

CURRICULUM VITAE

Clyde M. Ofner III, Ph.D., R.Ph.
Saint Joseph's University
Philadelphia College of Pharmacy (PCP)
Department of Pharmaceutical Sciences
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EDUCATION	Ph.D. Pharmaceutics Temple University School of Pharmacy Philadelphia, PA	1987
	Registered Pharmacist, PA	1975
	B.S. Pharmacy Temple University School of Pharmacy Philadelphia, PA	1975
	Pre-professional (engineering major) University of Illinois Champaign-Urbana, IL	1970 -1972
POSITIONS AND EMPLOYMENT	Professor of Pharmaceutics Saint Joseph's University Philadelphia College of Pharmacy	2022-
	Professor of Pharmaceutics USciences, Philadelphia College of Pharmacy	2010 – 2022
	Director, Graduate Program in Pharmaceutics USciences, College of Graduate Studies	2002 – 2011
	Associate Professor of Pharmaceutics USciences, Philadelphia College of Pharmacy	1993-2010
	Visiting Academic PMA Coordinated on Site Industry Program for Pharmacy Faculty To gain an overview of operations and policies.	1992
	Graduate Faculty	1989 to date

University of the Sciences in Philadelphia

Assistant Professor of Pharmaceutics 1987 - 1993
Philadelphia College of Pharmacy and Science

Adjunct Clinical Instructor 1983 - 1987
Temple University School of Pharmacy

**ADVISORY
GROUPS,
STUDY SECTIONS**

Review Editor, Frontiers in Pharmacology 2023 –

(BTT) program, Wistar Institute
Advisory Committee, Biomedical Technician Training 2014-

SBIR/STTR Study Section – Small Business: Biological Chemistry 2012
Biophysics and Drug Discovery applications, National Institute of Health,
Center for Scientific Review, ZRG1 IMST (11), Stage 1 Reviewer,
February, May, October.

Advisory Committee for the Investigative Drug Service (IDS) of the 2010-
Institute for Translational Medicine and Therapeutics (ITMAT),
University of Pennsylvania

SBIR/STTR Study Section –
Drug Discovery and Development Small 2009
Business Panel, National Institute of Health, Center for Scientific Review
Special Emphasis Panel, ZRG1 IMST-G(11), October

Gelatin Capsule Working Group, Food and Drug Administration, 1995-1998
Center for Drug Evaluation and Research,
Office of Clinical Pharmacology and Biopharmaceutics

Ad hoc consultant for Food and Drug Administration, 1992
Scientific Support Branch, Rockville, MD
and Philadelphia, PA Regional Office.

Officer, Philadelphia Pharmaceutical Forum, American Association 1988-2013
of Pharmaceutical Scientists (AAPS)

**AWARDS AND
RECOGNITIONS**

DPS Undergraduate Research Fund 2022

Milton Lev Memorial Faculty Research Fund (USciences) 2022

Cancer Research Focus Group Grant (USciences) 2021

Agnes Varis Trust for Leadership and Women's 2020

Health for a Graduate student	
Philadelphia College of Pharmacy – Dean’s Award for Excellence in Teaching	2020
Philadelphia College of Pharmacy Faculty Research Grant	2020
Milton Lev Memorial Faculty Research Fund (USciences)	2019
United States Patent and Trademark Office, Patent	2019
USciences Founders Day Faculty Award of Merit	2016
Agnes Varis Trust Research Award for Women’s Leadership and Health (USciences)	2015
Philadelphia College of Pharmacy – Dean’s Award Excellence in Research/Scholarly Activity	2013
Nominated, Lindback Award for distinguished teaching	2008
PCP/American Association of Colleges of Pharmacy Teacher of the Year	2004
Nominated, USP Outstanding Faculty Award	2001
American Foundation for Pharmaceutical Education (AFPE) Fellowship for a Graduate Student	1999,2003
Food and Drug Administration’s Commissioner’s Special Citation for sustained outstanding regulatory research efforts	1998
USP OWL Award for Innovations with Learning	1998
Pharmaceutical Manufacturer’s Association (PMA) Fellowship for Undergraduate Student	1990, 1994

PATENTS

Clyde M Ofner III, Chris Cammarata, Brian Rhodes, Darren Wu, High Molecular Weight Biodegradable Gelatin-Doxorubicin Conjugate, US Patent No.: 10,265,413 B2, Apr. 23, 2019.

CURRENT RESEARCH INTERESTS

Lysosome size changes, lysosome membrane permeabilization applications in triple negative breast cancer (TNBC). Tumor cell delivery of anti-cancer/natural polymer conjugates to enhance efficacy and reduce systemic toxicities. Doxorubicin mechanisms of cytotoxicity.

PUBLICATIONS

Journal Articles (Peer Reviewed)

1. H. Schott and C.M. Ofner, Gelled Vegetable Oils as Ointment Bases, Drug and Cosmetic Ind., 117: 42-48 (1975).
2. C.M. Ofner III and H. Schott, Shifts in Apparent Ionization Constant of Carboxylic Acid Groups of Gelatin, J. Pharm. Sci., 74: 1317-1321 (1985).
3. C.M. Ofner III and H. Schott, Swelling Studies of Gelatin I: Gelatin Without Additives, J. Pharm. Sci., 75: 790-796 (1986).
4. C.M. Ofner III and H. Schott, Swelling Studies of Gelatin II: Effect of Additives, J. Pharm. Sci., 76: 715-723 (1987).
5. M.M. Welz and C.M. Ofner III, Examination of Self-Crosslinked Gelatin as a Hydrogel for Controlled Release Systems, J. Pharm. Sci., 81: 85-90 (1992).
6. W.A. Bubnis and C.M. Ofner III, The Determination of ϵ -Amino Groups in Soluble and Poorly Soluble Proteinaceous Materials by a Spectrophotometric Method Using Trinitrobenzenesulfonic Acid, Anal. Biochem., 207: 129-133 (1992).
7. F.J. Nowaczyk Jr., R.L. Schnaare, C.M. Ofner III, R.J. Wigent, A Spectrophotometric Modification of the Winkler Method for Measurement of Dissolved Oxygen, Pharm. Res., 10: 305-308 (1993).
8. F.J. Nowaczyk, R.L. Schnaare, R. Wigent, C.M. Ofner III, E. Sugita, Charge Transfer Complexes of Iodine and Nonionic Surfactants: Interpretation and Use in the Winkler Reaction, J. Pharm. Biomed. Anal., 11: 835-842 (1993).
9. C.M. Ofner III and W.A. Bubnis, Chemical and Swelling Evaluations of Amino Group Crosslinking in Gelatin and Modified Gelatin Matrices, Pharm. Res., 13: 1821-1827 (1996).
10. R.G. Huang, J.B. Schwartz, C.M. Ofner III, Microencapsulation of Chlorpheniramine Maleate-Resin Particles with Crosslinked Chitosan for Sustained Release, Pharm. Dev. Tech., 4: 107-115 (1999).
11. B.J. Bowman and C.M. Ofner III, Characterization and In Vitro Methotrexate Release from Methotrexate/Gelatin Conjugates of Opposite Conjugate Bond Polarities, Pharm. Res., 17(10):1309-1315 (2000).
12. Kosasih, B.J. Bowman, R.J. Wigent, C.M. Ofner III, Characterization and In Vitro Methotrexate Release from Gelatin/Methotrexate formed Using Different Preparation Variables, Int. J. Pharm., 204:81-89 (2000).
13. C.M. Ofner III, Y.E. Zhang, V.C. Jobeck, B.J. Bowman, Crosslinking Studies in Gelatin Capsules Treated with Formaldehyde and in Capsules Exposed to Elevated Temperature and Humidity, J. Pharm. Sci., 90(1):79-87 (2001).

14. J.W. Mwangi and CM Ofner III, Crosslinked Gelatin Matrices: Release of a Random Coil Macromolecular Solute, Int. J. Pharm. 278:319-327 (2004)
15. C.M. Ofner III, K. Pica, B.J. Bowman, C.S Chen, Growth Inhibition, Degradation, and Methotrexate Release Studies of Gelatin/Methotrexate Conjugates, Int.J.Pharm., 308: 90-99 (2006)
16. K. Pica, R. Tchao, and C.M. Ofner III, Gelatin-Methotrexate conjugate Microspheres As a Potential Drug Delivery System, J. Pharm. Sci., 95(9): 1896-1908 (2006).
17. C.S. Chen and C.M. Ofner III, The Effect of Charge, Drug Load, and Molecular Weight of Gelatin-Methotrexate Conjugates on Cytotoxicity in HL60 Leukemia Cells, Pharm. Res., 26:338-345 (2009).
18. B. Shank and C.M. Ofner III, Determination of the Stability of Pergolide Mesylate Oral Liquid at Room Temperature, Int. J. Pharm. Comp., 13(3):254-258 (2009).
19. B. Shank and C.M. Ofner III, Multi-Temperature Stability and Degradation Characteristics of Pergolide Mesylate Oral Liquid, J. Pharm. Pract., 23(6): 570-574 (2010).
20. D.C. Wu and C.M. Ofner III, Adsorption and Degradation of Doxorubicin from Aqueous Solution in Polypropylene Containers, AAPS PharmSciTech, 14(1): 74-77 (2012). DOI: 10.1208/s12249-012-9885-1.
21. D.C. Wu, C.R. Cammarata, H.J. Park, B. Rhodes, C.M. Ofner III, Preparation, Drug Release, and Cell Growth Inhibition of a Gelatin Doxorubicin Conjugate. Pharm. Res., 30(8):2087-2096 (2013). DOI: 10.1007/s11095-013-1065-9.
22. C.R. Cammarata, M.E. Hughes and C.M. Ofner III, Carbodiimide Induced Crosslinking, Ligand Addition, and Degradation in Gelatin, Mol. Pharmaceutics, (2015) 12, 783-793.
23. M.M. Alvi, R.E. Nicoletto, B.A. Eshmawi, H.K. Kim, C.R. Cammarata, C.M. Ofner III, Intracellular trafficking and cytotoxicity of a gelatin-doxorubicin conjugate in two breast cancer cell lines, J. Drug Target., (2020) 28(5):487-499. DOI:10.1080/1061186X.2019.1679820
24. R.E. Nicoletto and C.M. Ofner III, Cytotoxic mechanisms of doxorubicin at clinically relevant concentrations in breast cancer cells. Cancer Chemotherapy and Pharmacology, vol 89, 285-311 (2022), <https://doi.org/10.1007/s00280-022-04400-y>
25. R.E. Nicoletto and C.M. Ofner III, Lysosome-mediated cytotoxicity in breast cancer subtypes treated with doxorubicin, *submitted*.

Book Chapters

1. C.M. Ofner III, R.L. Schnaare, J.B. Schwartz, "Formulation of Oral Aqueous Suspensions", In Pharmaceutical Dosage Forms: Disperse Systems, Vol. 2, Chapter 6; H. Lieberman, G. Banker, M. Rieger, Eds.; Marcel Dekker, New York, 1989.
2. C.M. Ofner III, R.L. Schnaare, J.B. Schwartz, "Formulation of Oral Suspensions for Reconstitution", In Pharmaceutical Dosage Forms: Disperse Systems, Vol. 2 Chapter 8; H. Lieberman, G. Banker, M. Rieger, Eds.; Marcel Dekker, New York, 1989.
3. C.M. Ofner III, R.L. Schnaare, J.B. Schwartz, "Oral Aqueous Suspensions", In Pharmaceutical Dosage Forms: Disperse Systems, Vol. 2, Second Edition, Chapter 4; H. Lieberman, G. Banker, M. Rieger, Eds.; Marcel Dekker, New York, 1996.
4. C.M. Ofner III, R.L. Schnaare, J.B. Schwartz, "Reconstitutable Oral Suspensions", In Pharmaceutical Dosage Forms: Disperse Systems, Vol. 2, Second Edition, Chapter 6; H. Lieberman, G. Banker, M. Rieger, Eds.; Marcel Dekker, New York, 1996.
5. C.M. Ofner III and R.L. Schnaare, "Suspensions" In FMC Problem Solver & Reference Manual, FMC Corporation, Philadelphia, 2000.
6. P. Gupta, C.M. Ofner III, and R.L. Schnaare, "Emulsions" In FMC Problem Solver & Reference Manual, FMC Corporation, Philadelphia, 2000.
7. C.M. Ofner III and C. Klech-Gelotte, "Gels and Jellies", In Encyclopedia of Pharmaceutical Technology, Second Edition; J. Swarbrick and J. Boylan, Eds.; Marcell Dekker, New York, on line 2001, hardcopy 2002.
8. B.J. Bowman and C.M. Ofner III, "Hard Gelatin Capsules", In Protein-based Films and Coatings, Ed., A. Gennadios, CRC Press, Boca Raton, 2002.
9. Bill J. Bowman C.M. Ofner III, and H. Schott, Colloidal Dispersions, in Remington: The Science and Practice of Pharmacy, Ed. R. Hendrickson, 21st Ed., Lippincott, Williams, and Wilkins, Philadelphia, 2005.
10. Bill J. Bowman C.M. Ofner III, H. Schott and Yvonne Perrie, Colloidal Dispersions, in Remington: The Science and Practice of Pharmacy, Ed. L.V. Allen, 22nd Ed., Pharmaceutical Press, Philadelphia, 2013.

Proceedings/Research Abstracts (Published, with Poster Presentation)

1. C.M. Ofner III, V.C. Jobeck, M.M. Welz, The Effect of Moisture Content on Thermal Transitions of Gelatin Granules, Pharm. Res., 5: S-86 (1988) abstract #PD853.
2. C.M. Ofner III and S. Koppenol, The Effect of Gelatin on Dilute Aqueous Magnetite Dispersions as Studied by Dynamic Light Scattering., Pharm. Res., 6: S-120 (1989) abstract #PD-976.
3. M.M. Welz and C.M. Ofner III, Evaluation of a Novel Method of Crosslinking Gelatin,

- Pharm. Res., 6: S176 (1989) abstract #PD1199.
4. M.M. Welz and C.M. Ofner III, Examination of Self-Crosslinked Gelatin as a Hydrogel for Controlled Release, Pharm. Res., 7: S-159 (1990) abstract #PDD7191.
 5. C.M. Ofner III and L.A. Passio, Examination of Self-Crosslinked Gelatin as a Hydrogel for Controlled Release II: Effect of Crosslinking, Pharm. Res., 7: S-159 (1990) abstract #PDD-7192.
 6. W.A. Bubnis and C.M. Ofner III, Investigation of the Mechanism of Heat Crosslinking in a Proteinaceous Material, Pharm. Res., 8: S-186 (1991) abstract #PDD-7237.
 7. L.A. Passio and C.M. Ofner III, Examination of Self-Crosslinked Gelatin as a Hydrogel for Controlled Release III: Effect of Drug Concentration, Pharm. Res., 8: S-189 (1991) abstract #PDD-7250.
 8. W.A. Bubnis and C.M. Ofner III, Evaluation of Condensation Crosslinking During Dehydration of Gelatin at Elevated and Room Temperatures, Pharm. Res., 9: S-184 (1992) #PDD-7061.
 9. F.J. Nowaczyk Jr., R.L. Schnaare, C.M. Ofner III, R.J. Wigent, A Spectrophotometric Modification of the Winkler Method for Oxygen Measurement in Aqueous Solutions, Pharm. Res., 9: S-46 (1992) #APQ-1141.
 10. G.W. Stagliano, D.E. Kauffman, A. Biczko, G. Caldero Linhoff, C.M. Ofner III, Sustained Release of Methotrexate from Gelatin Microspheres, Pharm. Res., 10: S-221 (1993) #PDD-7187.
 11. W.A. Bubnis and C.M. Ofner III, Enhancement of Amino Group Crosslinking Sites and Estimation of Crosslinking Extent in Gelatin, Pharm. Res., 10: S-273 (1993) #PDD 7395.
 12. S.D. Stockl, W.A. Bubnis, C.M. Ofner III, A Comparison of Heat Dehydration Crosslinking in Gelatin and Collagen, Pharm. Res., 10: S-273 (1993) #PDD 7396.
 13. M.S. Kim and C.M. Ofner III, Assay Development for Methotrexate/Gelatin Microspheres: Concurrent Determinations of Released Methotrexate, Eroded Gelatin Matrix, and Remaining Quantities of Each, Pharm. Res., 11: S-231 (1994) #PDD-7227.
 14. W.A. Bubnis and C.M. Ofner III, Evaluation of Dextran Release from Crosslinked Gelatin and Modified Gelatin Matrices, Pharm. Res., 11: S-305 (1994) #PDD-7523.
 15. W.A. Bubnis and C.M. Ofner III, Semi-Quantitative and Quantitative Determinations of the Extent of Amino Group Crosslinking in Gelatin and Modified Gelatin, Pharm. Res., 11: S-161 (1994) #PT-6123.
 16. W.A. Bubnis, S.D. Stockl, and C.M. Ofner III, High Temperature Studies on Gelatin and Collagen: Determining the Presence and Extent of Amino Group Participation in Covalent Crosslinks, Pharm. Res., 11: S-147 (1994) #PT-6065.

17. J.W. Mwangi and C.M. Ofner III, Modulation and Evaluation of Degree of Crosslinking in Gelatin Hydrogel Matrices Using a Water Soluble Carbodiimide, Pharm. Res., 12: S-212 (1995) #PDD-7078.
18. M.S. Kim, C.K. Lau, R. McGroarty, Y. Kim, and C.M. Ofner III, Delivery of Methotrexate from Biodegradable Microspheres II: Microspheres Containing Different Methotrexate Concentrations, Pharm. Res., 12: S-258 (1995) #PDD-7261.
19. R.G. Huang, C.M. Ofner III, and J.B. Schwartz, Fluorometric Assay for Determination of Cross-Linking in Chitosan, Pharm. Res., 12: S-207 (1995) #PDD-7058.
20. J.W. Mwangi and C.M. Ofner III, Method Development for Determination of Molecular Weight, Polydispersity and Concentration of Dextran and Ficoll Using High Performance Size Exclusion Chromatography, Pharm. Res., 13: S-276 (1996) #PDD-7174.
21. C.M. Ofner III and W.A. Bubnis, Chemical and Swelling Evaluations of Amino Group Crosslinking in Gelatin and Modified Gelatin Matrices, Pharm. Res., 13: S-275 (1996) #PDD-7170.
22. Kosasih and C.M. Ofner III, Evaluation of In Vitro Release of Methotrexate from Methotrexate-Gelatin Conjugates, Pharm. Res., 13: S-301 (1996) #PDD-7273.
23. J.W. Mwangi and C.M. Ofner III, Elimination of Absorbance Variation as a Function of Time by Sodium Azide in the Colorimetric Assay of Polysaccharides, Pharm. Res., 14: S-493 (1997) #3094.
24. B.J. Bowman, G.W. Stagliano, Kosasih, and C.M. Ofner III, Comparison of Methotrexate Release from Soluble Conjugates and Microspheres Prepared from the Conjugates, Pharm. Res., 14: S-275 (1997) #2193.
25. B.J. Bowman and C.M. Ofner III, Effect of Different Reaction Variables on the Conjugation of Methotrexate to Gelatin via Specific Functional Groups, PharmSci, 1: S-581 (1998) #3762.
26. J. Huang and C.M. Ofner III, An In Vitro Model for Degradation of Gelatin Microspheres in Aqueous Media, PharmSci, 1(4):S-212 (1999) #2462.
27. C.S. Chen, I. Freeny, B.J. Bowman, C.M. Ofner III, Blocking and Deblocking of Gelatin Amino Groups for the Preparation of Gelatin/Methotrexate Conjugates, PharmSci, 1(4): S-147(1999) #3430.
28. B.J. Bowman and C.M. Ofner III, Characterization and Evaluation of Gelatin/Methotrexate Conjugates Having Opposite Conjugate Bond Polarities, PharmSci, 1(4): S-477 (1999) #3415.
29. B.J. Bowman and C.M. Ofner III, Cellular Growth Inhibition of Leukemia Cells by

- Gelatin/Methotrexate Conjugates Prepared by Site-specific Conjugation, PharmSci, 2(4): 2139 (2000).
30. B.J. Bowman and C.M. Ofner III, Effect of Drug Load upon Leukemia Cell Growth Inhibition by Gelatin/Methotrexate Conjugates, Journal of the American Pharmaceutical Association (JAPHA), 41(2):331-332 (2001).
 31. C.S. Chen and C. M. Ofner III, Evaluation of Gelatin Uptake in HL60 Leukemia Cells by Fluorescence Microscopy, PharmSci, 3(3):W4343 (2001).
 32. K. Pica and C. M. Ofner III, A Method to Study Enzymatic Degradation of Gelatin by Cathepsin B, PharmSci, 3(3):W4760 (2001).
 33. C.J. Gorka, H. Foster, J Crisafulli, and C.M. Ofner III, Uptake by Leukemia HL-60 Cells using Increasing Concentrations of Methotrexate, Journal of The American Pharmaceutical Association (JAPHA), 42(2): 309(2002).
 34. C.M. Ofner III, CS Chen, K Pica, Evaluation of Uptake of High Molecular Weight Methotrexate/Gelatin Conjugates in HL60 Leukemia Cells, Journal of The American Pharmaceutical Association (JAPHA), 42(2):309 (2002).
 35. C.S. Chen and C.M. Ofner III, Absence of Charge Effect On the Cytotoxicity of Gelatin-Methotrexate Conjugates in HL60 Leukemia Cells, AAPSPHarmSci, 4(4): Abstract M1052 (2002).
 36. K. Pica and C.M. Ofner III, The Effect of Molar Ratio on the Lysosomal Enzymatic Degradation and Drug Release from Gelatin-Methotrexate Conjugates, AAPSPHarmSci, 4(4): Abstract M1049 (2002).
 37. K. Pica and C.M. Ofner III, Cathepsin B Degradation and Methotrexate Release from Gelatin-Methotrexate Conjugates, AAPSPHarmSci(2003).
 38. C.S. Chen and C.M. Ofner III, The Effect of Molecular Weight and Drug Molar Ratio of Gelatin-Methotrexate Conjugates on Cytotoxicity in HL60 Leukemia Cell, AAPSPHarmSci(2003).
 39. C.S. Chen and C.M. Ofner III, The Effect of Charge and Molecular Weight of Gelatin-Methotrexate conjugates on Cytotoxicity in HL60 Leukemia Cell, AAPSPHarmSci, 6(4): Abstract T2080 (2004)
 40. K. Pica, M. Bruist, R.Tchao, and C.M. OfnerIII, The Preparation and Characterization of Gelatin-Methotrexate Conjugated Microspheres, AAPSPHarmSci, 6(4): Abstract W4037 (2004).
 41. J. Huang, C.M. Ofner III, R. Wigent, C. Bentzley, and J. Schwartz, Nifedipine Solid Dispersion in Microparticles of Ethylcellulose and Eudragit RL Polymer Blend for Drug

- Controlled Deliver. I. Effects of Matrix Composition on Microparticle Properties, AAPS PharmSci, 6(4): Abstract T2123 (2004)
42. A. Vaidya, C.M. Ofner III, J.B Schwartz, Trypsin Inhibition by Carbopol: Protein-Polymer Binding as a Mechanism, The aaps Journal, 7(52): Abstract T2247 (2005)
 43. K. Pica, R.Tchao, C.Ofner III, The Role of Glutaraldehyde in Methotrexate Binding and Shell Structure of Crosslinked Gelatin Microspheres, The aaps Journal, 7(52): Abstract W5031 (2005).
 44. L. Le, J. Mehta, C-S Chen, C.M. Ofner III, A Preliminary Evaluation of Long Acting Effects of a Gelatin-Methotrexate Conjugate on HL60 Leukemia Cells, The aaps Journal, 7(52): Abstract W5030 (2005)
 45. J. Mehta, M. Chung, K. Pica, C.M. Ofner III, Preliminary Evaluation of a Gelatin-Methotrexate Conjugate Effectiveness in Methotrexate Resistant HL60 Leukemia Cells, The aaps Journal, 8(52): (2006)
 46. B. Rhodes, C.M. Ofner III, Preliminary Synthesis and Characterization of a Novel Gelatin-doxorubicin Conjugate with Acid Sensitive Release, The aaps Journal, 9(S2): Abstract T3233 (2007).
 47. R. Desai, N. Patel, C.S. Chen, C.M. Ofner III, Cytostatic and Cytocidal Effects of a Gelatin-Methothrexate Conjugate and Free Methotraxate on HL60 Leukemia Cells, , The aaps Journal, 9(S2): Abstract T3366 (2007).
 48. D.C. Wu, G. Williams, M. Tasheva, B. Rhodes, C.M. Ofner III, Preliminary Evaluation of pH Controlled Drug Release from a Gelatin – Doxorubicin Conjugate, The aaps Journal, 11(S2): Abstract #3409 (2009).
 49. D.C. Wu, C.M. Ofner III, Experimental Design, Drug Assay, and Early Time Release from a Gelatin-Doxorubicin Conjugate, The aaps Journal, 12(S2): Abstract SU9133 (2010).
 50. C.R. Cammarata, D.C. Wu, C.M. Ofner III, Developing a Spectrophotric Assay for Hydrazide Group Determination as an Evaluation of a Gelatin Conjugate Precursor, The aaps Journal, 13(S2): Abstract #R6004 (2011).
 51. C.R. Cammarata, D.C. Wu, C.M. Ofner III, Cytotoxic Efficacy of a Gelatin-Doxorubicin Conjugate on Prostate Cancer Cells, The aaps Journal, 14(S2): Abstract #W4014 (2012),
 52. C.R. Cammarata and C.M. Ofner III, Understanding the Role of Carbodiimide Addition of Amino-Containing Ligands in the Synthesis of a Gelatin-Doxorubicin Conjugate, American Association of Pharmaceutical Scientists (AAPS), annual meeting, San Antonio, TX, November 11, 2013, #AM-13-2551.

53. C.R. Cammarata and C.M. Ofner III, Exploring the Role N-(3-dimethylaminopropyl)-N-ethylcarbodiimide (EDC) Has in the Degradation of Gelatin., American Association of Pharmaceutical Scientists (AAPS), annual meeting, San Diego, CA, November 5, 2014, #AM-14-3043.
54. M. Singh, M. Alvi, B. Eshmawi, C.M. Ofner III, Negligible Doxorubicin Cleavage from a Modified Gelatin-Doxorubicin Conjugate for Breast Cancer Cell Uptake Studies, American Association of Pharmaceutical Scientists (AAPS), annual meeting, Denver, CO, November 15, 2016, #OO2T110.
55. M. Alvi, B. Eshmawi, Hyun Kim, C.M. Ofner III, Preparation and Characterization of a High Molecular Weight Gelatin-Doxorubicin Conjugate for Uptake into Breast Cancer Cells, American Association of Pharmaceutical Scientists (AAPS), annual meeting, Denver, CO, November 14, 2016, #16MO400.
56. B. Eshmawi, M. Alvi, A. Grim, C.M. Ofner III, Lysosomal Targeting and Doxorubicin Release from a Gelatin-Doxorubicin Conjugate in MCF-7 Breast Cancer Cells, American Association of Pharmaceutical Scientists (AAPS), annual meeting, Denver, CO, November 14, 2016, #15MO430.
57. M. Alvi, C.M. Ofner III, The intracellular distribution of doxorubicin and a gelatin-doxorubicin conjugate for tumor targeting in a triple negative breast cancer cell line, American Association of Pharmaceutical Scientists (AAPS), annual meeting, San Diego, CA, November 14, 2017, #T3045.
58. M. Alvi, B. Eshmawi, R. Nicoletto, H.K. Kim, C. Cammarata, C.M. Ofner III, Lysosomal Targeting from a Gelatin-Doxorubicin Conjugate Produces Evidence of Both Nuclear and Lysosomal Cytotoxicity Pathways in MCF-7 Breast Cancer Cells [abstract]. In: Proceedings of the American Association for Cancer Research Annual Meeting 2018; 2018 April 13-17. Chicago, IL. Philadelphia (PA): AACR; Cancer Res 2018; 78(13 Suppl):Abstract nr #4663.
59. M. Alvi, C.M. Ofner III, Evaluation Of A Gelatin-Doxorubicin Conjugate as an Agent of Lysosomal Membrane Permeabilization in Breast Cancer Cells, American Association of Pharmaceutical Scientists (AAPS), annual meeting, Washington, DC, November 5, 2018, abstract #503475.
60. B. Eshmawi, C.M. Ofner III, Quantification of the Nuclear Doxorubicin Uptake from a Lysosomal Targeting Gelatin-Doxorubicin Conjugate in MCF-7 Breast Cancer Cells, American Association of Pharmaceutical Scientists (AAPS), annual meeting, Washington, DC, November 5, 2018, abstract #541213.
61. R. Nicoletto, C.M. Ofner III, Evaluation of Intra-lysosomal Drug Release from a Gelatin-Doxorubicin Conjugate in MCF-7 Breast Cancer Cells, American Association of Pharmaceutical Scientists (AAPS), annual meeting, Washington, DC, November 5, 2018, abstract #541193.

62. M. Alvi, R. Nicoletto, B. Eshmawi, C.M. Ofner III. Lysosomal targeting of doxorubicin induces different membrane permeabilization and cytotoxicity in two breast cancer cell lines [abstract]. In: Proceedings of the American Association for Cancer Research Annual Meeting 2019; 2019 March 29-Apr 3; Atlanta, GA. Philadelphia (PA): AACR; Cancer Res 2019;79(13 Suppl): Abstract nr #2091.
63. M. Alvi, C.M. Ofner III, Induction of Apoptosis by Doxorubicin Conjugated to Gelatin and Comparison to Unconjugated Doxorubicin in Human Breast Cancer Cells. American Association of Pharmaceutical Scientists (AAPS), annual meeting, November 4, 2019, San Antonio, TX, abstract #W1230.
64. R.E. Nicoletto, M.M. Alvi, and C.M. Ofner III. Investigating the role of lysosome membrane permeabilization for doxorubicin cytotoxicity in breast cancer cells [abstract]. In: Proceedings of the 111th Annual Meeting of the American Association for Cancer Research; 2020 June 22-24. Philadelphia (PA): AACR; 2020. abstract #2954.
65. S. Kodipalli and C.M. Ofner III, Feasibility Studies for the Preparation of a Paclitaxel Hydrazide Derivative for Enhanced Solubility and Drug Delivery, American Association of Pharmaceutical Scientists (AAPS), virtual annual meeting, October 26, 2021, abstract #924524.
66. R. Nicoletto and CM. Ofner III, Investigating the roles of reactive oxygen species and lysosomes in the cytotoxicity of doxorubicin in breast cancer cells, virtual annual meeting, American Association for Cancer Research (AACR) April 9, 2021, abstract #LB103.
67. R. Nicoletto and CM. Ofner III, Investigating the role of p53 in doxorubicin-induced lysosome membrane permeabilization in breast cancer cells, annual meeting, American Association for Cancer Research (AACR) April 8-13, 2022, New Orleans, LA, e-poster abstract #5387.
68. R. Nicolette, R. Wilkes, CM Ofner III, Investigation of doxorubicin interference in flow cytometry measurements of apoptosis and necrosis, annual meeting, American Association for Cancer Research (AACR) April 17, 2023, Orlando, FL, abstract #2527.

PRESENTATIONS Invited Lectures

1. C.M. Ofner III, Shifts in the Apparent Ionization Constant of the Carboxylic Acid Groups of Gelatin, Philadelphia College of Pharmacy and Science, Department of Pharmaceutics, Philadelphia, PA, September 16, 1987.
2. C.M. Ofner III, Studies on Gelatin Interactions, Merrell Dow Research Institute, Indianapolis, IN, April 6, 1990.
3. C.M. Ofner III, New Drug Delivery Systems: Protein Matrices, Temple University School

- of Pharmacy, Philadelphia, PA, October 21, 1991
4. C.M. Ofner III, Factors Affecting the Crosslinking of Gelatin, Chase Pharmaceutical Co., Newark, NJ, May 5, 1992.
 5. C.M. Ofner III, Evaluation of the Condensation Mechanism of Heat Crosslinking in A Proteinaceous Delivery Matrix, Temple University School of Pharmacy, Philadelphia, PA, October 19, 1992.
 6. C.M. Ofner III, Preliminary Results on Methotrexate/Gelatin Conjugate Microspheres, Temple University School of Pharmacy, Philadelphia, PA, April 1, 1994.
 7. C.M. Ofner III, The role of Epsilon-Amino Groups in Crosslinking During Heat Dehydration of Gelatin and Collagen, Temple University School of Pharmacy, September, 30, 1994.
 8. W.A. Bubnis, S.D. Stockl, and C.M. Ofner III, High Temperature Studies on Gelatin and Collagen: Determining the Presence and Extent of Amino Group Participation in Covalent Crosslinks, Focus Group Podium Session on "Gelatin and Gelatin Capsules", American Association of Pharmaceutical Scientists (AAPS), San Diego, CA, November 8, 1994, #PT-6065.
 9. C.M. Ofner III, Technical Summary: Taste Masking in Pharmaceuticals, FMC Corporation, New Brunswick, NJ, May 16, 1995.
 10. C.M. Ofner III, Macromolecular Chemistry of Gelatin: Background, Crosslinking, and Characterization, Whitehall-Robins, Hammonton, NJ, May 17, 1995.
 11. C.M. Ofner III, Gelatin Crosslinking: Background and Characterization, Food and Drug Administration, Gelatin Capsule Working Group, Rockville, MD, May 23, 1995.
 12. C.M. Ofner III, Preliminary Results on Dissolution of Crosslinked Hard Gelatin Capsules, Food and Drug Administration, Center for Drug Evaluation and Research, Office of Clinical Pharmacology and Biopharmaceutics, Gelatin Capsule Working Group, Rockville, MD, June 12, 1996.
 13. C.M. Ofner III, Evaluation of Gelatin Capsule Crosslinking using Gelatin Dissolution and Chemical Assay, Food and Drug Administration, Center for Drug Evaluation and Research, Office of Clinical Pharmacology and Biopharmaceutics, Gelatin Capsule Working Group, Rockville, MD, December 18, 1996.
 14. C.M. Ofner III, Technical Summary of Poor In Vitro Dissolution of Gelatin Capsule and Coated Tablet Products Associated with Gelatin Crosslinking, McNeil Consumer Products, Fort Washington, PA, February 28, 1997.
 15. C.M. Ofner III, Gelatin Crosslinking, Stress, and Dissolution of Crosslinked Hard and Soft Gelatin Capsules – Summary, Food and Drug Administration, Center for Drug Evaluation and Research, office of clinical Pharmacology and Biopharmaceutics, Gelatin Capsule Working Group, Rockville, MD, October, 15, 1997.

16. C.M. Ofner III, Gelatin Crosslinking, Stress, and Dissolution of Crosslinked Hard and Soft Gelatin Capsules, in Hard and Soft Gelatin Capsules: Issues, Research and Outcome (invited podium), AAPS Annual Meeting, Boston, MA, November 5, 1997.
17. C.M. Ofner III, Thermodynamics of Colloids in Solution, Temple University School of Pharmacy, Philadelphia, PA, December 4, 1997.
18. C.M. Ofner III, Use of the Second Virial Coefficient in Models of Macromolecules in Solution, Temple University School of Pharmacy, Philadelphia, PA, December 11, 1997.
19. C.M. Ofner III, Poor Dissolution of Hard Gelatin Capsule Products: A Potential for Reduced Bioavailability? Philadelphia Pharmaceutical Forum (PPF), Frazer, PA, January 8, 1998.
20. C.M. Ofner III, Crosslinking and Dissolution of Gelatin Capsule Products, Whitehall-Robins, Richmond, VA, August, 1998.
21. C.M. Ofner III, Drug Delivery with Gelatin: A Methotrexate Anti-Cancer Conjugate, Research Discussion Group, University of the Sciences in Philadelphia, 10/21/99.
22. C.M. Ofner III, Methotrexate/Gelatin Conjugate Uptake in HL60 Leukemia Cells, USP Faculty Research Discussion Group, September 24, 2001.
23. C.M. Ofner III, Soluble Macromolecular Conjugates for Passive Tumor Targeting, Philadelphia Pharmaceutical Forum, North Wales, PA, January 11, 2007.
24. C.M. Ofner III, C.S. Chen, K. Pica, Macromolecular Conjugates for Passive Tumor Targeting: *In Vitro* Studies with a Gelatin-Methotrexate Conjugate, EHRlich II-2nd World Conference on Magic Bullets, Nurnberg, Germany, October 4, 2008.
25. C.M. Ofner III, Research Update on a Gelatin-Doxorubicin Conjugate Designed for Anti-Tumor Treatment, USciences Research Day, Philadelphia, PA, April 14, 2011.
26. C.M. Ofner III, Does the Widely Used Protein Carbodiimide Reagent EDC Induce Gelatin Degradation? USciences Department of Pharmaceutical Sciences, Philadelphia, PA, October 10, 2014.
27. C.M. Ofner III, Intracellular Delivery of Doxorubicin from a Biodegradable Conjugate Designed for Localized Treatment of Breast Cancer with Minimal Systemic Toxicities, Philadelphia College of Pharmacy Research Symposium, June 1, 2016.
28. C.M. Ofner III, Intracellular Trafficking of a Targeted Doxorubicin Delivery System in Breast Cancer Cells, Philadelphia College of Pharmacy Research Symposium, Philadelphia, PA, August 31, 2017.
29. C.M. Ofner III, M. Alvi, R. Nicoletto, B. Eshmawi, Lysosome Membrane Permeabilization

(LMP) and Cytotoxicity by a Gelatin-Doxorubicin Conjugate in Breast Cancer Cells, Polymers in Life Sciences Conference and Workshop, USciences, Philadelphia, PA, May 15, 2019.

30. C.M.Ofner III, Natural Polymer Conjugates for Cellular and Tumor Delivery, American Association of Pharmaceutical Scientists (AAPS) annual meeting, Philadelphia, October 19, 2021.

Posters (Abstracts and Presentations - Not Published)

1. M.M. Welz and C.M. Ofner III, Investigation of Gelatin Crosslinking by Elevated Temperature and Reduced Pressure. Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), Athens, GA, June 3, 1989.
2. S. Koppenol and C.M. Ofner III, The Effect of Gelatin on Dilute Aqueous Magnetite Dispersions as Studied by Dynamic Light Scattering. West Virginia University School of Pharmacy Undergraduate Research Seminar, Morgantown, WV, November 15, 1989.
3. H. Schott and C.M. Ofner III, Swelling Studies of Gelatin. 33rd International Union of Pure and Applied Chemistry (IUPAC) International Symposium on Macromolecules, Montreal, Canada, July 8, 1990.
4. L.A. Passio and C.M. Ofner III, The Effect of Crosslinking on Controlled Release from a Swellable Proteinaceous Matrix, West Virginia University School of Pharmacy Undergraduate Research Seminar, Morgantown, WV, November 13, 1990.
5. E. Younan, V.C. Jobeck, and C.M. Ofner III, The Effect of Moisture History on the Solid Structure of Gelatin, West Virginia University School of Pharmacy Undergraduate Research Seminar, Morgantown, WV, November 13, 1990.
6. L.A. Passio and C.M. Ofner III, The Effect of Crosslinking on Controlled Release from a Swellable Proteinaceous Matrix, Sigma Xi Undergraduate Research Symposium Philadelphia College of Pharmacy and Science, Philadelphia, PA, April 4, 1991.
7. W.A. Bubnis and C.M. Ofner III, Spectrophotometric Investigation for the Determination of Crosslinking in a Proteinaceous Material, Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), Pittsburgh, PA, May 31, 1991.
8. L.A. Passio and C.M. Ofner III, The Effect of Drug Concentration on Controlled Release from a Swellable Proteinaceous Matrix, West Virginia University School of Pharmacy Undergraduate Research Seminar, Morgantown, WV, October 30, 1991.
9. W.A. Bubnis and C.M. Ofner III, Enhancement of Amino Group Crosslinking Sites in Gelatin by Modification of Carboxylic Acid Functional Groups to Amino Groups, Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), Piscataway, NJ, June 6, 1993.

10. G. Stagliano, D. Kauffman, A. Biczó, G. Caldero, C. Ofner, Delivery of Methotrexate from Biodegradable Microspheres for Implantation, Sigma Xi Undergraduate Research Poster Session, Philadelphia College of Pharmacy and Science, Philadelphia, PA, April 14, 1993.
11. M.S. Kim and C.M. Ofner III, Assay Development for Methotrexate/Gelatin Microspheres: Concurrent Determination of Release Methotrexate, Eroded Gelatin Matrix, and Remaining Quantities of Each, West Virginia University School of Pharmacy Undergraduate Research Seminar, Morgantown, WV, October 18, 1993.
12. G.W. Stagliano, D.E. Kauffman, A. Biczó, C.M. Ofner III, Preparation and Evaluation of Unloaded Biodegradable Gelatin Microspheres, West Virginia University School of Pharmacy Undergraduate Research Seminar, Morgantown, WV, October 18, 1993.
13. D.E. Kauffman, G.W. Stagliano, A. Biczó, C.M. Ofner III, A 12 Day Evaluation of Methotrexate *in vitro* Release from Biodegradable Gelatin Microspheres, West Virginia University School of Pharmacy Undergraduate Research Seminar, Morgantown, WV, October 18, 1993.
14. G.W. Stagliano, D.E. Kauffman, M.S. Kim, C.M. Ofner III, Delivery of Methotrexate from Biodegradable Microspheres for Implantation, Philadelphia Pharmaceutical Forum (PPF), Student Poster Night, King of Prussia, PA, March 10, 1994.
15. S.D. Stockl, W.A. Bubnis, C.M. Ofner III, A Comparison of Heat Dehydration Crosslinking in Gelatin and Collagen, Philadelphia Pharmaceutical Forum (PPF), Student Poster Night, King of Prussia, PA, March 10, 1994.
16. W.A. Bubnis and C.M. Ofner III, Enhancement of Amino Group Crosslinking Sites and Estimation of Crosslinking Extent in Gelatin, Philadelphia Pharmaceutical Forum (PPF), Student Poster Night, King of Prussia, PA, March 10, 1994.
17. M.S. Kim and C.M. Ofner III, Assay Development for Methotrexate/Gelatin Microspheres: Concurrent Determination of Release Methotrexate, Eroded Gelatin Matrix, and Remaining Quantities of Each, Philadelphia Pharmaceutical Forum (PPF), Student Poster Night, King of Prussia, PA, March 10, 1994.
18. M.S. Kim and C.M. Ofner III, Assay Development for Methotrexate/Gelatin Microspheres: Concurrent Determinations of Released Methotrexate, Eroded Gelatin Matrix, and Remaining Quantities of Each, Sigma Xi Undergraduate Research Symposium, Philadelphia College of Pharmacy and Science, Philadelphia, PA, April 7, 1994.
19. S.D. Stockl, W.A. Bubnis, and C.M. Ofner III, A Comparison of Heat Dehydration in Gelatin and Collagen, Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), Baltimore, MD June 5, 1994.
20. M.S. Kim and C.M. Ofner III, Determination of Methotrexate and Gelatin in Methotrexate/Gelatin Microspheres using HPLC and BCA Protein Assays, West Virginia

University School of Pharmacy Undergraduate Research Seminar, Morgantown, WV, October 17, 1994.

21. R. McGroarty, M.S. Kim, C.K. Lau, Y. Kim, C.M. Ofner III, Delivery of Methotrexate from Biodegradable Microspheres II: Enhanced Accuracy from New Analytical Procedures, Philadelphia Pharmaceutical Forum, King of Prussia, PA, March 19,
22. C.K. Lau, R. McGroarty, M.S. Kim, Y. Kim, C.M. Ofner III, Delivery of Methotrexate from Biodegradable Microspheres II: Preparation of Microspheres Containing Different Methotrexate Concentrations, Sigma Xi Undergraduate Research Symposium, Philadelphia College of Pharmacy and Science, Philadelphia, PA, April 6, 1995.
23. J.W. Mwangi and C.M. Ofner III, Modulation and Evaluation of Degree of Crosslinking in Gelatin Hydrogel Matrices Using a Water Soluble Carbodiimide, Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), New York, NY, June 3, 1995.
24. Y. Chen and C.M. Ofner III, Evaluation of Possible DNA-Gelatin Crosslinking During Water Soluble Carbodiimide Induced Gelatin Self-Crosslinking, Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), New York, NY, June 3, 1995.
25. Kosasih and C.M. Ofner III, Conjugation of Methotrexate to Gelatin, Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), New York, NY, June 3, 1995.
26. Y. Kim, M.S. Kim, C.K. Lau, C.M. Ofner III, Delivery of Methotrexate from Biodegradable Microspheres II: Preparation of Microspheres Containing Different Methotrexate Concentrations, West Virginia University School of Pharmacy Undergraduate Research Seminar, Morgantown, WV, October 16, 1995.
27. Y. Kim, M. Daudu, J. Desai, G. Turkson, M. Kim, C. Lau, C. Okeke, C.M. Ofner III, Delivery of Methotrexate from Biodegradable Microspheres III: Evaluation of Changes in Microsphere Preparation by Size Distribution and Methotrexate Analysis, Sigma Xi Undergraduate Research Symposium, Philadelphia College of Pharmacy and Science, Philadelphia, PA, April 4, 1996.
28. R.G. Huang, C.M. Ofner III, and J.B. Schwartz, A Fluorometric Assay for Determination of Crosslinking in Chitosan, Philadelphia Pharmaceutical Forum (PPF), King of Prussia, PA, March 14, 1996.
29. J.W. Mwangi and C.M. Ofner III, Modulation and Evaluation of Degree of Crosslinking in Gelatin Hydrogel Matrices Using a Water Soluble Carbodiimide, Philadelphia Pharmaceutical Forum (PPF), King of Prussia, PA, March 14, 1996.
30. J. W. Mwangi and C.M. Ofner III, Method Development for Determination of Molecular

- Weight, Polydispersity and Concentration of Dextran and Ficoll Using HPLC, Philadelphia Pharmaceutical Forum (PPF), Student Poster Night, Plymouth Meeting, PA March 13, 1997.
31. G. Turkson, N. Shah, H.S. Kang, M. Daudu, J. Desai, Y. Kim, C.M. Ofner III, Biodegradable Microspheres for Delivery of MTX: Evaluation of a New Preparation Procedure, Sigma Xi, Undergraduate Research Symposium, PCPS, Phila., PA, April 10, 1997.
 32. G.W. Stagliano, Kosasih, B. Bowman, C.M. Ofner III, Characterization and In Vitro Release of Methotrexate from Methotrexate/Gelatin Microspheres Prepared from Conjugates, AAPS Eastern Regional Meeting, New Brunswick, N.J., June 9, 1997.
 33. J Huang and CM Ofner III, Evaluation of Turbidity as an Indicator of Gelatin Microsphere Degradation In Aqueous Media, Philadelphia Pharmaceutical Forum (PPF), Student Poster Night, Plymouth Meeting, PA, March 11, 1999.
 34. BJ Bowman and CM Ofner III, Conjugation of Methotrexate to Gelatin via Specific Functional Groups II: Production of the Opposite Polarity Conjugate, Philadelphia Pharmaceutical Forum (PPF), Student Poster Night, Plymouth Meeting, PA March 11, 1999.
 35. BJ Bowman and CM Ofner III, Characterization and In Vitro Release of Gelatin/Methotrexate Conjugates of Opposite Conjugate Bond Polarity, Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), Columbia, SC, May 30, 1999.
 36. J.Huang and CM Ofner III, Evaluation of Turbidity as an Indicator of Gelatin Microsphere Degradation In Aqueous Media, Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), Columbia, SC, May 30, 1999.
 37. J.S. Crisafulli, B.J. Bowman, C.M. Ofner III, The Preparation and Evaluation of a Polymer of Methotrexate Using UV Absorbance Methods, Sigma Xi Undergraduate Research Symposium, USP, Philadelphia, PA April 8, 1999.
 38. I.C. Freeny, B.J. Bowman, C.M Ofner III, Blocking of Gelatin Amino Groups for the Preparation of a Methotrexate Gelatin Conjugate, Sigma Xi Undergraduate Research Symposium, USP, Philadelphia, PA, April 8, 1999.
 39. IC Freeny and CM Ofner III, Blocking of Gelatin Amino Groups for the Preparation of a Methotrexate Gelatin Conjugate, Consortium for Research Excellence Eighth Annual Undergraduate Student Research Symposium, Rutgers University, April 19, 1999.
 40. B.J. Bowman and C.M. Ofner III, Characterization and Evaluation of Gelatin/Methotrexate Conjugates having Opposite Conjugate Bond Polarities, Philadelphia Pharmaceutical Forum (PPF), Student Poster Night, Plymouth Meeting, PA, March 9, 2000.

41. C.S. Chen, I.C. Freeny, B.J. Bowman, CM. Ofner III, Blocking and Deblocking of Gelatin Amino Groups for the Preparation of Gelatin/Methotrexate Conjugates, Philadelphia Pharmaceutical Forum (PPF), Student Poster Night, Plymouth Meeting, PA, March 9, 2000.
42. C. Gorka and C.M. Ofner III, Development of an Immunoassay to Determine Cellular Uptake of methotrexate-Gelatin Conjugates, Sigma Xi Undergraduate Research Symposium, USP, Philadelphia, PA, April 6, 2000.
43. C.S. Chen, I.C Freeny, B.J Bowman, CM Ofner III, Blocking and Deblocking of Gelatin Amino Groups for the Preparation of Gelatin/Methotrexate Conjugates, Annual meeting of Graduate Research Association of Students in Pharmaceutics (GRASP), Baltimore, MD, June 3, 2000.
44. B.J. Bowman and C.M. Ofner III, Cellular Growth Inhibition of Leukemia Cells by Gelatin/Methotrexate Conjugates Prepared by Site-specific Conjugation, Philadelphia Pharmaceutical Forum (PPF), Ambler, PA, March 8, 2001.
45. C.S. Chen and CM Ofner III, Evaluation of Gelatin Conjugate Hydrolysis to Release Methotrexate in an Extracellular Environment, Philadelphia Pharmaceutical Forum (PPF), Ambler, PA, March 8, 2001.
46. C.J. Gorka, J Crisafulli, and C.M. Ofner III, Methotrexate Uptake by Leukemia HL-60 Cells, Sigma Xi Undergraduate Research Symposium, USP Chapter, Philadelphia, PA, April 5, 2001.
47. C.S. Chen and C. M. Ofner III, Evaluation of Gelatin Uptake in HL60 Leukemia Cells by Fluorescence Microscopy, Philadelphia Pharmaceutical Forum, Ambler, PA, March 14, 2002.
48. K. Pica and C.M. Ofner III, A Method to Study Enzymatic Degradation of Gelatin by Cathepsin B, Philadelphia Pharmaceutical Forum, Ambler, PA, March 14, 2002.
50. C.J. Gorka, H Foster, J Crisafulli, and C.M. Ofner III, Uptake by Leukemia HL-60 Cells using Increasing Concentrations of Methotrexate, Sigma Xi Undergraduate Research Symposium, USP Chapter, Philadelphia, PA, April 4, 2002.
51. K. Pica and C.M. Ofner III, The Effect of Molar Ratio on the Lysosomal Enzymatic Degradation and Drug Release from Gelatin-Methotrexate Conjugates, Philadelphia Pharmaceutical Forum, Fort Washington, PA, March 13, 2003.
52. C.S. Chen and C.M. Ofner III, Absence of Charge Effect on the Cytotoxicity of Gelatin-MTX Conjugates in HL60 Leukemia Cells, Philadelphia Pharmaceutical Forum, Fort Washington, PA, March 13, 2003.

53. K. Pica and C.M. Ofner III, The Effect of Molar Ratio on the Lysosomal Enzymatic Degradation and Drug Release from Gelatin-Methotrexate Conjugates, USP Scholarly Day, University of the Sciences in Philadelphia, Philadelphia, PA, April 10, 2003.
54. C.S. Chen and C.M. Ofner III, Absence of Charge Effect on the Cytotoxicity of Gelatin-MTX Conjugates in HL60 Leukemia Cells, USP Scholarly Day, University of the Sciences in Philadelphia, Philadelphia, PA, April 10, 2003.
55. C.S. Chen and C.M. Ofner III, The Effect of Molecular Weight and Drug Molar Ratio of Gelatin-Methotrexate Conjugates on Cytotoxicity in HL60 Leukemia Cells, Philadelphia Pharmaceutical Forum (PPF), Ambler, PA, March 11, 2004.
56. K. Pica and C.M. Ofner III, Cathepsin B Degradation and Methotrexate Release from Gelatin-Methotrexate Conjugates, Philadelphia Pharmaceutical Forum (PPF), Ambler, PA, March 11, 2004.
57. C.S. Chen and C.M. Ofner III, The Effect of Molecular Weight and Drug Molar Ratio of Gelatin-Methotrexate Conjugates on Cytotoxicity in HL60 Leukemia Cells, USP Scholarly Day, Philadelphia, PA, April 8, 2004.
58. K. Pica and C.M. Ofner III, Cathepsin B Degradation and Methotrexate Release from Gelatin-Methotrexate Conjugates, USP Scholarly Day, Philadelphia, PA, April 8, 2004.
59. Lynda Le, Chao-Sheng Chen, and C.M. Ofner III, Preliminary Evaluation of Cytotoxicity of a Gelatin-Methotrexate Conjugate on Ovarian Carcinoma Cells, USP Scholarly Day, Philadelphia, PA, April 8, 2004.
60. C.S. Chen and C.M. Ofner III, The Effect of Charge and Molecular Weight of Gelatin-Methotrexate Conjugates on Cytotoxicity in HL 60 Leukemia Cells, Philadelphia Pharmaceutical Forum (PPF), Ambler, PA, March 10, 2005.
61. K. Pica, M. Bruist, R. Tchao, and C.M. Ofner III, The Preparation and Characterization of Gelatin-Methotrexate Cojugated Microspheres, Philadelphia Pharmaceutical Form (PPF), Ambler, PA, March 10, 2005.
62. C.S. Chen and C.M. Ofner III, The Effect of Charge and Molecular Weight of Gelatin-Methotrexate Conjugates on Cytotoxicity in HL60 Leukemia Cells, USP Scholarly Day, Philadelphia, PA, April 21, 2005.
63. K. Pica, M. Bruist, R. Tchao, and C.M. Ofner III, The Preparation and Characterization of Gelatin-Methotrexate Conjugated Microspheres, USP Scholarly Day, Philadelphia, PA, April 21, 2005.
64. L. Le, J. Mehta, C.S. Chen, C.M. Ofner III, Long Acting Effects of Methotrexate and Gelatin-Methotrexate Conjugate on HL60 Leukemia Cells, USP Scholarly Day, Philadelphia, PA, April 21, 2005.

65. K. Mehta, S. Solotky, C.M. Ofner III, Measuring the Enzymatic Activity of Cathepsin B, USP Scholarly Day, Philadelphia, PA, April 21, 2005.
66. L. Le, J. Mehta, C-S Chen, C.M. Ofner III, A Preliminary Evaluation of Long Acting Effects of a Gelatin-Methotrexate Conjugate on HL60 Leukemia Cells, Philadelphia Pharmaceutical Forum (PPF), Ambler, PA, March 9, 2006.
67. A. Vaidya, C.M. Ofner III, J.B. Schwartz, Trypsin Inhibition by Carbopol: Protein-Polymer Binding of a Mechanism, Philadelphia Pharmaceutical Forum (PPF), Ambler, PA, March 9, 2006.
68. J. Mehta, M. Chung, K. Pica, C.M. Ofner III, Development and Preliminary Characterization of Methotrexate Resistant HL-60 Leukemia Cells, USP Scholarly Day, Poster #63, Philadelphia, PA, April 20, 2006.
69. A Vaidya, C.M. Ofner III, JB Schwartz, Trypsin Inhibition by Carbopol: Protein-Polymer Binding as a Mechanism, USP Scholarly Day, Poster #69, Philadelphia, PA, April 20, 2006
70. N. Patel, R. Desai, J. Cook, C.M. Ofner III, Evaluation of the Cytostatic and Cytotoxic Effects of Methotrexate on HL60 Leukemia Cells, USP Scholarly Day, Poster # 64, Philadelphia, PA, April 19, 2007.
71. B. Shank, C.M. Ofner III, Determination of the Stability of Pergolide Mesylate in an Aqueous Suspension, USP Scholarly Day, Poster #65, Philadelphia, PA, April 19, 2007.
72. C. Lynch, M. Tasheva, D. Wu, C.M. Ofner III, Assessment of Cytotoxicity from High Concentrations of Methotrexate in EL-4 Lymphoma Cells, USP Scholarly Day, Poster #69, Philadelphia, PA, April 24, 2008.
73. B. Shank and C.M. Ofner III, Determination of the Stability of Pergolide Mesylate Oral Liquid at Room Temperature, USP Scholarly Day, Poster #68, Philadelphia, PA, April 24, 2008.
74. B. Shank and C.M. Ofner III, Determination of the Stability of Pergolide Mesylate Oral Liquid at Room Temperature, St. Joseph's University Sigma Xi Research Symposium, Philadelphia, PA, April 18, 2008.
75. M. Tasheva, G. Williams, B. Rhodes, D. Wu, and C.M. Ofner III, Preparation of a Gelatin-Doxorubicin Conjugate, USP Research Day, Poster #70, Philadelphia, PA, April 2, 2009.
76. H.J. Park, L. Rampersaud, D. Wu, and C.M. Ofner III, Determination of Drug Content in a Gelatin-Doxorubicin Conjugate, USP Research Day, Poster #71, Philadelphia, PA, April 2, 2009.

77. H.J. Park, C.M. Ofner III, Attempts to Develop a Dual Wavelength Assay for Determination of Both Carrier and Drug in a Gelatin-Doxorubicin Conjugate, USP Research Day, Poster #73, Philadelphia, PA, April 8, 2010.
78. G. Williams, H.J. Park, C.M. Ofner III, Preparation of a Gelatin-Doxorubicin Conjugate II, USP Research Day, Poster #74, Philadelphia, PA, April 8, 2010.
79. D.C. Wu, H.J. Park, C.M. Ofner III, Preliminary Evaluation of PH Controlled Drug Release and Loss for a Gelatin-Doxorubicin Conjugate, USP Research Day, Poster #88, Philadelphia, PA, April 8, 2010.
80. C. Cammarata, G. Williams, C.M. Ofner III, Efficiency of Addition of a Glycine-Glycine Spacer to Gelatin as a Step in Preparing a Doxorubicin Conjugate, USP Research Day, Poster #89, Philadelphia, PA, April 8, 2010.
81. M.E. Hughes, C.R. Cammarata, C.M. Ofner III, Short Term Exposure of Doxorubicin on PC3 Cell Proliferation, USciences Research Day, Poster #98, Philadelphia, PA, April 14, 2011.
82. J.M. Koval, J.C. Patel, C.R. Cammarata C.M. Ofner III, Cytotoxicity of Doxorubicin on PC3 Cells, USciences Research Day, Poster #99, Philadelphia, PA, April 14, 2011.
83. R. Shah, H.J. Park, B. Rhodes, C.M. Ofner III, Fractionation of Gelatin by Size Exclusion Chromatography, USciences Research Day, Poster #100, Philadelphia, PA, April 14, 2011.
84. S.W. Ahn, D. Wu, C.M. Ofner III, Experiments to Identify a Precipitate From Preparation of a Gelatin-Doxorubicin Conjugate, USciences Research Day, Poster #101, Philadelphia, PA, April 14, 2011.
85. D.C. Wu, C.M. Ofner III, Building a Gelatin-Doxorubicin Conjugate: Addition of a Dipeptide Spacer to the Gelatin Carrier, USciences Research Day, Poster #105, Philadelphia, PA, April 14, 2011.
86. C.R. Cammarata, C.M. Ofner III, Developing a Spectrophotometric Assay for Measuring Hydrazide Groups on a Gelatin Conjugate Precursor, USciences Research Day, Poster #106, Philadelphia, PA, April 14, 2011.
87. H.J. Park, B. Rhodes, C. Cammarata, C.M. Ofner III, Gelatin Fractionation by Ethanol Precipitation, USciences Research Day, Poster #107, Philadelphia, PA, April 14, 2011.
88. C.R. Cammarata, C.M. Ofner III, Cytotoxic Efficacy of a Gelatin-Doxorubicin Conjugate on Prostate Cancer Cells, USciences Research Day, Philadelphia, PA, April 12, 2012.
89. J. Koval, J. Patel, C.R. Cammarata, C.M. Ofner III, Does the Presence of Antibiotic in Growth Medium Affect Cytotoxicity of Doxorubicin in Cell Culture Studies?, USciences Research Day, Philadelphia, PA, April 12, 2012.

90. R. Shah, J. Krysiak, C.R. Cammarata, C.M. Ofner III, Protein Performance Assay to Standardize Size Exclusion Chromatography Column for Gelatin Fractionation, USciences Research Day, Philadelphia, PA, April 12, 2012.
91. M. Hughes, C.R. Cammarata, C.M. Ofner III, Possible Degradation of Gelatin during Prolonged Experimentation, USciences Research Day, Philadelphia, PA, April 12, 2012.
92. Hughes ME, Ofner III CM, Inducement and Measurement of Crosslinking in Type IV Collagen, USciences 2013 Research Day, April 18, poster 108.
93. Shah, RB, Kim HK, Ofner III CM, Evaluation and Comparisons of Modified BCA Assay Methodologies for Gelatin, USciences 2013 Research Day, April 18, poster 107.
94. Cammarata CR, Wu DC, Rhodes, BT, Ofner III, CM, Improved Synthesis and Separation of a Gelatin-Doxorubicin Conjugate, USciences 2013 Research Day, April 18, poster 123.
96. Lombardo J, Samudralwar R., Ofner III, CM, Development of a Method to Evaluate Dialysis of a Low Molecular Weight Solute in Water, 2013 Research Day, April 18, poster 106.
97. Cammarata CR, Wu, DC, Ofner III, CM, Developing a Spectrophotometric Assay for Hydrazide Group Determination as an Evaluation of a Gelatin Conjugate Precursor, Philadelphia Pharmaceutical Forum, Philadelphia, PA, March 14, 2013.
98. Samudralwar R, Patel M, Kim HK, Ofner III CM, Assesing EDC Induced Crosslinking in Gelatin to Explore Conditions to Synthesize a Gelatin Drug Delivery System, USciences 2014 Research Day, April 10, poster 124.
99. Cammarata CR and C.M. II CM, Understanding the Role of Carbodiimide Addition of Amino-Containing Ligands in the Synthesis of a Gelatin-Doxorubicin Conjugate, USciences 2014 Research Day, April 10, poster 130.
100. Kim HK, Patel K and CM Ofner III, Fractionation and Characterization of Gelatin for Gelatin-Doxorubicin Conjugates, USciences Research Day, April 9, 2015, Poster 80.
101. M. Alvi and C.M. Ofner III, Development of a protein assay for determination of gelatin in a gelatin-doxorubicin conjugate, USciences Research Day, April 17, 2016.
102. M. Singh and C.M. Ofner III, Measurement of Doxorubicin Cleavage from a Gelatin Doxorubicin Conjugate and a Conjugate Derivative, USciences Research Day, April 17, 2016.
103. A.T. Grim and C.M. Ofner III, The Effect of Drug Incubation Times on the Detection of Doxorubicin within Breast Cancer Cells through Flow Cytometry, USciences Research Day, April 17, 2016.
104. B. Eshmawi and C.M. Ofner III, Doxorubicin Uptake in MCF7 Breast Cancer Cells, USciences, Research Day, April 17, 2016.

105. H. Shankle, C.M. Ofner III, Impact of tumor pH on Cell Growth and on Growth Inhibition of an Anticancer Drug, USciences Research Day, April 6, 2017.
106. B. Eshmawi, C.M. Ofner III, Nuclear Uptake of Released Drug from a Gelatin-Doxorubicin Conjugate in MCF-7 Breast Cancer Cells, USciences Research Day, April 5, 2018.
107. M. Alvi and C.M. Ofner III, Intracellular distribution of doxorubicin and gelatin-doxorubicin conjugate in cellular compartments of MCF-7 breast cancer cells and quantification with Fiji, USciences Research Day, April 5, 2018.
108. H. Shankle, N. Mohan, E. Sauers, M. Alvi, C.M. Ofner III, Does Desipramine Induce Lysosome Dumping and a Synergistic Doxorubicin Cytotoxicity in TNBC Cells? USciences Research Day, April 5, 2018.
109. N. Mohan, C.M. Ofner III, Uptake of Doxorubicin at Early Times in MCF-7 Breast Cancer Cells Analyzed by Fluorescence Microscopy, USciences Research Day, April 5, 2018.
110. R. Nicoletto, C.M. Ofner III, Cytotoxicity and Viability of MCF7 Breast Cancer Cells Exposed to a Doxorubicin Conjugate, USciences Research Day, April 5, 2018.
111. H. Shankle, G. Whitaker, M. Mazolla, E. Boos, C.M. Ofner III, Continued Studies on Desipramine Synergism of Doxorubicin Cytotoxicity in Triple Negative Breast Cancer Cells, USciences Research Day, April 4, 2019.
112. G. Whitaker, E. Boos, P. Schlechter, D. Guardia, C.M. Ofner III, Cytotoxicity and Lysosomal Membrane Permeabilization for Triple Negative Breast Cancer Cell Treatment through Cationic Amphiphilic Drugs, USciences Virtual Research Day, March 30, 2021, Live Presentation.
113. R. Nicoletto, C.M. Ofner III, Investigating Reactive Oxygen Species and p53 in Doxorubicin Cytotoxicity of Breast Cancer Cells, USciences Virtual Research Day, March 30, 2021, Live Presentation.
114. A Babu, D Patel, P Schlechter, CM Ofner III, Studies to improve fluorescent determination of lysosome membrane permeabilization in triple negative breast cancer cells, USciences Research Day, April 14, 2022.
115. S Pantano, H Davis, A Hidalgo, CM Ofner III, Investigations of a FRET method to measure lysosome size changes in triple negative breast cancer cells, USciences Research Day, April 14, 2022.
116. RE Nicoletto and CM Ofner III, Investigating the lysosome-dependent cytotoxicity of doxorubicin in breast cancer cells, USciences Research Day, April 14, 2022.

117. S Kodipalli and CM Ofner III, Conjugation of an ester derivative of paclitaxel with acid-sensitive hydrazide to form a targeted anticancer drug conjugate. Annual Research Day, Saint Joseph's University/Philadelphia College of Pharmacy, April 13, 2023.
118. A Hidalgo, K Dang, K Kulha, CM Ofner III. FRET in TNBC Lysosomes II: Evaluation of FRET to measure lysosome swelling in triple negative breast cancer cells. Annual Research Day, Saint Joseph's University/Philadelphia College of Pharmacy, April 13, 2023.
119. A Babu, M Stanford, M Kahn, CM Ofner III, Nuclear uptake of doxorubicin in triple negative breast cancer (TNBC) cells, Annual Research Day, Saint Joseph's University/Philadelphia College of Pharmacy, April 13, 2023.

GRANTS Principal Investigator

1. FMC Corporation, Marine Colloids Division, Independent Evaluation of a Marine Colloid, 1/1/89-6/30/90, \$20,000; C.M. Ofner III, J.B. Schwartz.
2. Pharmaceutical Manufacturer Association (PMA) Foundation, Undergraduate Research Fellowship in Pharmaceutics for an undergraduate student, Hydrogels of Self-Crosslinked Gelatin as Controlled Release Systems, 6/1/90-9/1/91, \$5,000; C.M. Ofner III.
3. Pharmaceutical Manufacturer Association (PMA) Foundation, Undergraduate Research Fellowship in Pharmaceutics for an undergraduate student, Extended Delivery of Methotrexate from Biodegradable Gelatin Microspheres, 1/94-1/95, \$5,000; C.M. Ofner III and M.S. Kim.
4. Pharmaceutical Co. S, Inc., Assay Development for Gelatin Crosslinking Project, 3/95-7/95, \$8,400; C.M. Ofner III.
5. Food and Drug Administration, Center for Drug Evaluation and Research, Office of Clinical Pharmacology and Biopharmaceutics, USPHS FDA 223-95-3006, Evaluation of Crosslinking in Gelatin Capsules Stressed with the Crosslinking Agent Formaldehyde, 7/96, \$41,125; C.M. Ofner III.
6. Pharmaceutical Co. FP, Vaginal Suspension Formulation and Evaluation for Study in Monkeys, 8/98, \$18,000; C.M. Ofner III and R.L. Schnaare.
7. USP College of Graduate Studies, Gelatin/Methotrexate Conjugates to Overcome Drug Resistance in Leukemia Cells, 9/2002 Requested \$6,000, Funded \$5,000; C.M. Ofner III.
8. Pharmaceutical Co. J, Colloidal Material Parameter Determinations, 5/2003, \$19,500; C.M. Ofner III.
9. National Institute of Health, Academic Research Enhancement Award (AREA)
1R15CA135421-01A1
A Biodegradable Doxorubicin Conjugate for Enhanced Tumor Uptake and Efficacy

Revised, 06/01/2009 – 05/31/2013; \$150,000 (Direct) \$223,780 (Total)

10. Agnes Varis Trust Award for Women's Leadership and Health
Intracellular Delivery of Doxorubicin from a Biodegradable Conjugate for Localized
Treatment of Breast Cancer with Minimal Systemic Toxicities
4/30/2015 – 5/1/2016; \$10,000.
11. Philadelphia College of Pharmacy (PCP) Faculty Research Grant
Lysosome membrane permeabilization in triple negative breast cancer cells: Preliminary
data and assay development, 05/15/2019 – 05/14/2020; \$5,000 - DECLINED
12. Milton Lev Memorial Faculty Research Fund
Lysosomal Membrane Permeabilization in Triple Negative Breast Cancer Cells:
Preliminary Data and Assay Development.
6/1/2019 – 5/30/2020; \$5,000.
13. Philadelphia College of Pharmacy (PCP) Faculty Research Grant
A Novel Paclitaxel Conjugate for Treatment of Triple Negative Breast Cancer: A
Feasibility Study, 07/01/2020 – 06/30/2023; \$7,500.
14. Milton Lev Memorial Faculty Research Fund
Lysosomal Swelling as a Precursor to Lysosome Membrane Permeabilization in Triple
Negative Breast Cancer Cells: Preliminary Data and Assay Development, 6/1/2022 –
5/30/2023; \$5,000
15. DPS Undergraduate Research Award
2022 – 2023, \$1,500

Co-Investigator

1. National Institute of Health, Academic Research Enhancement Award (AREA), Artificial
Blood: Design and Stability, #1R15-HL40640-01, 3/1/88-2/28/90, \$49,987; R.L. Schnaare
(PI), T.S. Aurora, C.M. Ofner III.
2. Pharmaceutical Co. A, Inc., "Independent Formulation and Analysis of an Antibiotic
Tablet", 4/91-4/93, \$78,000; J.B. Schwartz (PI), A.P. D'mello, C.M. Ofner III, W.J. Reilly
Jr., R.L. Schnaare, E.T. Sugita.
3. Pharmaceutical Co. B, Inc., "Independent Formulation and Analysis of a Sustained
Release Tablet", 5/92-5/94, \$72,000; J.B. Schwartz (PI), A.P. D'mello, C.M. Ofner III, W.J.
Reilly Jr., R.L. Schnaare, E.T. Sugita
4. Philadelphia College of Pharmacy and Science (PCPS) French, Gano, Kilmer, Pollard
Pre-Doctoral Graduate Fellowship for a graduate student, A Novel Method to Enhance
Crosslinking of Proteinaceous Matrices for Controlled Release of a Model Macromolecule
7/93 - 7/94, \$10,500; W.A. Bubnis and C.M. Ofner III.

5. Pharmaceutical Co. C, Inc., "Formulation of Colloidal Derivative Tablets", 3/94-3/95, \$48,000; J.B. Schwartz (PI), A.P. D'mello, C.M. Ofner III, P.D. Gupta, J.Moore, R.L. Schnaare, E.T. Sugita.
6. Pharmaceutical Co. S, Inc., "New Compound Product Development", 4/95, \$75,000; J.B. Schwartz (PI), A.P. D'mello, P.D. Gupta, J.Moore, C.M. Ofner III, R.L. Schnaare, E.T. Sugita.
7. Pharmaceutical Co. M, Inc., Tablet Product Development, 2/96, \$75,000; J.B. Schwartz (PI), A.P. D'mello, P.D. Gupta, J.Moore, C.M. Ofner III, R.L. Schnaare, E.T. Sugita.
8. Pharmaceutical Co. A, Inc., "New Topical Product Development", 7/96, \$37,500; J.B. Schwartz (PI), A.P. D'mello, P.D. Gupta, J.Moore, C.M. Ofner III, R.L. Schnaare, E.T. Sugita.
9. Pharmaceutical Co. S, Inc., "Sublingual Tablet Development", 8/96, \$18,000; J.B. Schwartz (PI), A.P. D'mello, P.D. Gupta, J.Moore, C.M. Ofner III, R.L. Schnaare, E.T. Sugita.
10. Philadelphia College of Pharmacy and Science (PCPS) French, Gano, Kilmer, Pollard Pre-Doctoral Graduate Fellowship for a graduate student, Crosslinked Gelatin Matrices: Effects on macromolecular Solute Release Rate and Mechanism 7/96 - 7/97, \$11,500; J.W. Mwangi and C.M. Ofner III.
11. Pharmaceutical Co. C, Inc., "New Compound Tablet Formulation", 5/97, \$113,000; J.B. Schwartz (PI), A.P. D'mello, P.D. Gupta, J.Moore, C.M. Ofner III, R.L. Schnaare, E.T. Sugita.
12. Pharmaceutical Co. C, Inc., "Formulation and Evaluation of a Subcutaneous Controlled Release Suspension", 6/97, \$50,000; R.L. Schnaare (PI), C.M. Ofner III J.B. Schwartz, J.Moore,.
13. Pharmaceutical Co. N, Inc., "Formulation and Evaluation of Intravenous Emulsion", 12/97, \$9,000; R.L. Schnaare (PI) and C.M. Ofner III.
14. Pharmaceutical Co. I, Inc, "Product Development and Bioavailability Studies", 3/98, \$64,375; J.B. Schwartz (co-PI), C.M. Ofner III (co-PI), A.P. D'mello, P.D. Gupta, J.Moore, R.L. Schnaare, E.T. Sugita.
15. University of the Sciences in Philadelphia (USP), Department of Pharmaceutical Sciences Graduate Student Fellowship, Methotrexate/Gelatin Conjugates for Enhanced Cellular Toxicity, 7/98-7/99, \$13,500; B.J. Bowman and C.M. Ofner III.
16. American Foundation for Pharmaceutical Education (AFPE), Methotrexate/Gelatin Conjugates for Enhanced Cellular Toxicity, 7/99-7/00, \$6,000; B.J. Bowman and C.M. Ofner III.

17. University of the Sciences in Philadelphia (USP), Abe Roth Scholarship Evaluation of Gelatin as a Soluble Drug Delivery System Using Methotrexate as a Model Drug, 7/99 to 7/00, \$8,800; B.J. Bowman and C.M. Ofner III.
18. University of the Sciences in Philadelphia (USP), Abraham Glasser Fellowship, Methotrexate/Gelatin Conjugates for Enhanced Cellular Toxicity, 7/00 – 6/01, \$8,352; B.J. Bowman and C.M. Ofner III.
19. Pharmaceutical Col S., Antacid Studies, 9/2001, \$34,500; JB Schwartz (PI), CM Ofner III, PK Gupta, RL Schnaare, J Moore
20. Pharmaceutical Co. AB, Formulation and Preparation of Rabbit Suppositories, 2001, \$15,000; RL Schnaare (PI), CM Ofner III
21. Pharmaceutical Co. A Injected Suspensions for New Compounds, 3/2002, \$3000; RL Schnaare (PI), CM Ofner III, JB Schwartz.
22. University of the Sciences in Philadelphia, Abraham Glasser Fellowship, The Effect of Drug Load to Extend MTX Release from Gelatin- Methotrexate Conjugated Microspheres, 5/03- 5/04, \$19,000; K. Pica and C.M. Ofner III.
23. American Foundation for Pharmaceutical Education (AFPE), The Effect of Drug Load to Extend MTX Release from Gelatin- Methotrexate Conjugated Microspheres, 9/03- 8/04, \$6,000; K. Pica and C.M. Ofner III.
31. University of the Sciences in Philadelphia, Clayton French Fellowship, An evaluation of a gelatin-doxorubicin conjugate as an agent of lysosomal membrane permeabilization for selective apoptosis in breast cancer cells, 12/2017 – 12/2018, \$1,125; M. Alvi and C.M. Ofner III
25. Agnes Varis Trust for Leadership and Women's Health, Lysosomal membrane permeabilization in triple negative breast cancer cells: Preliminary data and assay development, 6/2019 – 5/2020, \$5,000; R. Nicoletto and C.M. Ofner III
26. Agnes Varis Trust for Leadership and Women's Health, The role of lysosome membrane permeabilization in doxorubicin cytotoxicity in breast cancer cells, 9/2020 – 5/2021, \$5,000; R. Nicoletto and C.M. Ofner III

PROFESSIONAL Associations

SERVICE Officer, Philadelphia Pharmaceutical Forum, American Association of Pharmaceutical Scientists, 1988 to 2012

Co-Chair Student Subsidy Fund, 1994 to 2006

American Association of Colleges of Pharmacy (AACP),

Teacher in Pharmaceutics Section,
Committee on Strategic Planning, 1995-1996

Sigma Xi, The Scientific Research Society
PCPS (former Usciences) Chapter
President Elect, 1995-1997
President, 1997-1999.
Past President, 1999-2001

Region II Councilor, Rho Chi Society, Executive Committee, 2000-2002.

Reviewer

Biomacromolecules

Colloids and Surfaces B: Biointerfaces

Drug Development and Industrial Pharmacy

International Journal of Pharmaceutics

Journal of Biomaterials Science (Polymer Edition)

Journal of Microencapsulation

Journal of Pharmaceutical Science

Polymer Bulletin

British Journal of Cancer

Biotechnology Journal

European Journal of Pharmaceutics and Biopharmaceutics

Pharmaceutical Research

Current Nanomedicines

Trends in Biotechnology

Journal of Pharmacy and Pharmacology

Cancer Chemotherapy and Pharmacology

Cells

Scientific Reports (Nature)

Biomolecules

Intercollegiate

Host laboratory and supervisor for visiting international research students coordinated by the International Pharmaceutical Students Federation (IPSF) 1992-1994.

Rho Chi Induction Banquet Lecture, "Opportunities in Graduate Research for Honor Pharmacy Students", Southwestern Oklahoma State University, School of Pharmacy, Weatherford, OK, April 25, 1996.

Temple University School of Pharmacy External Reviewer for Promotion and Tenure Dossier, 1997.

Poster Judge, Temple University School of Pharmacy Research Day, 2008 - date

Laboratory Mentor, Biomedical Technician Training Program (BTT), Wistar Institute, summer, 2009 - date

MEMBERSHIPS Philadelphia Pharmaceutical Forum (PPF)
 American Association of Pharmaceutical Scientists (AAPS)
 Rho Chi (Pharmacy Honor Society)
 Sigma Xi, The Scientific Research Society
 American Association of Colleges of Pharmacy (AACP)
 American Association for Cancer Researchers (AACR, Active member)

CONSULTANT Dissolution problems of hard and soft gelatin capsules.
 Various national and international pharmaceutical companies, and FDA
 Patent Issues

STUDENTS

Major Research Advisor – Dissertations and Theses

1. M.W. Welz, Examination of Self-Crosslinked Gelatin as a Hydrogel for Controlled Release, M.S., February, 1990.
2. W.A. Bubnis, Analytical, Mechanistic, and Delivery Studies with Crosslinked Gelatin Matrices, Ph.D., September, 1994.
3. S.D. Stockl, The Role of ϵ -Amino Group Participation in the Condensation Crosslinking Mechanism of Heat Dehydrated Collagen, M.S., November, 1994.
4. Kosasih, Conjugation of Methotrexate to Gelatin and its Characterization, M.S., January, 1997.
5. G.W. Stagiato, Characterization and In Vitro Release of Methotrexate from Methotrexate/Gelatin Microspheres Prepared from Conjugates, M.S., April, 1998.
6. J. Huang, An In Vitro Degradation Model of Crosslinked Gelatin Microspheres in Aqueous Media, M.S., March, 2000.
7. J.W. Mwangi, Crosslinked Gelatin Matrices: Effects on Macromolecular Solute Release Rate and Extent, Ph.D., March, 2001.
8. B.J. Bowman, Preparation, *In Vitro* Characterization, and Cell Growth Inhibitory Effects of Gelatin-Methotrexate Conjugates, Ph.D., July, 2001.
9. C-S. Chen, The Role of Charge and Molecular Weight on Delivery of Methotrexate / Gelatin Conjugates into HL60 Leukemia Cells, Ph.D. May 2005.
10. K. Pica, Enzymatic Release of Methotrexate from Methotrexate/Gelatin Conjugates and Microspheres, Ph.D. September, 2005
11. B. Rhoads, MS non-thesis, December, 2014.
12. D. Wu, Preparation and Characterization of a Gelatin-Doxorubicin Conjugate, Ph.D. August 2018
13. C. Cammarata, Characterization and Drug Release Model of a High Molecular Weight of Gelatin-Doxorubicin Conjugates, Ph.D., May 2015.
14. B. Eshmawi, Intracellular trafficking of Gelatin Conjugates, Ph.D., July 2020.
15. M. Alvi, Lysosomal Localization of a Gelatin-Doxorubicin Conjugate in Two Breast Cancer Cell Lines, Ph.D., October 2020.
16. Hyun (Kate) Kim, Serum and Simulated Intratumor Degradation of a Gelatin-

- Doxorubicin Conjugate, combined BS/MS.
17. R. Nicoletto, Mechanisms of Doxorubicin at Clinically Relevant Concentrations in Two Breast Cancer Cell Lines, PhD, 2022
 18. S. Kodipalli, Enhanced Solubility and Tumor Efficacy of a Macromolecular Paclitaxel Conjugate, PhD, Current

Research Advisory Committees

1. G. Madison, M.S. Pharmaceutics, 1988.
2. J. Pasternacki, Ph.D. Pharmaceutics, 1990.
3. X. Xiang, Ph.D. Pharmaceutics, 1990.
4. J. Labashosky, PhD Pharmaceutics, start 1990 not complete
5. G. D'Lonzo, Ph.D. Pharmaceutics, 1990.
6. K. Barghava, Ph.D. Pharmaceutics, 1991.
7. R. Argenti, Ph.D. Pharmaceutics, 1992.
8. J. Murtha, Ph.D. Pharmaceutics, 1992.
9. J. Gautam, Temple University School of Pharmacy, Ph.D. Pharmaceutics, 1992.
10. F. Nowaczyk, Ph.D., Pharmaceutics, 1992.
11. G. Owens, MS Pharmaceutics, start 1992, not complete
12. C-Y Lee, M.S. Pharmaceutics, 1992.
13. J. Wu, PhD Pharmaceutics, start 1993, not complete
14. J. Eisman, M.S. Pharmaceutics, 1993.
15. K. Obashi, PhD Pharmaceutics, start 1994, not complete
16. K. Webster, MS, Chemistry, start 1994, not complete
17. A. Maderich, Ph.D. Pharmaceutics, 1996.
18. W. Hein, Ph.D. Pharmaceutics, 1996.
19. K. Zimm, Ph.D. Pharmaceutics, 1996.
20. D. Lebo, Ph.D. Pharmaceutics, 1997.
21. A. Wang, Ph.D. Pharmaceutics, 1997.
22. D. Winstead, Ph.D. Pharmaceutics, 1997.
23. N. Iloanusi, Ph.D. Pharmaceutics, 1998.
24. R. Huang, Ph.D. Pharmaceutics, 1998.
25. A.M. Cannistraci, M.S. Chemistry, 1999.
26. S. Habibi-Moini, Ph.D. Pharmaceutics, 2000
27. M. Bari, External Reviewer, Temple University School of Pharmacy, Ph.D. Pharmaceutics, 2000.
28. W. Lu, External Reviewer, Temple University School of Pharmacy, Ph.D. Pharmaceutics, 2000.
29. A. Razagi, Ph.D. Pharmaceutics, 2001.
30. C. Kemmerer, External Reviewer, Temple University School of Pharmacy, Ph.D. Pharmaceutics, 2001
31. D. Davis, Ph.D. Chemistry, 2002.
32. Y. Zhu, Ph.D. Pharmaceutics 2005
33. J. Huang, Ph.D. Pharmaceutics, 2006
34. S. Tavisala, M.S. Chemistry, Reviewer, 2006
35. S. Sun, Ph.D. Pharmaceutics, 2007
36. R. Graves, Ph.D. Pharmaceutics, 2007
37. S. Reeser, M.S. Chemistry, Reviewer, 2007
38. B. Raszka, M.S. Chemistry, Reviewer, 2009

39. S. Saylor, Ph.D. Chemistry, 2015
40. L. D'Angelo, Ph.D. Pharmacology/Toxicology, Reviewer, 2009
41. B. Gaye, Ph.D. Pharmaceutics, 2019
42. S. Paruchuri, Ph.D. Pharmaceutics, current
43. M. Fortin, Ph.D. Chemistry, 2017
44. M. Holt, M.S. Chemistry, Reviewer, 2012
45. S. Nuthalapati, External Reviewer, Temple University School of Pharmacy, Ph.D. Pharmaceutics, 2012
46. J. Lindberg, M.S. Biology, Reviewer, 2013
47. D. Sardelis, Ph.D. Chemistry, Reviewer, 2013
48. K. Glover, Ph.D. Cell and Molecular Biology, Reviewer, 2014
49. Z. Juo, PhD Chemistry, 2015
50. K. Zhi, External Reviewer, Temple University School of Pharmacy, Ph.D. Pharmaceutics, 2017
51. A. Hakami, MS Pharmaceutics, 2017
52. H. Patel, PhD Pharmaceutics, current
53. P. Patel, PhD Pharmaceutics, current
54. S. Sivasankaran PhD, Pharmaceutics, 2021
55. P. Vikal PhD, Biology, Reviewer, 2019
56. M. Singh, PhD Pharmaceutics, 2020
57. B. Heidrich, PhD, Biology, Reviewer, 2021
58. B. Kiernan, PhD, Pharmaceutics, 2022
59. R. Howley, PhD, Pharmacology , 2023

Research Fellowships for Undergraduate and Graduate Students

1. L. Passio, Pharmaceutical Manufacturers Association (PMA) Foundation Undergraduate Research Fellowship in Pharmaceutics, 1990.
2. W.A. Bubnis, USP French, Gano, Kilmer, Pollard Doctoral Fellowship, 1993-1994.
3. M.S. Kim, Pharmaceutical Manufacturers Association (PMA) Foundation Undergraduate Research Fellowship in Pharmaceutics, 1994.
4. J.W. Mwangi, USP French, Gano, Kilmer, Pollard Doctoral Fellowship, 1996-97.
5. B.J. Bowman, American Foundation for Pharmaceutical Education (AFPE) Pre-doctoral Fellowship, 1999-2000.
6. B.J. Bowman, USP Abe Roth Fellowship, 1999-2000.
7. B.J. Bowman, USP Glasser Fellowship, 2000-2001
8. K. Pica, American Foundation for Pharmaceutical Education (AFPE) Pre- Doctoral Fellowship, 2003-2004.
9. K. Pica, USP Glasser Fellowship, 2003-2004.
10. M. Alvi, USciences, Clayton French Fellowship, 2017-2018.
11. M. Alvi, USciences, Gelb Fellowship, 2018-2019.
12. E. Nicoletto, Agnes Varis Trust for Women's Leadership and Health, 2019-2020
13. E. Nicoletto, Agnes Varis Trust for Women's Leadership and Health, 2020-2021.

COMMITTEES University

- Hazardous Chemical Spill and Response Team (1989-1992)
- Executive Council (1993-1994)
- Chair, Committee on Faculty Affairs (1993-1995)

Student Discipline Committee (1994-2000)

Chair, Faculty Review of Library Science Department Chair (1997-1998)

Task Force on Student Grievances Procedure (1998-1999)

Middle States/ACPE Self-Study Task Force on Organization, Administration, Governance, and Governing Board (2001-2002)

Pre-tenure Review Committee, B. P., Department of Biology (2014-2015)

Pre-tenure Review Committee, J. H., Department of Biology (2014-2018)

Pre-tenure Review Committee, C. J., Department of Biology (2017-2022)

College (or School) – Pharmacy

Faculty advisor, Rho Chi, National Pharmacy Honor Society, 1989-date

B.S. Pharmacy Curriculum Committee (1988-89)

Pharmacy Planning Committee (1990-1995, 1997-2000; chair, 2005-2007)

Chair, ACPE Self-Study Task Force on Physical Facilities and Library
(1993-1995)

Pharmacy Faculty Development/Promotion and Tenure Committee (1994-1995)

Task Force on Student Professionalization (2000-2001)

Chair, ACPE Self-Study Sub-Task Force on Organization and Administration (2001-2002)

Write and Administer, Pharmaceutical Calculations Proficiency Exam for pharmacy students (2003-2011)

Team Leader Calculations Committee, PharmD. Curriculum Implementation Task Force
(2005-date)

Chair, ACPE Self-Study Sub-Task Force on Organization and Administration (2007-2009)
Curriculum Committee (2010 – date)

Task Force on Pharmaceutical Calculations Proficiency Exam, 2012- 2016

Co-Chair, ACPE Self-Study Subcommittee on Organization and Administration (2013 -
2014)

Pharmaceuticals Curriculum Working Group (2013 – 2018)

PharmD Curriculum Revision Task Force Phase 1: iPSDT/FPS modules (2015-16)

Curriculum Committee, 2014-date

ESAR Calculations Exam Committee, 2017 – date

Student Affairs Committee, 2019 – date

ESAR Course Committee, 2022 - date

ESAR Learning Support, 2021 – date

College (or School) - Graduate

French/Gano/ Kilmer/Pollard Pre-Doctoral Fellowship Selection Committee
(1989, 1991, 1994)

Vice Chair, Graduate Subcouncil (1999-2002)

Coordinator, Faculty Research Discussion Group (2000-2002)

Strategic Planning Committee (2000-2001)

Biotechnology Initiative Committee (2000-2001)

Committee of Program Directors (2002-2012)

Department

Pharmaceuticals Graduate Admissions Committee (1999-2002)

Chair, Pharmaceutics Graduate Program Self-Study Committee (1999-2000)
Pharmaceutical Sciences Department Self-Study Committee (2000-2001)
Chair, Pharmaceutical Sciences Chair Search Committee (2001-2002)
Pharmaceutics Faculty Search Committee (2001-2002)
Chair, Pharmaceutics Graduate Admissions Committee (2002-2011)

Planning Committee, Joseph B. Schwartz Memorial Symposium: Advances in Industrial Pharmacy (2008).
Pharmacology/Toxicology Faculty Search Committee (2013)
Pre-Tenure Review Committee, I. Mercier, 2019-2020.
Chair Search Committee, 2021
Laboratory Manager Search Committee, 2021

TEACHING (Past and Current)

Undergraduate and Pharmacy

Pharmaceutical Calculations (PH 305)
Pharmaceutics and Biopharmaceutics I (PH 316/416, 318/418) Lecture and Lab
Pharmaceutics and Biopharmaceutics II (PH 317/417), Coordinator
Special Topics in Pharmaceutics – Biotechnology (PH 310)
Pharmaceutical Sciences Seminar (PH 390/490)
Methods in Pharmaceutical Research (team taught, PH 398/PC 330)
Undergraduate Research (PH 399)
PharmD Elective Rotation, Research (PP 66X)
Foundations of Pharmaceutical Sciences 1 (RX 340), Coordinator, 2018 -
Foundations in Pharmaceutical Sciences 2 (RX 440), 2019 -
Undergraduate Seminar PharmTox & PharmSci Majors (PC324/424, PH392/491) Co-instructor, 2020 -

Graduate

Advanced Pharmaceutics (team taught, PH 750)
Equilibrium Phenomena (PH 803/804)
Analysis of Literature in Pharmaceutics (PH 895)
Graduate Seminar (PH 890), Coordinator 2016 -
Research Rotation (PH 897)