacy

### Employment History – Professional Experience

- Research Assistant Professor, UNC Chapel Hill, 03/2023 - Present (DPMP, CNDD, UNC-CH)
- Research Associate, UNC Chapel Hill, 11/2010 - 02/2023 (DPMP, UNC-CH)
- Postdoctoral Research Associate, UNC Chapel Hill, 10/2006 - 09/2010 (MOPH, UNC-CH)
- Postdoctoral Research Scientist, UNC Chapel Hill, 10/2005 - 09/2006 (MOPH, UNC-CH)
- Community Pharmacist, Unicarepharmacy, Dublin, Ireland, 11/2001 - 09/2005
- Postdoctoral Research Scientist, King's College London, 12/1999 - 10/2001
- Community Pharmacist, main locations London and (Bruce W Moss Ltd) Bradford, United Kingdom, 07/1991 - 09/1994

### Honors, Awards

- Sigma Xi, The Scientific Research Society, 04/2009
- Research Triangle Park Drug Metabolism Discussion Group (RTP DMDG), Winter Symposium: First Place Prize Podium Presentation, 03/2012

### Professional Memberships

- International Society for the Study of Xenobiotics (ISSX)
- American Society for Mass Spectrometry (ASMS)
- American Association of Pharmaceutical Scientists (AAPS)
- US Human Proteome Organization (US HUPO)
- Royal Pharmaceutical Society (MRPharmS)

### Bibliography

- Refereed Papers/Articles (Current Total = 61; h-Index = 23)
  1. Fashe MM, Le TV, Gower MN, Mulrenin IR, Dorman KF, Smith S, **Fallon JK**, Dumond JB, Boggess KA, Lee CR (2023). Impact of Pregnancy on the Pharmacokinetics and Metabolism of Nicotinamide in Humans. *Clin Pharmacol Ther* 115:556-564. PMID: 38093631.
  2. Hammid A, **Fallon JK**, Vellonen K-S, Lassila T, Reinisalo M, Urtti A, Gonzalez F, Tolonen A, Smith PC, Honkakoski P (2023). Aldehyde Oxidase 1 Activity and Protein Expression in Human, Rabbit, and Pig Ocular Tissues. *Eur J Pharm Sci* 191:106603. PMID: 37827455.
  3. Fashe MM, Miner TA, **Fallon JK**, Schauer AP, Sykes C, Smith PC, Lee CR (2023). Pregnancy Related Hormones Increase CYP3A Mediated Buprenorphine

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- Metabolism in Human Hepatocytes: a Comparison to CYP3A Substrates Nifedipine and Midazolam. *Front Pharmacol* 14:1218703. PMID: 37475714.
- Lee J, **Fallon JK**, Smith PC, Jackson KD (2023). Formation of CYP3A-Specific Metabolites of Ibrutinib in Vitro is Correlated with Hepatic CYP3A Activity and 4 $\beta$ -Hydroxycholesterol/Cholesterol Ratio. *Clin Transl Sci* 16:279-291. PMID: 36350327.
  - Fashe MM, **Fallon JK**, Miner TA, Tiley JB, Smith PC, Lee CR (2022). Impact of Pregnancy Related Hormones on Drug Metabolizing Enzyme and Transport Protein Concentrations in Human Hepatocytes. *Front Pharmacol* 13:1004010. PMID: 36210832.
  - Hammid A, **Fallon JK**, Lassila T, Vieiro P, Balla A, Gonzalez F, Urtti A, Smith PC, Tolonen A, Honkakoski P (2022). Activity and Expression of Carboxylesterases and Arylacetamide Deacetylase in Human Ocular Tissues. *Drug Metab Dispos* 50:1483-1492. PMID: 36195336.
  - Sandoval P, Chuang BC, **Fallon JK**, Smith PC, Chowdhury SK, Griffin RJ, Xia CQ, Iwasaki S, Chothe PP (2022). Sinusoidal Organic Anion-Transporting Polypeptide 1B1/1B3 and Bile Canalicular Multidrug Resistance-Associated Protein 2 Play an Essential Role in the Hepatobiliary Disposition of a Synthetic Cyclic Dinucleotide (STING Agonist). *AAPS J* 24:99. PMID: 36123502.
  - Saran C, Fu D, Ho H, Klein A, **Fallon JK**, Honkakoski P, Brouwer KLR (2022). A Novel Differentiated HuH-7 Cell Model to Examine Bile Acid Metabolism, Transport and Cholestatic Hepatotoxicity. *Sci Rep* 12:14333. PMID: 35995956.
  - Zhao Y, Haney MJ, **Fallon JK**, Rodriguez M, Swain CJ, Arzt CJ, Smith PC, Loop MS, Harrison EB, El-Hage N, Batrakova EV (2022). Using Extracellular Vesicles Released by GDNF-Transfected Macrophages for Therapy of Parkinson Disease. *Cells* 11:1933. PMID: 35741061.
  - Gbolahan OB, O'Neil BH, McRee AJ, Sanoff HK, **Fallon JK**, Smith PC, Ivanova A, Moore DT, Dumond J, Asher GN (2022). A Phase I Evaluation of the Effect of Curcumin on Dose-Limiting Toxicity and Pharmacokinetics of Irinotecan in Participants with Solid Tumors. *Clin Transl Sci* 15:1304-1315. PMID: 35157783.
  - Haney MJ, Zhao Y, **Fallon JK**, Yue W, Li SM, Lentz EE, Erie D, Smith PC, Batrakova EV (2021). Extracellular Vesicles as Drug Delivery System for Treatment of Neurodegenerative Disorders: Optimization of the Cell Source. *Adv Nanobiomed Res* 1:2100064. PMID: 34927169.
  - Cuko L, Duniec-Dmuchowski Z, Rondini EA, Pant A, **Fallon JK**, Wilson EM, Peraino NJ, Westrick JA, Smith PC, Kocarek TA (2021). Negative Regulation of Human Hepatic Constitutive Androstane Receptor by Cholesterol Synthesis Inhibition: Role of Sterol Regulatory Element Binding Proteins. *Drug Metab Dispos* 49:706-717. PMID: 34011532.
  - Khatri R, **Fallon JK**, Sykes C, Kulick N, Rementer RJB, Miner TA, Schauer AP, Kashuba ADM, Boggess KA, Brouwer KLR, Smith PC, Lee CR (2021). Pregnancy-Related Hormones Increase UGT1A1-Mediated Labetalol Metabolism in Human Hepatocytes. *Front Pharmacol* 12:655320. PMID: 33995076.
  - Morse BL, **Fallon JK**, Kolur A, Hogan AT, Smith PC, Hillgren KM (2021). Comparison of Hepatic Transporter Tissue Expression in Rodents and Interspecies Hepatic OCT1 Activity. *AAPS J* 23:58. PMID: 33903987.
  - Morse BL, Chen LH, Catlow JT, **Fallon JK**, Smith PC, Hillgren KM (2021). Expansion of Knowledge on OCT1 Variant Activity *In Vitro* and *In Vivo* Using Oct1/2<sup>-/-</sup> Mice. *Front Pharmacol* 12:631793. PMID: 33658943.

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17. Qasem RJ, **Fallon JK**, Nautiyal M, Mosedale M, Smith PC (2021). Differential Detergent Fractionation of Membrane Protein From Small Samples of Hepatocytes and Liver Tissue for Quantitative Proteomic Analysis of Drug Metabolizing Enzymes and Transporters. *J Pharm Sci* 110:87-96. PMID: 33148403.
18. Bezençon J, Saran C, Hussner J, Beaudoin JJ, Zhang Y, Shen H, **Fallon JK**, Smith PC, Meyer Zu Schwabedissen HE, Brouwer KLR (2021). Endogenous Coproporphyrin I and III are Altered in Multidrug Resistance-Associated Protein 2-Deficient (TR<sup>-</sup>) Rats. *J Pharm Sci* 110:404-411. PMID: 33058892.
19. Nautiyal M, Qasem RJ, **Fallon JK**, Wolf KK, Liu J, Dixon D, Smith PC, Mosedale M (2021). Characterization of primary mouse hepatocyte spheroids as a model system to support investigations of drug-induced liver injury. *Toxicol In Vitro* 70:105010. PMID: 33022361.
20. Khatri R, Kulick N, Rementer RJB, **Fallon JK**, Sykes C, Schauer AP, Malinen MM, Mosedale M, Watkins PB, Kashuba ADM, Boggess KA, Smith PC, Brouwer KLR, Lee CR (2021). Pregnancy-Related Hormones Increase Nifedipine Metabolism in Human Hepatocytes by Inducing CYP3A4 Expression. *J Pharm Sci* 110:412-421. PMID: 32931777.
21. Devanathan AS, **Fallon JK**, White NR, Schauer AP, Van Horne B, Blake K, Sykes C, Kovarova M, Adamson L, Remling-Mulder L, Luciw P, Garcia JV, Akkina R, Pirone JR, Smith PC, Kashuba ADM (2020). Antiretroviral Penetration and Drug Transporter Concentrations in the Spleens of Three Preclinical Animal Models and Humans. *Antimicrob Agents Chemother* 64(10):e01384-20. PMID: 32661005.
22. Beaudoin JJ, Bezençon J, Sjöstedt N, **Fallon JK**, Brouwer KLR (2020). Role of Organic Solute Transporter Alpha/Beta in Hepatotoxic Bile Acid Transport and Drug Interactions. *Toxicol Sci* 176:34-35. PMID: 32294204.
23. Morse BL, Kolar A, Hudson LR, Hogan AT, Chen LH, Brackman RM, Sawada GA, **Fallon JK**, Smith PC, Hillgren KM (2020). Pharmacokinetics of Organic Cation Transporter 1 (OCT1) Substrates in Oct1/2 Knockout Mice and Species Difference in Hepatic OCT1-Mediated Uptake. *Drug Metab Dispos* 48:93-105. PMID: 31771949.
24. Speer JE, Wang Y, **Fallon JK**, Smith PC, Allbritton NL (2019). Evaluation of Human Primary Intestinal Monolayers for Drug Metabolizing Capabilities. *J Biol Eng* 13:82. PMID: 31709009.
25. Burgunder E, **Fallon JK**, White N, Schauer AP, Sykes C, Remling-Mulder L, Kovarova M, Adamson L, Luciw P, Garcia JV, Akkina R, Smith PC, Kashuba ADM (2019). Antiretroviral Drug Concentrations in Lymph Nodes: A Cross-Species Comparison of the Effect of Drug Transporter Expression, Viral Infection, and Sex in Humanized Mice, Nonhuman Primates, and Humans. *J Pharmacol Exp Ther* 370:360-368. PMID: 31235531.
26. Khatri R, **Fallon JK**, Rementer RJB, Kulick NT, Lee CR, Smith PC (2019). Targeted Quantitative Proteomic Analysis of Drug Metabolizing Enzymes and Transporters by Nano LC-MS/MS in the Sandwich Cultured Human Hepatocyte Model. *J Pharmacol Toxicol Methods* 98:106590. PMID: 31158457.

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28. Émond JP, Labriet A, Desjardins S, Rouleau M, Villeneuve L, Hovington H, Brisson H, Lacombe L, Simonyan D, Caron P, Périgny M, Têtu B, **Fallon JK**, Klein K, Smith PC, Zanger UM, Guillemette C, Lévesque E (2019). Factors Affecting Interindividual Variability of Hepatic UGT2B17 Protein Expression Examined Using a Novel Specific Monoclonal Antibody. *Drug Metab Dispos* 47:444-452. PMID: 30819787.
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31. Shi P, Liao M, Chuang BC, Griffin R, Shi J, Hyer M, **Fallon JK**, Smith PC, Li C, Xia CQ (2018). Efflux Transporter Breast Cancer Resistance Protein Dominantly Expresses on the Membrane of Red Blood Cells, Hinders Partitioning of its Substrates into the Cells, and Alters Drug-Drug Interaction Profiles. *Xenobiotica* 48:1173-1183. PMID: 29098941.
32. Achour B, Dantonio A, Niosi M, Novak JJ, **Fallon JK**, Barber J, Smith PC, Rostami-Hodjegan A, Goosen TC (2017). Quantitative Characterization of Major Hepatic UDP-Glucuronosyltransferase Enzymes in Human Liver Microsomes: Comparison of Two Proteomic Methods and Correlation with Catalytic Activity. *Drug Metab Dispos* 45:1102-1112. PMID: 28768682.
33. Ma Y, Wang Y, Xu Z, Wang Y, **Fallon JK**, Liu F (2017). Extreme Low Dose of 5-Fluorouracil Reverses MDR in Cancer by Sensitizing Cancer Associated Fibroblasts and Down-Regulating P-gp. *PloS One* 12:e0180023. PMID: 28662182.
34. Thompson CG, **Fallon JK**, Mathews M, Charlins P, Remling-Mulder L, Kovarova M, Adamson L, Srinivas N, Schauer A, Sykes C, Luciw P, Garcia JV, Akkina R, Smith PC, Kashuba ADM (2017). Multimodal Analysis of Drug Transporter Expression in Gastrointestinal Tissue. *AIDS* 31:1669-1678. PMID: 28590331.
35. **Fallon JK**, Smith PC, Xia CQ, Kim MS (2016). Quantification of Four Efflux Drug Transporters in Liver and Kidney Across Species Using Targeted Quantitative Proteomics by Isotope Dilution NanoLC-MS/MS. *Pharm Res* 33:2280-2288. PMID: 27356525.
36. Liu H, Ma Y, Liu D, **Fallon JK**, Liu F (2016). The Effect of Surfactant on Paclitaxel Nanocrystals: An In Vitro and In Vivo Study. *J Biomed Nanotechnol* 12:147-53. PMID: 27301180.
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- Xenobiotic Glucuronidation Clearance. *Br J Clin Pharmacol* 81:1153-1164. PMID: 26808419.
39. Ma Y, Lin Z, **Fallon JK**, Zhao Q, Liu D, Wang Y, Liu F (2015). New Mouse Xenograft Model Modulated by Tumor-Associated Fibroblasts for Human Multi-Drug Resistance in Cancer. *Oncol Rep* 34:2699-2705.
  40. Fu Q, Wang Y, Ma Y, Zhang D, **Fallon JK**, Yang X, Liu D, He Z, Liu F (2015). Programmed Hydrolysis in Designing Paclitaxel Prodrug for Nanocarrier Assembly. *Sci Rep* 5:12023. PMID: 26166066.
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  43. Wang Y, Liu D, Zheng Q, Zhao Q, Zhang H, Ma Y, **Fallon JK**, Fu Q, Haynes MT, Lin G, Zhang R, Wang D, Yang X, Zhao L, He Z, Liu F (2014). Disulfide Bond Bridge Insertion Turns Hydrophobic Anticancer Prodrugs into Self-Assembled Nanomedicines. *Nano Lett*, 14:5577-5583. PMID: 25188744.
  44. Yang X, Wang D, Ma Y, Zhao Q, **Fallon JK**, Liu D, Xu XE, Wang Y, He Z, Liu F (2014). Theranostic Nanoemulsions: Co-Delivery of Hydrophobic Drug and Hydrophilic Imaging Probe for Cancer Therapy and Imaging. *Nanomedicine (Lond)*, 9:2773-2785. PMID: 25000945.
  45. Ma Y, Liu D, Wang D, Wang Y, Fu Q, **Fallon JK**, Yang X, He Z, Liu F (2014). Combinational delivery of Hydrophobic and Hydrophilic Anticancer Drugs in Single Nanoemulsions to Treat MDR in Cancer. *Mol Pharm*, 11:2623-2630. PMID: 24712391.
  46. Higgins JW, Bao JQ, Ke AB, Manro JR, **Fallon JK**, Smith PC, Zamek-Gliszczynski MJ (2014). Utility of Oatp1a/1b-Knockout and OATP1B1/3-Humanized Mice in the Study of OATP-Mediated Pharmacokinetics and Tissue Distribution: Case Studies with Pravastatin, Atorvastatin, Simvastatin, and Carboxydichlorofluorescein. *Drug Metab Dispos* 42:182-193. PMID: 24194513.
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  48. **Fallon JK**, Neubert H, Hyland R, Goosen TC, Smith PC (2013). Targeted Quantitative Proteomics for the Analysis of 14 UGT1As and -2Bs in Human Liver Using NanoUPLC-MS/MS with Selected Reaction Monitoring. *J Proteome Res* 12:4402-4413. PMID: 23977844.
  49. **Fallon JK**, Peyron ID, Hickey AJ (2013). Effects of Direct Spiking of Silicone Oil into a Model pMDI Formulation. *Drug Dev Ind Pharm* 39:681-686. PMID: 22630349.
  50. DeLong RK, Risor A, Kanomata M, Laymon A, Jones B, Zimmerman SD, Williams J, Witkowski C, Warner M, Ruff M, Garrad R, **Fallon JK**, Hickey AJ, Sedaghat-Herati R (2012). Characterization of Biomolecular Nanoconjugates by High-Throughput Delivery and Spectroscopic Difference. *Nanomedicine (Lond)* 7:1851-1862. PMID: 22943129.

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51. Garcia-Contreras L, Muttill P, **Fallon JK**, Kabadi M, Gerety R, Hickey AJ (2012). Pharmacokinetics of Sequential Doses of Capreomycin Powder for Inhalation in Guinea Pigs. *Antimicrob Agents Chemother* 56:2612-2618. PMID: 22330920.
  52. Harbourt DE, **Fallon JK**, Ito S, Baba T, Ritter JK, Glish GL, Smith PC (2012). Quantification of Human Uridine-Diphosphate Glucuronosyl Transferase 1A Isoforms in Liver, Intestine, and Kidney Using Nanobore Liquid Chromatography-Tandem Mass Spectrometry. *Anal Chem* 84:98-105. PMID: 22050083.
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  55. **Fallon JK**, Harbourt DE, Maleki SH, Kessler FK, Ritter JK, Smith PC (2008). Absolute Quantification of Human Uridine-Diphosphate Glucuronosyl Transferase (UGT) Enzyme Isoforms 1A1 and 1A6 by Tandem LC-MS. *Drug Metab Lett* 2:210-222. PMID: 19356096.
  56. Forsling M, **Fallon JK**, Shah D, Tilbrook GS, Cowan DA, Kicman AT, Hutt AJ (2002). The Effect of 3,4-Methylenedioxymethamphetamine (MDMA, "ecstasy") and its Metabolites on Neurohypophysial Hormone Release from the Isolated Rat Hypothalamus. *Br J Pharmacol* 135:649-656. PMID: 11834612.
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  60. **Fallon JK**, Kicman AT, Henry JA, Milligan PJ, Cowan DA, Hutt AJ (1999). Stereospecific Analysis and Enantiomeric Disposition of 3,4-Methylenedioxymethamphetamine ('Ecstasy') in Humans. *Clin Chem* 45:1058-1068. Erratum in: *Clin Chem* 45:1585. PMID: 10388483.
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- Book Chapters/Extended Abstracts
    - Garcia-Contreras L, Muttill P, **Fallon J**, Kabadi M, Gerety R, Hickey AJ (2010). Preclinical Studies of Capreomycin Dry Powder Aerosols for the Treatment of Tuberculosis. *RDD 2010*, Vol 3 : pp 843-846.

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- Society of Toxicology (SOT) 2020 Annual Meeting & ToxExpo, March 15-19, Canceled due to COVID-19 Pandemic (Intended for Anaheim, California). Nautiyal M, Vorrink SU, Qasem RJ, **Fallon JK**, Wolf KK, Smith PC, Ingelman-Sundberg M, Mosedale M. Gene Expression Analysis, Quantitative Proteomics, and Chronic Toxicity Studies in Primary Mouse Hepatocyte Spheroids Support the Development of an In Vitro Collaborative Cross Platform for the Evaluation of Genetic Susceptibility Factors Associated with DILI. Abstract number 1957, Poster number P264. Abstract published in <https://www.toxicology.org/pubs/docs/Tox/2020Tox.pdf> (page 227)
  - 12<sup>th</sup> International ISSX Meeting, July 28-31, 2019, Oregon Convention Center, Portland, OR. Qasem RJ, **Fallon JK**, Nautiyal M, Mosedale M, Smith PC. Protein Recovery and Quantification of Drug Metabolizing Enzymes and Transporters in Membrane Extracts Prepared by Differential Detergent Fractionation: Comparison with Established Methods. P115. *ISSX Online Abstracts*, Supplement 14, No. 1, 2019 (Page 102). [https://cdn.ymaws.com/www.issx.org/resource/resmgr/past\\_meetings/12th\\_international\\_meeting/issx2019\\_abstract\\_book\\_onlin.pdf](https://cdn.ymaws.com/www.issx.org/resource/resmgr/past_meetings/12th_international_meeting/issx2019_abstract_book_onlin.pdf)  
Also displayed at DPMP Fall Symposium, UNC Eshelman School of Pharmacy, Chapel Hill, NC August 25th, 2023.
  - 20<sup>th</sup> International Workshop on Clinical Pharmacology of HIV, Hepatitis & Other Antiviral Drugs, Noordwijk, Netherlands, 14-16 May 2019. Devanathan A, **Fallon J**, White N, Schauer A, Blake K, Sykes C, Adamson L, Luciw P, Garcia-Martinez J, Akkina R, Pirone J, Smith P, Kashuba A. Antiretroviral Penetration and Drug Transporter Concentrations in the Spleens of Three Preclinical Animal Models and Humans. Poster 27. *Reviews in Antiviral Therapy & Infectious Diseases 2019\_4*. [http://regist2.virology-education.com/abstractbook/2019/abstractbook\\_20ANTIVIRAL.pdf](http://regist2.virology-education.com/abstractbook/2019/abstractbook_20ANTIVIRAL.pdf)
  - CROI 2018 (Conference on Retroviruses and Opportunistic Infections), Hynes Convention Center, Boston, Massachusetts, March 4 to 7, 2018. Burgunder EM, **Fallon JK**, White N, Schauer A, Sykes C, Adamson L, Pirone JR, Luciw P, Smith PC, Kashuba A. Effect of Sex, SHIV, and Drug Transporters on Lymph Node Antiretroviral Penetration. Poster/Abstract 476. <http://www.croiconference.org/sites/default/files/uploads/croi2018-abstract-ebook.pdf>
  - TERMIS-AM (Tissue Engineering & Regenerative Medicine Americas), 8<sup>th</sup> Annual Conference and Exhibition, Charlotte, NC. December 3-6, 2017. Speer JE, Gunasekara DB, Wang Y, Reed MI, **Fallon JK**, Zwarycz B, Magness ST, Smith PC, Sims CE, Allbritton NL. An *in vitro* Continuous Primary Intestinal Epithelial Monolayer for Evaluating Xenobiotic Transport and Metabolism. *Tissue Engineering: Part A*. Volume 23, Supplement 1, S-153, Abstract 615, 2017. <https://www.liebertpub.com/doi/10.1089/ten.tea.2017.29003.abstracts>
  - 9<sup>th</sup> International AIDS Society (IAS) Conference on HIV Science (IAS 2017), July 23-26, Paris, France. Thompson CG, Prince HA, **Fallon JK**, Rosen E, Sykes C, Mathews M, Arora S, Dellon E, Peery A, Shaheen N, Gay C, Luciw PA, Akkina R, Garcia JV, Smith PC, Kashuba ADM. Differential Antiretroviral Localization and Drug Transporter Expression Within Gut-Associated Lymphoid Tissue of HIV+ Subjects: Comparison to Pre-Clinical Species. <http://programme.ias2017.org/Abstract/Abstract/4035>



## Curriculum Vitae (continued)

- 9<sup>th</sup> International AIDS Society (IAS) Conference on HIV Science (IAS 2017), July 23-26, Paris, France. Srinivas N, **Fallon J**, Sykes C, Schauer A, Matthews M, Adamson L, Luciw P, Smith P, Kashuba A. SHIV Infection and Drug Transporters Influence Brain Tissue Concentrations of Antiretrovirals. <http://programme.ias2017.org/Abstract/Abstract/2830>
- 14<sup>th</sup> European ISSX Meeting, June 26-29, 2017, Cologne, Germany. Achour B, Dantonio AL, **Fallon JK**, Barber J, Smith PC, Rostami-Hodjegan A, Goosen TC. Cross-Laboratory Evaluation of UDP-Glucuronosyltransferase (UGT) Abundances and Correlation with Catalytic Activity. *ISSX Online Abstracts*, Supplement 12, No. 1, 2017. <http://issx.confex.com/issx/17euro/webprogram/Paper37178.html>
- HIV Research for Prevention 2016: AIDS Vaccine, Microbicide and ARV-based Prevention Science (HIVR4P), 17-21 October, Chicago, IL. Norris AM, Emerson CW, Thompson CG, **Fallon JK**, Charlins P, Mulder L, Kovarova M, Adamson L, Luciw P, Garcia JV, Akkina R, Smith PC, Kashuba ADM. Differential Drug Transporter Expression in the Female Genital Tract of Animal Models for HIV Prevention. Submission # 820, abstract P21.02. *AIDS Res Hum Retroviruses* 32(S1):1-409. <https://www.liebertpub.com/doi/10.1089/aid.2016.5000.abstracts>
- 17<sup>th</sup> International Workshop on Clinical Pharmacology of HIV and Hepatitis Therapy, 8 - 10 June 2016, Washington, DC. Thompson CG, **Fallon JK**, Charlins P, Mulder L, Kovarova M, Adamson L, Luciw P, Garcia J, Akkina R, Smith PC, Kashuba ADM. Quantitative Proteomic Analysis of Drug Transporter Expression in the GI Tract of Multiple Animal Models of HIV Infection. Abstract P\_28. *Reviews in Antiviral Therapy & Infectious Diseases* 2016\_ 6. [http://regist2.virology-education.com/Abstractbook/2016\\_6.pdf](http://regist2.virology-education.com/Abstractbook/2016_6.pdf)
- 20<sup>th</sup> North American ISSX Meeting, October 18-22, 2015, Orlando, FL. **Fallon JK**, Smith PC. Does Interindividual UGT2B17 Expression and Testosterone Glucuronidation Support the Use of the Testosterone/Epi-testosterone (T/E) Ratio? P56. Also given as oral presentation on 22<sup>nd</sup> October. *ISSX Online Abstracts*, Supplement 10, No. 2, 2015. <http://issx.confex.com/issx/20NA/webprogram/Paper35005.html>
- 20<sup>th</sup> North American ISSX Meeting, October 18-22, 2015, Orlando, FL. Kim M-S, **Fallon JK**, Xia CQ, Smith PC. Quantification of Four Efflux Transporters in Kidney Across Four Species Using Targeted Quantitative Proteomic Analysis by Isotope Dilution NanoLC-MS/MS. P148. *ISSX Online Abstracts*, Supplement 10, No. 2, 2015. <http://issx.confex.com/issx/20NA/webprogram/Paper34778.html>
- 20<sup>th</sup> North American ISSX Meeting, October 18-22, 2015, Orlando, FL. James MO, Jackson EN, Rowland-Faux L, Langae T, Shuster J, **Fallon JK**, Smith PC. Variability in Rates of Glucuronidation of Triclosan by Human Liver Microsomes: Influence of UGT Isoform Expression. P49. *ISSX Online Abstracts*, Supplement 10, No. 2, 2015. <http://issx.confex.com/issx/20NA/webprogram/Paper35055.html>
- 19<sup>th</sup> North American ISSX Meeting/29<sup>th</sup> JSSX Meeting, October 19-23, 2014, San Francisco, CA. Asher GN, **Fallon JK**, Smith PC. Comparison of UGT Protein Expression in Human Colon after Multidose, Oral Curcuminoid Administration. *ISSX Online Abstracts*, Supplement 9, No. 2, 2014. <http://issx.confex.com/issx/19NA/webprogrampreliminary/Paper34359.htm>
- 19<sup>th</sup> North American ISSX Meeting/29<sup>th</sup> JSSX Meeting, October 19-23, 2014, San Francisco, CA. **Fallon JK**, Thompson CG, Kashuba ADM, Smith PC. Targeted Quantitative Proteomic Analysis of UGTs and CYP450s in Rectal, Cervical and Vaginal Tissues and Implications for Xenobiotic Disposition and Treatment of

## Curriculum Vitae (continued)

- Disease. *ISSX Online Abstracts*, Supplement 9, No. 2, 2014.  
<http://issx.confex.com/issx/19NA/webprogrampreliminary/Paper34419.htm>
- 20<sup>th</sup> International AIDS Conference (AIDS 2014), 20-25 July 2014, Melbourne, Australia. Thompson CG, Fallon JK, Smith PC, Kashuba ADM. Quantification of Drug Transporters in Vaginal and Cervical Tissue Using a Novel Targeted Proteomics Approach: Implications for Small Molecule Disposition in Viral Reservoirs. <http://www.abstract-archive.org/Abstract/Share/19103>
  - Great Lakes Drug Metabolism & Disposition Group, 9<sup>th</sup> Annual Meeting, Indianapolis, IN, May 15-16, 2014. Higgins JW, Bao JQ, Ke AB, Manro JR, **Fallon JK**, Smith PC, Zamek-Gliszczynski MJ. Statin Pharmacokinetics and Tissue Distribution in Oatp1a/1b-Knockout, OATP1B1- and OATP1B3-Humanized Mice. P9.  
[https://www.greatlakesdmdg.org/s/2014\\_meeting\\_booklet.pdf](https://www.greatlakesdmdg.org/s/2014_meeting_booklet.pdf)
  - 10<sup>th</sup> International ISSX Meeting, September 29 - October 3, 2013, Toronto, Canada. Margailan G, Klein K, Ménard V, Villeneuve L, **Fallon JK**, Caron P, Turcotte V, Smith PC, Zanger UM, Guillemette C. Using Targeted Quantitative Proteomics to Better Understand Variability of the Glucuronidation Pathway. *Drug Metabolism Reviews* Vol. 45, No. S1, p64, Published January 2014.  
<http://issx.confex.com/issx/intl10/webprogrampreliminary/Paper29467.html>
  - 10<sup>th</sup> International ISSX Meeting, September 29 - October 3, 2013, Toronto, Canada. Lin J, Lapham K, Niosi M, Orozco CC, **Fallon JK**, Neubert H, Smith PC, Rahavendran R, Leung L, Goosen TC. Intersystem Extrapolation Factors (ISEF) for Human UDP-Glucuronosyltransferase (UGT) Activity: Utility to Estimate UGT1A1-Mediated Fractional Clearance. *Drug Metabolism Reviews* Vol. 45, No. S1, p62-63, Published January 2014.  
<http://issx.confex.com/issx/intl10/webprogrampreliminary/Paper29870.html>
  - 2013 US HUPO 9<sup>th</sup> Annual Conference, March 10 - 13, Baltimore, MD. - Smith PC, **Fallon JK**, Kubik N, Booth-Genthe CL. Measurement of Membrane Transporter Proteins in Human Lung using Quantitative Targeted Absolute Proteomics (QTAP). Abstract (Poster 097, page 67):  
[http://www.ushupo.org/Portals/0/Past\\_Programs/2013\\_Program\\_Baltimore.pdf](http://www.ushupo.org/Portals/0/Past_Programs/2013_Program_Baltimore.pdf)
  - 17<sup>th</sup> North American Regional ISSX Meeting, October 16-20, 2011, Atlanta, GA. Smith PC, **Fallon JK**, Neubert H, Hyland R. Quantitative Targeted Absolute Proteomics (QTAP) for the Analysis of UGT1As and UGT2Bs in Human Liver and Intestinal Microsomes Using nanoUPLC-MS/MS with Selected Reaction Monitoring. *Drug Metabolism Reviews* Vol. 43, No. S2, p167-168, Published November 2011. <http://issx.confex.com/issx/17NA/webprogram/Paper25972.html> Displayed Modified Version at RTP DMDG 2012 Winter Symposium, March 22 (Kids and Drugs: Challenges in Pediatric Clinical Pharmacology).
  - Society for Endocrinology Annual Meeting, London, UK, 2001. Forsling M, **Fallon JK**, Shah D, Kicman AT, Hutt AJ, Cowan DA. The Effect of Metabolites of MDMA (ecstasy) on Vasopressin Release *In Vitro*. *Endocrine Abstracts* 2; p63 (2001).
  - Society for Endocrinology Annual Meeting, London, UK, 2000. **Fallon JK**, Shah D, Forsling M, Kicman AT, Hutt AJ, Cowan DA. The Action of MDMA ('Ecstasy') on Neurohypophysial Hormone Release *In Vitro*. *J Endocrinol* 167 (Supplement):OC15. Oral Presentation by Prof. Forsling.
  - British Pharmaceutical Conference, Eastbourne, UK, 1998. **Fallon JK**, Kicman AT, Hutt AJ, Cowan DA, Henry JA. Enantiomeric Analysis of MDMA (Ecstasy) in Plasma and Urine by Capillary GC: a Preliminary

## Curriculum Vitae (*continued*)

Investigation of the Stereoselective Disposition in Man. *J Pharm Pharmacol* 50 (supplement):117. DOI: 10.1111/j.2042-7158.1998.tb02317.x

- Unpublished/Other Conference & Meeting Abstracts
  - Gordon Research Conference on Drug Metabolism, July 9-14, 2023, Holderness School, Holderness, NH. Latham BD, **Fallon JK**, Smith PC, and Klarissa D. Jackson. Self-Reported “Race” Does Not Determine CYP3A and CYP2C8 Phenotypes *In Vitro*.
  - Gordon Research Conference on Drug Metabolism, July 9-14, 2023, Holderness School, Holderness, NH. Klein A, Tiley JB, **Fallon JK**, Brouwer KLR. Challenges in Developing a Primary Human Cholangiocyte Model to Assess Bile Acid Transport.
  - Gordon Research Conference on Drug Metabolism, July 9-14, 2023, Holderness School, Holderness, NH. Hartauer M, Ho H, Wan M, Tiley JB, **Fallon JK**, Bishop CE, Brouwer KLR. Characterization of a Human Liver Organoid Model: Transport Protein Expression, Localization, Function, and Regulation. *Poster Presentation*.
  - Sigma Xi International Forum on Research Excellence (IFoRE), November 3-6, 2022. Hybrid Event, Alexandria, Virginia. Chan B, Murphy WA, **Fallon J**, Tiley JB, Brouwer KLR. Automated Mass-Spectrometry-Based Proteomic Data Analysis and Visualization using R. *In-Person Poster Presentation*.
  - Gordon Research Conference on Drug Metabolism, July 10-15, 2022, Holderness School, Holderness, NH. **Fallon JK**, Qasem RJ, Smith PC. Transporter Expression in Liver from Two Cystic Fibrosis (CF) Mouse Models by Quantitative Targeted Absolute Proteomics (QTAP). *Poster Presentation*. Also Presented at DPMP Research Poster Forum, UNC Eshelman School of Pharmacy, Chapel Hill, NC August 12<sup>th</sup>, 2022.
  - Gordon Research Conference on Drug Metabolism, July 10-15, 2022, Holderness School, Holderness, NH. Fashe MM, **Fallon JK**, Miner TA, Tiley JB, Smith PC, Lee CR. Impact of Pregnancy Related Hormones on the Expression of Maternal Hepatic Drug Metabolizing Enzymes and Transporters. *Poster Presentation. Also Presented as Selected Oral Presentation by Muluneh M. Fashe, 13<sup>th</sup> July 2022.*
  - RTP DMDG 2019 Winter Symposium, 5<sup>th</sup> March '19 (Herding Unicorns: Rare Disease Drug Development). Khatri R, **Fallon JK**, Rementer RJB, Kulick NT, Lee CR, Smith PC. Targeted Quantitative Proteomic Analysis of Drug Metabolizing Enzymes and Transporters by nano LC-MS/MS in the Sandwich Cultured Human Hepatocyte Model. *Poster Presentation*.
  - Gordon Research Conference on Drug Metabolism, July 8-13, 2018, Holderness School, Holderness, NH. Khatri R, Bacheler R, Malinen M, **Fallon JK**, Sykes C, Smith PC, Kashuba ADM, Brouwer KLR, Lee CR. Pregnancy-Related Hormones Increase Nifedipine Metabolism in Sandwich-Cultured Human Hepatocytes by Inducing CYP3A Expression. *Poster Presentation*. Also Presented at RTP DMDG 2018 Fall Dinner Meeting, 30<sup>th</sup> October 2018.
  - APISSX 2018 (6<sup>th</sup> Asia Pacific ISSX Meeting, Zhejiang University, Hangzhou, China, May 11-14, 2018). **Fallon JK**, Shi P, Xia CQ, Smith PC. Transporter Profile in Red Blood Cells (RBC) Across Species by Isotope Dilution Targeted Quantitative Proteomics. *Poster Presentation*.
  - 2016 AAPS Annual Meeting and Exposition, November 13-17, Denver, CO. **Fallon JK**, Shi P, Smith PC, Xia CQ. Targeted Quantification of BCRP/Bcrp in

## Curriculum Vitae (*continued*)

- Red Blood Cell (RBC) 'Ghost' Fractions from Humans and Four Preclinical Species by Isotope Dilution NanoLC-MS/MS. *Poster Presentation*.
- Gordon Research Conference on Drug Metabolism, July 12-17, 2015, Holderness School, Holderness, NH. **Fallon JK**, Smith PC, Xia C, Kim MS. Targeted Quantitative Proteomic Analysis of Four Transporters in Liver in Humans and Three Preclinical Species by Isotope Dilution NanoLC-MS/MS. *Poster Presentation*. Also Presented at 2016 International Workshop on Conjugation, Vancouver, Canada, June 19-23, by Philip C. Smith, Ph.D. (Abstract Submitted: Quantitative Targeted Proteomic (QTAP) Analysis of Four Transporters in Liver in Humans and Three Preclinical Species by Isotope Dilution NanoLC-MS/MS).
  - 20<sup>th</sup> International Symposium on Microsomes and Drug Oxidations (MDO), 18-22 May 2014, Stuttgart, Germany. Smith PC, **Fallon JK**, Zamek-Gliszczyński MJ, Mohutsky MA. Quantitative Targeted Precise Proteomics (QTPP) for the Measurement of Carboxylesterase 1 and Carboxylesterase 2 in Human Liver and in Three Preclinical Species. *Poster Presentation* (A-520, P-197). Also Presented by John K. Fallon, Ph.D. at TAMS Vendor Night at Research Triangle Foundation 21<sup>st</sup> September 2016, and at the 2<sup>nd</sup> Buck Institute Targeted Quantitative Proteomics Course, Novato, CA on 28<sup>th</sup> February 2017.
  - American Society for Clinical Pharmacology and Therapeutics (ASCPT) 2014 Annual Meeting, March 18-22, Atlanta, GA (Late-Breaking Abstract). Gillis NK, Seiser EL, **Fallon JK**, Smith PC, Innocenti F. Genome-Wide Analysis of the Variation in Hepatic Protein Expression of 22 Key Drug Metabolizing Enzymes. *Poster Presentation*.
  - International Union Against Tuberculosis and Lung Disease, 42nd Union World Conference on Lung Health, 26-30 October 2011, Lille, France. Garcia-Contreras L, Muttill P, **Fallon J**, Kabadi M, Gerety R, Hickey A. Inhaled Capreomycin for MDR-TB: Preclinical Results. *Oral Presentation by Anthony J Hickey, D.Sc.*
  - 2012 AAPS Annual Meeting and Exposition, October 14-18, Chicago, IL. **Fallon JK**, Neubert H, Lanoue BA, Goosen TC, Smith PC. Quantitative Targeted Absolute Proteomics (QTAP) for the Analysis of 12 UGT1As and -2Bs in Commercially Available Human Recombinant Samples using NanoUPLC-MS/MS with Selected Reaction Monitoring. *Poster Presentation*. Also Presented at RTP DMDG 2012 Fall Meeting, 8<sup>th</sup> November 2012.
  - RTP DMDG 2012 Winter Symposium, March 22, 2012 (Kids and Drugs: Challenges in Pediatric Clinical Pharmacology). Displayed Modified Version of Poster from 17<sup>th</sup> North American Regional ISSX Meeting, October 16-20, 2011. Smith PC, **Fallon JK**, Neubert H, Hyland R. Quantitative Targeted Absolute Proteomics (QTAP) for the Analysis of UGT1As and UGT2Bs in Human Liver and Intestinal Microsomes using nanoUPLC-MS/MS with Selected Reaction Monitoring. Gave Podium Presentation and Won Prize \$500.00 Voucher for Travel to a Scientific-Related Meeting.
  - 2011 AAPS Annual Meeting and Exposition, October 23-27, Washington, DC. Garcia-Contreras L, **Fallon J**, Palazzo F, Bhatta D, Bencherif S, Pulliam B, Alley I, Lian J, Bloom B, Edwards D, Hickey AJ. Evaluation of Boosting Strategies with BCG Powder Vaccine in the Guinea Pig Model. *Poster Presentation*.
  - 2010 AAPS Annual Meeting and Exposition and FIP Pharmaceutical Sciences World Congress, November 14-18, New Orleans, LA. Palazzo F, **Fallon JK**, Garcia-Contreras L, Wang C, Hickey AJ. Evaluation of Cellular and Humoral

## Curriculum Vitae (*continued*)

- Immune Responses in Guinea Pigs after Bacille Calmette Guerin (BCG) Intradermal and Pulmonary Immunization. *Poster Presentation*.
- RTP DMDG Meeting June 8, 2010 (Personalized Medicine: From Genome to Applications, Dr Geoffrey S Ginsburg, Director, Center for Genomic Medicine, Duke Institute for Genome Sciences and Policy). Displayed Poster from RDD (Respiratory Drug Delivery) 2010, Orlando, Florida, April 25<sup>th</sup> to 29<sup>th</sup> (Published as Extended Abstract/Book Chapter; See Above). Garcia-Contreras L, Muttill P, **Fallon J**, Kabadi M, Gerety R, Hickey AJ. Preclinical Studies of Capreomycin Dry Powder Aerosols for the Treatment of Tuberculosis.
  - 3rd Southeastern Mycobacteria Meeting, Saturday January 16, 2010, The University of North Carolina at Chapel Hill (abstract in proceedings). Garcia-Contreras L, Muttill P, **Fallon J**, Kabadi M, Gerety R, Hickey AJ. Preclinical Studies of Capreomycin Dry Powder Aerosols for the Treatment of Tuberculosis. *Oral Presentation by Lucila Garcia-Contreras, Ph.D.*
  - 2009 AAPS Annual Meeting and Exposition, November 8-12, Los Angeles, CA. **Fallon JK**, Peyron ID, Hickey AJ. Effects of Direct Spiking of Silicone Oil into a Model pMDI Formulation. *Poster Presentation*.
  - 2009 AAPS Annual Meeting and Exposition, November 8-12, Los Angeles, CA. **Fallon JK**, Peyron ID, Hickey AJ. pMDI Aerosol Particle Size Analysis; A Comparison of ELPI and QCM Data. *Poster Presentation*.
  - 2009 AAPS Annual Meeting and Exposition, November 8-12, Los Angeles, CA. **Fallon JK**, Xu Z, Hickey AJ. Atomic Force Microscopy and DPLs; A Study of Excipient Point Spectroscopy Force Curves. *Poster Presentation*.
  - 57<sup>th</sup> ASMS Conference May 31 - June 4, 2009, Philadelphia, PA. Harbourt D, **Fallon J**, Ito S, Baba T, Ritter JK, Smith PC, Glish GL. Comparison of Human Uridine Glucuronosyltransferase Enzyme Expression Levels within Human Liver, Intestine and Kidney Using nanoLC Tandem Mass Spectrometry. *Poster Presentation*.
  - 12<sup>th</sup> International Workshop on Glucuronidation and UGT Enzymes, July 24-27, 2008, Université Laval, Quebec, Canada. Smith PC, **Fallon JK**, Harbourt DE, Ritter JK. Absolute Quantitative Proteomics of UGTs Using LC-MS. *Oral Presentation by Philip C. Smith, Ph.D.*
  - 55<sup>th</sup> ASMS Conference June 3-7, 2007, Indianapolis, IN. **Fallon JK**, Harbourt DE, Maleki SH, Smith PC. Absolute Quantification of the Uridine-diphosphate Glucuronosyl Transferase (UGT) Enzyme Isoforms 1A1 and 1A6 By Tandem LC-MS. *Poster Presentation*. Also Displayed Updated Version at RTP DMDG Meeting 17<sup>th</sup> October 2007 (Challenges Posed by a New Draft FDA Guidance on the Safety Assessment of Drug Metabolites, Dr. Clay B. Frederick, Merck & Co., Inc.). **Fallon JK**, Harbourt DE, Maleki SH, Kessler FK, Ritter JK, Smith PC. Absolute Quantification of the Uridine-diphosphate Glucuronosyl Transferase (UGT) Enzyme Isoforms 1A1 and 1A6 By Tandem LC-MS. Also Displayed this Version at the RTP DMDG Winter Symposium, March 2008 (Quantitative Proteomics and its Application to ADME).

## Curriculum Vitae (*continued*)

### Other Conferences/Meetings Attended

- 20<sup>th</sup> International Drug Delivery and Nanomedicine Symposium (NanoDDS), Sept 1-2, 2022, Chapel Hill, NC (Hybrid) (Attended Virtually).
- 19<sup>th</sup> International Drug Delivery and Nanomedicine Symposium (NanoDDS), December 3, 2021 (Virtual).
- 2021 Skyline User Group Meeting Online, October 27-28 (Included Lightening Talk on Day 2 Given by UNC Eshelman School of Pharmacy Postdoctoral Collaborator MM Fashe [Craig R Lee Laboratory]).
- 18<sup>th</sup> International Drug Delivery and Nanomedicine Symposium (NanoDDS), Sept 16, 2020 (Virtual).
- US HUPO 2020 Webinar Series April 15<sup>th</sup> and 22<sup>nd</sup> (Virtual).
- US HUPO 7<sup>th</sup> Annual Conference, March 20-23, 2011, Raleigh Convention Center.
- 58<sup>th</sup> ASMS Conference on Mass Spectrometry and Allied Topics, May 23-27, 2010, Salt Lake City, UT.
- 4<sup>th</sup> Annual Chapel Hill Drug Conference May 13-14, 2009. The Use of Nanotechnology to Create Safe and Effective Therapeutic and Diagnostic Products.
- 2008 AAPS Annual Meeting and Exposition, November 16-20, Atlanta, GA.
- 1<sup>st</sup> Annual Chapel Hill Drug Conference May 19-22, 2006 (10<sup>th</sup> Annual Liposome Research Days Conference). Liposomes in the Era of Nanomedicine.
- British Pharmaceutical Conference, September 25-28, 2005, Manchester, United Kingdom (One Day, September 26).
- Summer Conference of the Forensic Science Society, July 1-3, 2005, King's College London, United Kingdom (One Day, July 2).

### Oral Presentations

- ISSX Workshop: Towards Reaching a Consensus on Using Quantitative LC-MS/MS Proteomics in Translational DMPK/PD Research, September 27-28, 2018, Takeda Pharmaceuticals, Cambridge, MA. MRM Quantification of Transporters.
- 20<sup>th</sup> North American ISSX Meeting, October 18-22, 2015, Orlando, FL. Does Interindividual UGT2B17 Expression and Testosterone Glucuronidation Support the Use of the Testosterone/Epitestosterone (T/E) Ratio? Also Presented as Poster (see above).
- RTP DMDG 2012 Winter Symposium, March 22, 2012 (Kids and Drugs: Challenges in Pediatric Clinical Pharmacology). Quantitative Targeted Absolute Proteomics (QTAP) for the Analysis of UGT1As and UGT2Bs in Human Liver and Intestinal Microsomes Using NanoUPLC-MS/MS with Selected Reaction Monitoring. Won 1<sup>st</sup> Place Prize \$500.00 Voucher for Travel to a Scientific-Related Meeting. Also Displayed Poster (See Above).

## Curriculum Vitae (*continued*)

### Current Funding

- Project Number: UC2HD113039  
Name of PD/PI: Lauren Aleksunes (Rutgers), Subcontract Co-I: Jacqueline B Tiley (UNC)  
Source of Support: NIH/NICHHD  
Primary Place of Performance: Rutgers, The State University of New Jersey  
Percent Effort: 40 %  
Project Start and End Date: 9/14/2023 - 6/30/2028  
Total Award Amount (Including Indirect Costs): \$5,356,656 (Total); ~\$1,150,000 (UNC)  
Title: Integrated Transporter Elucidation Center  
Goal: The overall goal of this project is to identify critical factors that regulate drug and nutrient transporters using state-of-the-art quantitative targeted absolute proteomics (QTAP) mass spectrometry, to develop a novel computational modeling framework that predicts maternal-fetal drug and nutrient disposition according to placental transporter function and regulation, and to evaluate the transport of drugs and nutrients in novel placenta-on-a-chip microphysiological systems.
- Project Number: U01FD007338  
Name of PD/PI: MPI Esther/Gentsch/Rao  
Source of Support: FDA  
Primary Place of Performance: UNC-CH  
Percent Effort: 39 %  
Project Start and End Date: 8/01/2021 - 7/31/2024  
Total Award Amount (Including Indirect Costs): \$850,000  
Title: A physiologically based pharmacokinetic model of human airway epithelia  
Goal: To systematically measure the protein concentrations of drug transporters and metabolizing enzymes in human airway epithelia. These concentrations can then be used to develop enhanced physiologically based pharmacokinetic (PBPK) models of inhaled drugs.
- Project Number: R35GM122576  
Name of PD/PI: Brouwer, Kim LR  
Source of Support: NIH/NIGMS  
Primary Place of Performance: UNC-CH  
Percent Effort: 15 %  
Project Start and End Date: 04/2017 - 03/2027  
Total Award Amount (Including Indirect Costs): \$3,105,774  
Title: Mechanisms of Altered Hepatic Transport: Impact on Drug Therapy  
Goal: Transport proteins in the liver are critical determinants of drug disposition, efficacy, and toxicity, but factors that alter hepatic transporter function are poorly understood, and more efficient and robust predictive tools are needed. These studies will answer fundamental questions related to hepatic transport mechanisms and transporter-mediated drug interactions, and advance innovative strategies to assess interindividual variability in transporter function. Data generated will inform the development of in silico models to predict drug disposition more accurately and improve therapeutic outcomes.

## Curriculum Vitae (*continued*)

- Project Number: S10OD032350  
Name of PD/PI: Fallon, John Kevin  
Source of Support: NIH  
Primary Place of Performance: UNC-CH  
Project Start and End Date: 05/01/2023 - 04/30/2024  
Total Award Amount (Direct Costs): \$600,000  
Title: Shared LC-MS/MS for Quantitative Targeted Proteomics  
Narrative: The micro-liquid chromatography-triple quadrupole mass spectrometer allows the precise, accurate and sensitive detection of proteins in complex biological matrixes by the measurement of signature peptides in the proteins. Quantification of many proteins simultaneously in cells, exosomes and tissues permits a deeper understanding of their complex contributions and interactions within the body to enhance biomedical research. The focus of the instrument is for use in multiple projects at UNC Chapel Hill and nationwide in pharmacology and toxicology, including drug absorption, metabolism, excretion and distribution, as well as to characterize novel extracellular vesicles, how signals are conducted in cells via proteins and characterization of cancers.
- Project Number: R01HD098742  
Name of PD/PI: Lee, Craig R  
Source of Support: NIH/NICHHD  
Primary Place of Performance: UNC-CH  
Percent Effort: 6 %  
Project Start and End Date: 04/01/2020 - 03/31/2024  
Total Award Amount (including Indirect Costs): \$1,643,385  
Title: Mechanisms of Altered Hepatic Drug Metabolism and Transport in Pregnancy  
Goal: There is an urgent need to identify and evaluate the key factors that alter the hepatic metabolism and transport of medications commonly prescribed during pregnancy in order to more precisely predict maternal changes in drug clearance, optimize drug dosing, reduce inter-patient variability in medication response, and improve patient outcomes. Completion of this research project will provide fundamental new information on how hepatic drug clearance is altered during pregnancy by elucidating how and to what extent pregnancy hormones alter hepatic drug metabolism and transport.

### Selected Past Funding

- Project Number: R35GM143044  
Name of PD/PI: Jackson, Klarissa D  
Source of Support: NIH/NIGMS  
Primary Place of Performance: UNC-CH  
Percent Effort: 11 % to 11/2023  
Project Start and End Date: 07/2021 - 06/2026  
Total Award Amount (including Indirect Costs): \$1,908,009  
Title: Interindividual Variability in Drug Metabolism in Ethnically Diverse Population  
Goal: The goal of this proposal is to improve our understanding of how genetic and non-genetic factors affect drug metabolism and drug response in patients from understudied ethnic backgrounds. The proposed projects will investigate



## Curriculum Vitae (*continued*)

population-specific CYP genetic variants and novel phenotypic biomarkers to accurately quantify individual drug metabolism capacity in understudied ethnic populations.

- Project Type: Industry Contract  
Name of PD/PI: Smith, Philip C  
Supporting Agency: BioIVT  
Primary Place of Performance: UNC-CH  
Role: Technical Staff  
Performance Period: 11/01/2021 - 4/30/2022  
Level of Funding: \$26,866  
Title: Quantitative Targeted Proteomics (QTAP) Analysis of (Protein) in Hepatocytes  
Goals: Industry service agreement for analytical work.
- Project Type: Industry Contract  
Name of PD/PI: Smith, Philip C  
Supporting Agency: Millennium Pharmaceuticals, Inc  
Primary Place of Performance: UNC-CH  
Role: Technical Staff  
Performance Period: 7/01/2021 - 4/30/2022  
Level of Funding: \$19,545  
Title: Analysis of Expressed Transporters in Cell Lines and One Lot of Human Hepatocytes  
Goals: Industry service agreement for analytical work.
- Project Type: Industry Contract  
Name of PD/PI: Smith, Philip C  
Supporting Agency: Vertex Pharmaceuticals  
Primary Place of Performance: UNC-CH  
Role: Technical Staff  
Performance Period: 3/2021 - 9/2021  
Level of Funding: \$53,360  
Title: Targeted Quantitative Proteomics Analysis of Transporters in Monkey Brain and Nerve Tissues  
Goals: Industry service agreement for analytical work.
- Project Type: Industry Contract  
Name of PD/PI: Smith, Philip C  
Supporting Agency: Eli Lilly  
Primary Place of Performance: UNC-CH  
Role: Technical Staff  
Performance Period: 04/2021 - 10/2021  
Level of Funding: \$51,794  
Title: Lilly QTAP of Human CYPs in Humanize Mice with 15 Mouse Proteins  
Goals: Industry service agreement for analytical work.

## Curriculum Vitae (*continued*)

- Project Tracking Number: 24240 R312  
Name of PD/PI: Smith, Philip C  
Source of Support: Partnership for Clean Competition  
Primary Place of Performance: UNC-CH  
Role: Technical Staff  
Project Start and End Date: 3/01/2013 – 6/30/2013  
Total Award Amount (including Indirect Costs): \$24,240  
Title: Does Interindividual UGT2B17 Expression and Testosterone Glucuronidation Support the Use of the Testosterone/Epitestosterone (T/E) Ratio  
Goal: To evaluate the effect of UGT2B17 expression on testosterone glucuronidation in vitro with respect to the T/E ratio sports antidoping test.
- All funding from 2005 to 02/2023 was through the laboratories of Dr Philip C Smith and Dr Anthony J Hickey at UNC-CH. Sources included grants from the National Institutes of Health, industry sponsorship and university research collaborators.
- Graduate and postdoctoral work at King's College London was funded from charitable sources through the Drug Control Centre, King's College London. Six months of graduate stipend was funded by the Department of Pharmacy, King's College London.

### Teaching Record

- Research Guide and Support
  - Have acted as guide and support for many undergraduate and graduate students, and postgraduate researchers, in the laboratories of Dr Philip C Smith and Dr Anthony J Hickey at the University of North Carolina at Chapel Hill since 2005.
  - Had a similar role at the Drug Control Centre, King's College London, while working as a postdoctoral researcher 2000-2001.
  - Since the Fall of 2020 have supervised Federal Work-Study undergraduate students working as part time research laboratory assistants.
- Teaching Assistant
  - Spring 2011; shared differential scanning calorimetry and dynamic light scattering lecture, and supervision of the corresponding practical class, for MOPH850 graduate course at UNC-CH. Graded practical write ups.
  - Spring 2010; gave differential scanning calorimetry and laser diffraction lecture, and supervised the corresponding practical class, for MOPH850 graduate course at UNC-CH. Graded practical write ups.
  - Spring 2007; assisted with HPLC laboratory module (practical class) for MOPH850 graduate course at UNC-CH.
  - Demonstrator for 2<sup>nd</sup> year Pharmacy undergraduate UV/IR practical classes at King's College London, 1995-1996 academic year.

## Curriculum Vitae (*continued*)

### Reviewer Services

- Papers
  - Two reviews for Journal of Pharmaceutical and Biomedical Analysis, 2023 (one for Xenobiotica submitted 3<sup>rd</sup> January 2024)
  - One review each for Xenobiotica and Journal of Pharmaceutical and Biomedical Analysis, 2022
  - One review each for Xenobiotica and Journal of Pharmaceutical and Biomedical Analysis, 2021
  - One review for Xenobiotica, 2020
  - One review each for Xenobiotica, Drug Metabolism and Disposition and Journal of Pharmaceutical and Biomedical Analysis, 2019
  - Assisted Dr Philip C Smith with review for Drug Metabolism and Disposition, 2019
  - Two reviews for Journal of Pharmaceutical and Biomedical Analysis (including revision) & review for Xenobiotica, 2018
  - Review for Therapeutic Delivery & two reviews for Journal of Pharmaceutical and Biomedical Analysis (including revision), 2017
  - Review for Journal of Pharmaceutical and Biomedical Analysis, 2016
  - Assisted Dr Philip C Smith with review for Journal of Pharmaceutical Sciences, 2016
  - Review for Analytical Chemistry and review for Acta Biomaterialia, 2015
  - Review for Future Medicinal Chemistry and two reviews for Therapeutic Delivery, 2014
  - Assisted Dr Philip C Smith with two reviews for Drug Metabolism and Disposition, 2014
  - Assisted Dr Philip C Smith with review for Journal of The American Society for Mass Spectrometry and review for Drug Metabolism and Disposition, 2013
  - Review for Journal of Nanomaterials, 2010
  - Review for Expert Reviews, 2008
  - Assisted Dr Philip C Smith with review for Journal of Medicinal Chemistry, 2006
  - Assisted Dr Philip C Smith with review for Journal of Pharmacology and Experimental Therapeutics and review for Biomedical Pharmacology, 2005
  
- Abstracts and Posters
  - Poster judge at Sigma Xi Student Research Conference, November 9, 2013
  - Abstract Reviewer for AAPS Annual Meeting and Exposition, 2011 to 2016
  - Abstract reviewer for AAPS Annual Meeting and Exposition and FIP Pharmaceutical Sciences World Congress, 2010
  - Student poster judge at Sigma Xi Annual Meeting and International Research Conference, November 13, 2010
  
- Membership Nominations
  - Reviewed membership nominations for Sigma Xi, The Scientific Research Society, 2010