

Curriculum Vitae
FANG ZHAO, Ph.D.

Wegmans School of Pharmacy
St. John Fisher University (formerly St. John Fisher College)
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EDUCATION

Ph.D. in Pharmaceutical Chemistry with Honors Aug 1993 – Oct 1996
University of Kansas, Lawrence, Kansas

B.A. in Chemistry with Distinction Aug 1990 – Jul 1993
University of Kansas, Lawrence, Kansas

PROFESSIONAL EXPERIENCE

Professor Emeritus, Pharmaceutical Sciences Jun 2022 – current
Wegmans School of Pharmacy, St. John Fisher University, Rochester, New York

Key responsibilities:

- Maintain active research and contract projects in the areas of drug formulation, stability, and extemporaneous compounding for pharmacy and chemistry students
- Serve as a research mentor for students and faculty members

Professor, Pharmaceutical Sciences Jun 2013 – Jun 2022
Associate Professor, Pharmaceutical Sciences Jun 2007 – May 2013
Wegmans School of Pharmacy, St. John Fisher College, Rochester, New York

Key responsibilities:

- Teach didactic and lab courses in pharmaceutical dosage forms, drug delivery, pharmacokinetics, pharmacy calculations, and extemporaneous compounding
- Maintain active research and contract projects in the areas of drug stability, formulation, and extemporaneous compounding for pharmacy and chemistry students
- Contribute to various committees at school, college, and professional organizations
- Advise pharmacy and chemistry students for academic success and career planning

Interim Department Chair, Pharmaceutical Sciences Jan 2015 – Aug 2016
Wegmans School of Pharmacy, St. John Fisher College, Rochester, New York

Key responsibilities:

- Manage routine department operations and work closely with other school administrators
- Balance workload and resources among faculty and provide mentoring to junior faculty
- Contribute to school executive committee decisions regarding the overall school operations

Visiting Scientist (sabbatical leave from St. John Fisher College) Aug – Dec 2014
Compounding Pharmacy Services, Strong Memorial Hospital, Rochester, New York

Key responsibilities:

- Assist pharmacists with routine compounding pharmacy services
- Investigate questions and problems related to formulations and packaging materials
- Design and perform lab testing for stability and compatibility evaluation of compounded preparations
- Interpret various USP requirements and guidelines for pharmaceutical compounding and test methods; propose strategies for proper implementation

Manager, Global Product Development
Bausch & Lomb, Rochester, New York

Aug 2005 – May 2007

Key responsibilities:

- Investigate new ophthalmic drug candidates and formulation technologies for topical and back-of-the-eye indications
- Develop contact lens solution products
- Evaluate new antimicrobials and comfort excipients for contact lens solution products
- Lead a group of 6 – 8 scientists

Senior Research Investigator, Pharmaceuticals R&D
Research Investigator, Pharmaceuticals R&D
Bristol-Myers Squibb, New Brunswick, New Jersey

May 2000 – Aug 2005
Nov 1996 – May 2000

Key responsibilities:

- Lead salt/polymorph form selection teams
- Characterize physicochemical properties of drug substances, small molecules and biologics
- Develop drug products (parenterals and oral solids) for clinical studies and commercialization
- Coordinate stability studies, clinical supplies manufacturing, and regulatory filing
- Provide formulation support for drug discovery activities

CURRENT RESEARCH AND SCHOLARSHIP INTERESTS

- Development and evaluation of oral, ophthalmic, and parenteral formulations
- Extemporaneous compounding (sterile and non-sterile) and quality assessment
- Characterization of physicochemical properties of drugs and excipients

RESEARCH GRANTS AND CONTRACTS

1. \$22,700 Research Contract from Iuvo Biosciences, Rush-Henrietta, New York. Preformulation and formulation development of a parenteral drug candidate to support safety studies in animal models. Jun - Oct 2023.
2. \$1,883 Faculty Research Award Program Grant from Wegmans School of Pharmacy, St. John Fisher College, Rochester, NY. Aspirin Stability in a Novel Anhydrous Oral Vehicle. Sep 2021 – Aug 2022.
3. \$21,050 Research Contract (co-investigator) from Iuvo Biosciences, Rush-Henrietta, New York. Formulation and process optimization of an ophthalmic drug product to support an ANDA. Aug 2021 – Dec 2022.
4. \$23,385 Research Contract (co-investigator) from Iuvo Biosciences, Rush-Henrietta, New York. Re-formulation of an ophthalmic drug product to support a 505(b)(2) NDA. Jul 2019 – Aug 2020.
5. \$6,800 contract (co-investigator) from Iuvo Biosciences, Rush-Henrietta, New York. Formulation of an oral drug candidate and evaluation in simulated GI fluids. Jul 2019 – Jan 2020.
6. \$4,468 Faculty Development Grant (co-investigator) from St. John Fisher College. Compounded pimavanserin suspensions for enteral feeding tubes. Jun 2019 – May 2020.
7. \$2,500 Faculty Research Award Program Grant (co-investigator) from Wegmans School of Pharmacy, St. John Fisher College, Rochester, NY. Evaluation of shelf life extension of oseltamivir. Jul 2019 – Jun 2020.
8. \$19,791 Research Contract (co-investigator) from Iuvo Biosciences, Rush-Henrietta, New York. Pre-formulation and formulation studies of a small molecule oral drug candidate. Jun – Dec 2019.
9. \$5,000 Research Contract (co-investigator) from Iuvo Biosciences, Rush-Henrietta, New York. Formulation development of a drug candidate to support clinical studies. Mar – Jun 2019.
10. \$1,800 Faculty Research Award Program grant (co-investigator) from Wegmans School of Pharmacy, St. John Fisher College, Rochester, NY. Physical-chemical stability of compounded sildenafil 100 mg orally dissolving tablets. Jul 2018 – Jun 2019.
11. \$5,000 Research Contract from University of Rochester Medical Center, Rochester, New York. IV formulation development of poorly water soluble drugs. Mar – Jun 2018.
12. \$18,454 Investigator Initiated Study Grant from Sunovion Pharmaceuticals Inc., Marlborough, MA. Formulation and stability study of eslicarbazepine acetate oral suspensions. Jan – Sep 2018.

13. \$2,471 Faculty Research Award Program grant from Wegmans School of Pharmacy, St. John Fisher College, Rochester, NY. Study of Suboxone[®] dosing: assessing medication content uniformity and stability. Jul 2017 – Jun 2018.
14. \$43,000 Research Contract (co-investigator) from Iuvo Biosciences, Rush-Henrietta, New York. Formulation development of a drug candidate for preclinical safety studies. Oct 2015 – Aug 2017.
15. \$38,180 Investigator Initiated Study Grant (co-investigator) from Sunovion Pharmaceuticals Inc., Marlborough, MA. In-vitro evaluation of eslicarbazepine delivery via enteral feeding tubes. Dec 2015 – Feb 2017.
16. \$5,600 Research Contract from Iuvo Biosciences, Rush-Henrietta, New York. Formulation development of two drug candidates for preclinical proof-of-concept studies. Aug – Oct 2016.
17. \$1,242 Contract from University of Rochester Medical Center, Rochester, New York. QA testing and analysis on compounded medications. May – Jun 2016.
18. \$5,000 Research Contract (co-investigator) from Bausch & Lomb Inc., Rochester, New York. Dissolution testing of diltiazem extended-release capsules. Feb – Dec 2015.
19. \$9,315 Contract (co-investigator) from Inova Fairfax Medical Center, Falls Church, Virginia. Potency testing of IV admixtures prepared manually and by a robotic system. Aug – Oct 2015.
20. \$111,881 Grant (co-investigator) from National Science Foundation, Arlington, Virginia. Collaborative Research: Analytical Method Transfer – Development of Case Studies. Sep 2012 – Aug 2015.
21. \$2,000 Contract (co-investigator) from University of Rochester Medical Center, Rochester, New York. Potency testing of IV admixtures prepared by an onco-robotic system. May – Jun 2015.
22. \$2,050 Contract from University of Rochester Medical Center, Rochester, New York. Specific gravity studies of pharmaceutical liquids. Mar – Dec 2014.
23. \$3,300 Faculty Development Grant from St. John Fisher College. Stability study of an amino acid-containing cardioplegia solution in sterile plastic bags. May 2013 – May 2014.
24. \$3,500 Faculty Development Grant (co-investigator) from St. John Fisher College. Evaluation and improvement of USP (2040) rupture test procedure for soft gelatin capsule dietary supplements. May 2013 – May 2014.
25. \$2,000 Contract from University of Rochester Medical Center, Rochester, New York. Potency testing of IV admixtures prepared by a robotic system. Jan – Mar 2014.
26. \$7,350 Research Contract (co-investigator) from Bausch & Lomb Inc., Rochester, New York. USP softgel rupture test method evaluation. Jul – Dec 2013.
27. \$10,700 Research Contract from Bausch & Lomb Inc., Rochester, New York. Drop accuracy and uniformity of ophthalmic suspensions. Aug – Nov 2012.
28. \$5,010 Faculty Development Grant (co-investigator) from St. John Fisher College. Introduce the chemistry and pharmacy students to Raman spectroscopy and its application in the analysis of pharmaceutical products. May 2011 – Jun 2012.
29. \$1,850 Research contract from Bausch & Lomb Inc., Rochester, New York. Beta-carotene method investigation and sample analysis. Jan – Mar 2012.
30. \$70,000 Research Contract from Lexicon Pharmaceuticals, Houston, Texas. Solubility evaluation and enhancement of LX1031. Jan 2010 – Feb 2011.
31. \$4,000 Research Contract from Bausch & Lomb Inc., Rochester, New York. Evaluation of contact lens packaging solutions using moisture sorption/desorption analyzer. Mar – Aug 2010.
32. \$117,000 Grant (part of \$285,000 total) from US Department of Education for purchase of pharmaceuticals equipment at Wegmans School of Pharmacy. Apr 2009 – May 2010.
33. \$8,000 Research Contract from Lexicon Pharmaceuticals, Houston, Texas. Nanosized and lipid formulation development of LX4211 to enhance oral bioavailability. May – Aug 2009.
34. \$125,000 Grant from Kilian J. and Caroline F. Schmitt Foundation, Rochester, New York. Establishing a preformulation laboratory at Wegmans School of Pharmacy. Jun 2008 – May 2009.
35. \$25,000 Seed Grant for Research from Bausch & Lomb Inc., Rochester, New York. Jan 2008.

PUBLICATIONS

1. Messenger C, Soper B, Cutaia K, Zhao F. Extemporaneous Compounding of Low-Strength Aspirin Capsules for Desensitization Protocols. *Int J Pharm Compd*. Accepted for publication.
2. Austin DL, Ahmadi A, Cutaia DR, Perkins JR, Zhao F, Gawronski KM. Stability of a Compounded Sublingual Buprenorphine Solution for Neonatal Opioid Withdrawal Syndrome. *J Pediatr Pharmacol Ther*. 28:710–713 (2023). <https://doi.org/10.5863/1551-6776-28.8.710>

3. Li S, Gabriel JJ, Martinez MN, Longstaff DG, Coffey MJ, Zhao F. An exploratory study of a simplified approach to evaluate drug solubility in milk related vehicles. *Pharm Technol Hosp Pharm.* **8**(1):20230006 (2023). <https://doi.org/10.1515/ptph-2023-0006>
4. Martinez MN, Zhao F, Longstaff DG, Gabriel JJ, Coffey MJ. Evaluating the solubility of compounds intended for intramammary infusion based upon tests conducted across a range of milk matrices. *PLOS ONE.* **18**(7):e0288780 (2023). <https://doi.org/10.1371/journal.pone.0288780>
5. Wojcinski J, Nathan K, Zhao F. In vitro assessment of compounded lurasidone suspensions for enteral feeding tubes. *Hosp Pharm.* **58**:304-308 (2023). <https://doi.org/10.1177/00185787221139421>
6. Chen P, Mar Z, Giannetti A, Hughes S, Gilbert J, Zhao F. An Exploratory Study of a New Vancomycin Eye Drops Formulation for Extemporaneous Compounding. *Hosp Pharm.* **57**:69-75 (2022). <https://doi.org/10.1177/0018578720973885>
7. DelMonte K, To C, Rashid K, Sayers M, Mendoza M, Zhao F, Camenisch T. Extension of Tamiflu Shelf-Life in Strategic Stockpile for Public Health. *J Environ Sci Public Health* **5**:504-515 (2021).
8. Uttaro E, Zhao F, Schweighardt A. Filling the gaps on the ISMP Do Not Crush list for immediate-release products. *Int J Pharm Compd.* **25**:364-371 (2021). PMID: 34623961
9. Buga I, Uzoma J, Reindel K, Rashid K, Diep T, McCartan P, and Zhao F. Physical and chemical stability of dexamethasone sodium phosphate in intravenous admixtures used to prevent chemotherapy-induced nausea and vomiting. *Hosp Pharm* **56**:215-220 (2021). <https://doi.org/10.1177/0018578719888912>
10. Cheung M, Zhao F, and Dave V. Physical-chemical stability of compounded sildenafil 100-mg rapid-dissolving tablets. *Int J Pharm Compd.* **25**:82-87 (2021).
11. Uttaro E, Pudipeddi M, Schweighardt A, and Zhao F. To crush or not to crush: a brief review of novel tablets and capsules prepared from nanocrystal and amorphous solid dispersion technologies. *Am J Health Syst Pharm.* **78**:389-394 (2021). <https://doi.org/10.1093/ajhp/zxaa412>.
12. Sabins D, Diep T, McCartan P, Patel S, and Zhao F. Stability and compatibility of diphenhydramine hydrochloride in intravenous admixture: a new look at an old drug. *Hosp Pharm.* **54**:330-334 (2019). <https://doi.org/10.1177/0018578718802586>
13. Reindel KL, DeAngelis MJ, Ferrara AS, Conn KM, Phillips EM, Corigliano AT, and Zhao F. An exploratory study of Suboxone (buprenorphine/naloxone) film splitting: cutting methods, content uniformity, and stability. *Int J Pharm Compd.* **23**:258-263 (2019).
14. Cutaia K, Chablani L, and Zhao F. Vehicles for compounded oral liquid medications: A Review. *Int J Pharm Compd.* **22**:480-489 (2018).
15. Kimaru IW, Corigliano AT and Zhao F. Using classical EDTA titrations to measure calcium and magnesium in intravenous fluid bags. *J Chem Educ.* **95**:2238-2242 (2018). <https://doi.org/10.1021/acs.jchemed.8b00412>
16. Zhao F, Dave VS, Mar MZ, and Perri JR. Formulation and stability study of eslicarbazepine acetate oral suspensions for extemporaneous compounding. *Int J Pharm Compd.* **22**:433-439 (2018).
17. Camp N, Nadra J, Hughes S, Gilbert J, and Zhao F. Stability of extemporaneously prepared ophthalmic solutions for mydriasis. *Am J Health Syst Pharm.* **75**:e231-e235 (2018). <https://doi.org/10.2146/ajhp161068>
18. DeAngelis M, Ferrara A, Gregory K, Zammit K, and Zhao F. Stability of 2 mg/mL adenosine solution in polyvinyl chloride and polyolefin infusion bags. *Hosp Pharm.* **53**:73-74 (2018). <https://doi.org/10.1177/0018578717742516>
19. Reindel K, Zhao F, Hughes S, and Dave V. In vitro evaluation of eslicarbazepine delivery via enteral feeding tubes. *Hosp Pharm.* **52**:752-760 (2017). <https://doi.org/10.1177/0018578717732340>
20. Rush S, Vernak C, and Zhao F. A pilot stability study of dehydroepiandrosterone (DHEA) rapid-dissolving tablets prepared by extemporaneous compounding. *Int J Pharm Compd.* **21**:83-87 (2017). <https://www.ijpc.com/Abstracts/Abstract.cfm?ABS=4277>
21. Caraballo M, Donmez S, Nathan K, and Zhao F. Compounded apixaban suspensions for enteral feeding tubes. *Hosp Pharm.* **52**:478-482 (2017). <https://doi.org/10.1177/0018578717720507>
22. Raphael C, Zhao F, Hughes S, and Juba K. A pilot chemical and physical stability study of extemporaneously compounded levetiracetam intravenous solution. *J Pain Palliat Care Pharmacother.* **29**:370-373 (2015). <https://doi.org/10.3109/15360288.2015.1098762>

23. Rush S, Kim S, Hughes S, Gilbert J, Ciancaglini P, and Zhao F. Stability of glutamate-aspartate cardioplegia additive solution in polyolefin IV bags. *Hosp Pharm.* **50**:522-525 (2015). <https://doi.org/10.1310/hpj5006-522>
24. Prohotsky D, Juba K, and Zhao F. Formulation and stability of an extemporaneously compounded oral solution of chlorpromazine HCl. *J Pain Palliat Care Pharmacother.* **28**:367-370 (2014). <https://doi.org/10.3109/15360288.2014.969874>
25. Prohotsky D, Hughes S, and Zhao F. Stability of levetiracetam oral solution repackaged in oral plastic syringes. *Am J Health Syst Pharm.* **71**:219-222 (2014). <https://doi.org/10.2146/ajhp130189>
26. Almagambetova E, Hutchinson D, Blais D, and Zhao F. Stability of diluted adenosine solutions in polyolefin infusion bags. *Hosp Pharm.* **48**:484-488 (2013). <https://doi.org/10.1310/hpj4806-484>
27. Zhao F. Innovative drug delivery and formulation designs to deter drug abuse and misuse related to suicide. In *Frontiers in Suicide Risk: Research, Treatment, and Prevention*. J Lavigne Ed. Nova Science Publishers, Inc. Hauppauge, NY USA. 2012.
28. Zhao F, Derbin G, Miller S, Badawy S, and Hussain M. Acid catalyzed hydrolysis of BMS-582664: degradation product identification and mechanism elucidation. *J Pharm Sci.* **101**:3526–3530 (2012).
29. Prohotsky D and Zhao F. A survey of top 200 drugs – Inconsistent practice of drug strength expression for drugs containing salt forms. *J Pharm Sci.* **101**:1-6 (2012).
30. Kaltenbach M, Hutchinson D, Bollinger J, and Zhao F. Stability of diluted adenosine solutions in IV bags stored at two different temperatures. *Am J Health Syst Pharm.* **68**:1533-1536 (2011).
31. Kimaru I, Zhao F, and Chichester K. Spectrophotometric quantification of ibuprofen release in dissolution testing. A Pharmaceutical analysis experiment for instrumental analysis laboratory. *Chem Educator.* **15**:484-487 (2010).
32. Hutchinson D, Liou Y, Best R, and Zhao F. Stability of extemporaneously prepared rufinamide oral suspensions. *Ann. Pharmacother.* **44**:462-465 (2010).
33. Badawy S, Hussain M, Zhao F, Ye Q, Huang Y, V Palaniswamy. Degradation pathways of a corticotropin-releasing factor antagonist in the solution and solid States. *J Pharm Sci.* **98**:2636-2647 (2009).
34. Scheuer C, Zhao F, Erb T, Orsborn G. Multi-purpose solutions and rates of biocidal efficacy. *Eye Contact Lens.* **35**:88-91 (2009).
35. Meanwell N, Wallace O, Fang H, Wang H, Deshpande M, Wang T, Yin Z, Zhang Z, Pearce B, James J, Yeung K, Qiu Z, Kim Wright J, Yang Z, Zadjura L, Tweedie DL, Yeola S, Zhao F, Ranadive S, Robinson B, Gong Y, Wang H, Spicer T, Blair W, Shi P, Colonno R, Lin P. Inhibitors of HIV-1 attachment. Part 2: An initial survey of indole substitution patterns. *Bioorg. Med Chem Lett.* **19**:1977-1981 (2009).
36. Badawy S, Gray D, Zhao F, Sun D, Schuster A, and Hussain M. Formulation of solid dosage forms to overcome gastric pH interaction of the factor Xa inhibitor, BMS-561389. *Pharm Res.* **23**:989-996 (2006).
37. Zhao F, Malayev V, Rao V, and Hussain M. Effect of sodium lauryl sulfate in dissolution media on dissolution of hard gelatin capsule shells. *Pharm Res.* **21**:144-148 (2004).
38. Wu Y, Zhao F, and Paborji M. Effect of fill weight, capsule shell, and sinker design on the dissolution behavior of capsule formulations of a weak acid drug candidate BMS-309403. *Pharm Dev Tech.* **8**:379-383 (2003).
39. Wang T, Zhang Z, Wallace O, Deshpande M, Fang H, Yang Z, Zadjura L, Tweedie D, Huang S, Zhao F, Ranadive S, Robinson B, Gong Y, Ricarrdi K, Spicer T, Deminie C, Rose R, Wang H, Blair W, Shi P, Lin P, Colonno R, and Meanwell N. Discovery of a 4-benzoyl-1-[(4-methoxy-1H-pyrrolo[2,3-b]pyridin-3-yl)oxoacetyl]-2-(R)-methylpiperazine (BMS-378806): a novel HIV-1 attachment inhibitor that interferes with CD4-gp120 interactions. *J Med Chem.* **46**:4236-4239 (2003).
40. Zhao F, Stein D, Paborji M, Cash P, Root B, Wei Z, and Knupp C. Characterization of a backbone cleavage product of BMS-196854 (Oncostatin M), a recombinant anti-inflammatory cytokine. *Pharm Dev Tech.* **6**:255-261 (2001).
41. Schöneich C, Zhao F, Yang J, and Miller B. Mechanisms of methionine oxidation in peptides. In *Therapeutic Protein and Peptide Formulation and Delivery*. Z Shahrokh, V Sluzky, J Cleland, S Shire, T Randolph, Eds. ACS symposium series 675. American Chemical Society, Washington, D.C. 1997. pp79-89.

42. Zhao F, Ghezzi-Schöneich E, Aced G, Hong J, Milby T, and Schöneich C. Metal-catalyzed oxidation of histidine in human growth hormone. Mechanism, isotope effects, and inhibition by a mild denaturing alcohol. *J Biol Chem.* **272**:9019-9029 (1997).
43. Zhao F, Yang J, and Schöneich C. Effect of polyaminocarboxylate metal chelators on iron-thiolate induced oxidation of methionine- and histidine-containing peptides. *Pharm Res.* **13**:931-938 (1996).
44. Schöneich C, Zhao F, Madden K, and Bobrowski K. Side chain fragmentation of N-terminal threonine or serine residue induced through intramolecular proton transfer to hydroxy sulfuranyl radical formed at neighboring methionine in dipeptides. *J Am Chem Soc.* **116**:4641-4652 (1994).
45. Schöneich C, Zhao F, Wilson G, and Borchardt R. Iron-thiolate induced oxidation of methionine to methionine sulfoxide in small model peptides. Intramolecular catalysis by histidine. *Biochim Biophys Acta* **1158**:307-322 (1993).

PATENTS

1. Zhao F. Packaging solutions. US Patent No. US 9,527,617. Date of Patent: Dec 27, 2016.
2. Zhao F, Barniak V, Coffey M, and Braun B. Packaging solutions. US Patent No. 8,490,782 B2. Date of Patent: Jul 23, 2013.
3. Burke S, Phillips E, Zhao F, Barniak V, and Salamone J. Ophthalmic compositions comprising a branched, glycerol monoalkyl compound and a fatty acid monoester. US Patent No. 7,670,997 B2. Date of Patent: Mar 2, 2010.

POSTER PRESENTATIONS

1. Saei K, Schweighardt A, and Zhao F. Crushability analysis of immediate-release oral tablets and capsules approved by FDA in 2020-2022. 2023 ASHP (American Society of Health-system Pharmacists) Midyear Clinical Meeting. Dec 2023
2. Soper B, Osborn M, Messenger C, Cutaia K, and Zhao F. Chemical stability of aspirin in novel anhydrous oral vehicles. 2022 ASHP (American Society of Health-system Pharmacists) Midyear Clinical Meeting. Dec 2022.
3. Messenger C, Soper B, Cutaia K, and Zhao F. Formulation and stability of low-dose aspirin capsules for the use of aspirin desensitization. 2022 ASHP (American Society of Health-system Pharmacists) Midyear Clinical Meeting. Dec 2022.
4. Wojcinski J, To C, Nathan K, and Zhao F. Compounded lurasidone suspensions for enteral feeding tubes. 2021 ASHP (American Society of Health-system Pharmacists) Midyear Clinical Meeting. Dec 2021.
5. Cutaia DR, Perkins JR, Zhao F, Ahmadi A, and Austin D. In Vitro feasibility study of compounded sublingual buprenorphine solution for the treatment of neonatal abstinence syndrome. 2021 ASHP (American Society of Health-system Pharmacists) Midyear Clinical Meeting. Dec 2021.
6. DelMonte K, Camenisch T, and Zhao F. Shelf-life stability of expired Tamiflu. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2021.
7. Uttaro E, Zhao F, and Schweighardt A. Filling in the gaps on the ISMP Do Not Crush List. 2020 ASHP (American Society of Health-system Pharmacists) Midyear Clinical Meeting. Dec 2020.
8. Buga I, Uzoma J, Reindel K, Rashid E, Diep T, McCartan P, and Zhao F. Striving for stability: an evaluation of stability and compatibility of dexamethasone sodium phosphate in IV admixtures used for prevention of chemotherapy-induced nausea and vomiting. 2019 ASHP (American Society of Health-system Pharmacists) Midyear Clinical Meeting. Dec 2019.
9. Buga I, Uzoma J, Reindel K, Rashid K, Diep T, McCartan P, and Zhao F. Stability is everything: an analysis of dexamethasone sodium phosphate in IV admixtures. PSSNY (Pharmacists Society of the State of New York) 2019 Mid-winter Meeting. Jan 2019.
10. Reindel K, Zhao F, Phillips E, Conn K, and Corigliano A. Exploratory study of content uniformity and stability of split buprenorphine/naloxone films. ASHP (American Society of Health-system Pharmacists) 53th Midyear Clinical Meeting. Dec 2018.

11. Dave VS, Zhao F, Mar MZ, and Perri JR. Formulation and stability study of eslicarbazepine acetate oral suspensions. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2018.
12. DeAngelis M, Ferrara A, Conn K, Phillips E, and Zhao F. Assessment of splitting methods for buprenorphine/naloxone sublingual films. NYSCHP (New York State Council of Health-system Pharmacists) 57th Annual Assembly. Apr 2018.
13. Kimaru I, Corigliano A, Chichester K, and Zhao F. Measuring calcium and magnesium levels in IV fluids: a real life application for the undergraduate analytical chemistry laboratory. PITTCON/ACS Division of Analytical Chemistry Poster Session. Feb 2018.
14. Reindel K, Zhao F, Hughes S, and Dave V. In vitro evaluation of eslicarbazepine delivery via enteral feeding tubes. ASHP (American Society of Health-system Pharmacists) 52th Midyear Clinical Meeting. Dec 2017.
15. Sabins D, Diep T, McCartan P, Patel S, and Zhao F. Stability of diphenhydramine hydrochloride in intravenous (IV) admixture solutions: a new look at an old drug. ASHP (American Society of Health-system Pharmacists) 52th Midyear Clinical Meeting. Dec 2017.
16. DeAngelis M, Ferrara A, Gregory K, Zammit K and Zhao F. Stability of 2 mg/mL adenosine solution in polyvinyl chloride and polyolefin infusion bags. APhA (American Pharmacists Association) Annual Meeting & Expo. Mar 2017.
17. Caraballo M, Donmez S, Nathan K, and Zhao F. Compounded apixaban suspension for enteral feeding tubes. ASHP (American Society of Health-system Pharmacists) 51th Midyear Clinical Meeting. Dec 2016.
18. Donmez S, Caraballo M, Corigliano A, Chichester K, Kimaru I, and Zhao F. Pilot study analyzing the strength of compounded electrolyte IV admixture solutions. ASHP (American Society of Health-system Pharmacists) 51th Midyear Clinical Meeting. Dec 2016.
19. Birnie C, Corigliano A, Chablani L, Dave V, DeLucenay A, Pierce D, Williams K, and Zhao F. Quality improvement measures to increase licensing exam pass rates. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2016.
20. Rush S, Vernak C, and Zhao F. Stability of dehydroepiandrosterone (DHEA) rapid dissolving tablets. PCCA (Professional Compounding Centers of America) International Seminar. Nov 2015.
21. Camp N, Nadra J, Hughes S, Gilbert J, and Zhao F. Stability of extemporaneously prepared ophthalmic solutions. ASHP (American Society of Health-system Pharmacists) 50th Midyear Clinical Meeting. Dec 2015.
22. Raphael C, Zhao F, Hughes S, and Juba K. Stability of extemporaneously compounded levetiracetam intravenous solution. ASHP (American Society of Health-system Pharmacists) 50th Midyear Clinical Meeting. Dec 2015.
23. Zhao F, Dave V, and Hughes S. A modified potency test strategy for iv admixtures prepared by robotic systems. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2015.
24. Yacobucci M, Shah C, Stein D, Huang T, Zhao F and Chablani L. Evaluation of dietary softgel capsules using USP<701> and USP<2040>: A comparative disintegration study. AACP (American Association of Colleges of Pharmacy) Annual Meeting and Seminars. Jul 2014.
25. S Kim S, Rush S, Hughes S, and Zhao F. Stability of glutamate-aspartate cardioplegia additive solution in polyolefin IV bags. ASHP (American Society of Health-system Pharmacists) 48th Midyear Clinical Meeting. Dec 2013.
26. Prohotsky D, Hughes S, and Zhao F. Stability of levetiracetam oral solution repackaged in oral plastic syringes. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2013.
27. Chamberlin J, Coffey M, and Zhao F. Effect of shake-method on dose accuracy and uniformity of a dexamethasone ophthalmic suspension. ASHP (American Society of Health-System Pharmacists) Midyear Clinical Meeting. Dec 2012.
28. Almagambetova E, Hutchinson D, Blais D and Zhao F. Stability of diluted adenosine solutions in latex-, pvc- and DEHP-free infusion bags. ASHP (American Society of Health-System Pharmacists) Midyear Clinical Meeting. Dec 2012.
29. Zhao F, Hutchinson D, and Juba K. APPE research elective on stability evaluation of compounded drug products. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2012.
30. Mathews J, Dave C, Mohammad M; Cipriano G, Zhao F, and Lowry B. Pharmacy-student outreach: bridging the gap from an inner-city high school to pharmacy school. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2012.

31. I Kimaru I, Gombert N, Rich K, Chichester K, Zhao F, and Budukh P. Introducing chemistry and pharmacy students to analysis of pharmaceutical products by Raman spectroscopy. Pittcon Conference & Expo. Mar 2012.
32. Gombert N, Rich K, Kimaru I, Chichester I, Zhao F, and Budukh P. Development of a direct, non-destructive quantitative method for acetaminophen in pharmaceutical suspension and capsules using Raman spectroscopy. Pittcon Conference & Expo. Mar 2012.
33. Zhao F, C Birnie C, A Corigliano A, Hughes S, Loughner J, and Valentine S. The design of a sterile product laboratory module as preparation for an institutional IPPE course. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2011.
34. Cottom J, Avery L, Ventura D, and Zhao F. Proposed role of pyrogens in vancomycin infusion-related reactions. APhA (American Pharmacists Association) Annual Meeting. Mar 2011.
35. Stoneham S and Zhao F. Cost comparison analysis of contact lens rewetting drops. APhA (American Pharmacists Association) Annual Meeting. Mar 2011.
36. Zhao F, Birnie C, and Budukh P. Punch or Tamp — Capsule compounding in pharmaceuticals lab courses. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2010.
37. Kimaru I, Best R, and Zhao F. UV/Visible spectrophotometric quantification of ibuprofen release in dissolution testing: A pharmaceutical analysis experiment for instrumental analysis. ACS (American Chemical Society) National Meeting. Mar 2010.

SEMINARS AND GUEST LECTURES

1. CE speaker. To crush or not to crush – What is missing in ISMP Do-Not-Crush list. St. John Fisher University, Wegmans School of Pharmacy CE Program. Jul 2022
2. Invited speaker. Collaborate and conquer - A translational case study for scholarship collaboration between practice and science faculty. AACP (American Association of Colleges of Pharmacy) Webinar Program. May 2022
3. Invited speaker. Non-traditional funding sources for pharmaceutical science research. AACP (American Association of Colleges of Pharmacy) Annual Meeting. Jul 2020.
4. Guest lecturer. Pharmacokinetics, pharmacodynamics, and drug biotransformation. St. John Fisher College, GNUR 570 Pharmacology. Jan 2020.
5. Invited speaker. Pursuing research in a teaching focused school. Notre Dame of Maryland University, School of Pharmacy. Dec 2019.
6. Guest panelist. Grant writing and funding. St. John Fisher College, GNUR 702 Foundations of Evidence - Based Practice & Applications in Advanced Practice Nursing. Nov 2019
7. Guest lecturer. Opportunities in Compounding Pharmacy. St. John Fisher College, Pharmacy Early Assurance (PHEA) program seminar. Apr 2019.
8. Guest lecturer. What's in that pill – an introduction to pharmaceuticals. St. John Fisher College, SSCH 111 Science Scholars Freshman Seminar. Feb 2019.
9. Guest lecturer. Research opportunities in pharmaceuticals. St. John Fisher College, SSCH 310: Science Scholars Junior Seminar. Sep 2018.
10. Invited webinar speaker. Beyond-use dating of compounded sterile preparations. Aesynt (now part of Omnicell) IV Solutions webinar series. Nov 11, 2015.
11. A one-day short course on compounded sterile preparations and automation. Aesynt (now part of Omnicell) internal training course. Aug 5, 2015.
12. Invited speaker. Targeted drug delivery – the quest for the magic bullet. St. John Fisher College, Robert & Janice Loss Science Lecture Series. Oct 2013.
13. Invited speaker. Engaging Pharm D students in research projects in pharmaceutical sciences. Pharmaceutics Section Program. AACP (American Association of Colleges of Pharmacy) Annual Meeting and Seminars. Jul 2013.
14. Guest lecturer. Career opportunities for chemists in pharmaceutical industry. St. John Fisher College, Chem 250: Sophomore Seminar. Mar 2012.
15. CE speaker. Nano size me – a snapshot of current nanotechnology applications in drug delivery. Rochester Area Society of Health System Pharmacist CE program. May 2010.

16. Invited speaker. A spoonful of salt helps medicine go down. SUNY Brockport. Undergraduate Summer Research Expo. Sep 2009
17. Invited keynote speaker. A spoonful of salt helps medicine go down. Rochester Section of American Chemical Society 54th Annual Undergraduate Research Symposium. Apr 2009
18. Invited speaker. To dye or not to dye – the use of colorant in gelatin capsules. St. John Fisher College, WSOP Profess Seminar Series. Mar 2009.
19. CE speaker. Recent advances in ocular drug delivery to treat posterior eye diseases. Rochester Area Society of Health System Pharmacist CE program. Oct 2008.

COLLEGE, PROFESSIONAL AND COMMUNITY SERVICES

- Committee member for St. John Fisher College (2010 – 2022)
Travel and Grants Committee, Strategic Planning Committee, Academic Planning Task Force, Strategic Review Committee.
- Committee member for Wegmans School of Pharmacy (2007 – present)
Professional Development Committee (Chair), Diversity Committee, Diversity Committee (Chair), Search Committee for Associate Dean (Chair), Curriculum Committee, Assessment Committee, Library Committee, Professional Development Committee, Post-graduate Training Committee, Summer Curriculum Focus Group, Scholarship & Awards Committee, Student Honor Committee, Student Progress Committee, and Search Committees for various faculty and chair positions.
- Academic advisor for 10 – 14 pharmacy students each year (2007 – 2022)
- Faculty co-advisor for WSoP student chapter of National Pharmaceutical Association (2011 – 2022)
- Volunteer interviewer for WSoP student applicants (2007 – 2022), mock interviews for pharmacy residency applicants (2014 – 2017), and Mock Interview Night for biology majors (2007 – 2013)
- Volunteer proctor for Part III (compounding portion) of NY pharmacist licensing exam (2010 – 2020)
- Item writer for NABP PCOA exams (2012 – present)
- Committee member for professional organizations
 AACP Pharmaceutics Section Programing Committee (2019 – present)
 AACP Pharmaceutics Section Engagement Committee (2021 – present)
 AACP Pharmaceutics Strategic Initiatives – Clinical (2014 – 2016)
 AACP Pharmaceutics Section Nomination Committee (2011 – 2013)
 AAPS Northeast Regional Annual Meeting Planning Committee (2009 – 2018)
 - Chair of Roundtable Subcommittee (2018)
 - Co-chair of Roundtable Session (2017)
 - Chair of Poster Subcommittee (2016)
 - Co-chair of Sponsorship Subcommittee (2013)
- Reviewer for NIH grant application ETTN-H(51) “SBIR: Pediatric Formulations and Drug Delivery Systems” Special Emphasis Panel (2016)
- Reviewer for conference abstracts (2009 – present)
AAPS Annual Meetings and AAPS Northeast Regional Annual Meetings
- Reviewer for journals (1996 – present)
American Journal of Pharmaceutical Education, Pharmaceutical Research, Journal of Pharmaceutical Sciences, International Journal of Pharmaceutics, Hospital Pharmacy, Chemistry Central Journal, Drug Discovery Today, and Journal of Pharmaceutical and Biomedical Analysis
- Reviewer for AACP new investigator award (NIA) grant proposals (2011 – present)
- Volunteer pharmacy lab activity coordinator (2011 – present)
WSOP pharmacy exploring activities for local K-12 students
Boy Scout of America Career Exploring Program, Discover at Fisher Day for Rochester and East Rochester School Districts, Outreach Program for Thomas Edison High School.
- Research mentor for Pittsford High School summer internship program (2019 – present)

- Volunteer judge for Terra Rochester Finger Lakes Science & Engineering Fair (Mar 2018)
- Volunteer faculty leader for WSoP Service Day activities at various organizations (2007 – 2022)

HONORS AND AWARDS

- Best Research Poster Abstract Award. Pharmaceutics Section. AACP (American Association of Colleges of Pharmacy) Annual Meeting. 2021.
- Best Poster Award. New York State Council of Health-System Pharmacists 57th Annual Assembly. 2018.
- Outstanding Advising Award. Wegmans School of Pharmacy, St. John Fisher College. 2017.
- Poster Award on Compounding Innovation. PCCA International Seminar. 2015.
- Outstanding Advising Award. Wegmans School of Pharmacy, St. John Fisher College. 2014.
- Top 10 downloaded journal article in 2012 in Journal Pharmaceutical Sciences. 2013.
- Teacher of the Year. Wegmans School of Pharmacy, St. John Fisher College. 2010.
- Letter of Recognition for ReNu MoistureLoc/Fusarium investigation. Bausch & Lomb, Inc. 2006.
- Star Award for organizing a two-day exhibit of pharmaceutical unit operations. Bristol-Myers Squibb Co. 2004.
- Triumph Award for innovative formulation approach to overcome gastric pH interaction of an investigational drug. Bristol-Myers Squibb. 2003.
- Excellence Awards. Bristol-Myers Squibb. 1997 and 2000.
- Upjohn-Walter F. Enz Award for outstanding graduate research. Pharmacia & Upjohn. 1996.
- Gateway Scholarship. AFPE and AAPS. 1993.
- American Institute of Chemist Award. 1993.
- University Honor Scholars program, University of Kansas. 1992 – 1993.
- Award for Excellence in Organic Chemistry. University of Kansas. 1992.
- Sorg Scholarship. University of Kansas. 1991.