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Mailing address: 4588 Parkview Place, St. Louis, MO 63110

**EDUCATION:**

2007 – 2009

**University of Michigan**, College of Pharmacy, Department of Clinical, Social and Administrative Sciences, Ann Arbor, MI.  
 Postdoctoral Translational Scholar and Adjunct Clinical Instructor.  
 Mentors: Drs. Bruce A. Mueller and Lynda Welage.

**Research:**

- Disease Associated Changes in P-glycoprotein Expression resulting from the Systemic Inflammatory Response Syndrome.
- Clinical Pharmacokinetics of Daptomycin in Patients receiving Hemodialysis.
- Transmembrane Clearance of Etanercept in Modeled Continuous Hemofiltration.

2004 – 2006

**University of Washington**, School of Pharmacy, Department of Pharmaceutics, Seattle, WA.

Research Associate; Mentor: Dr. Rodney J.Y. Ho.

**Research:** Evaluation of the Influence of Genetic Polymorphism on the Transport of Anticancer and Anti-HIV Drugs in Recombinant LLC-PK1 Cells Overexpressing P-glycoprotein.

2000 – 2004

**University of Maryland**, School of Pharmacy, Department of Pharmaceutical Sciences, Baltimore, MD.

Ph.D. in Pharmaceutical Sciences; GPA: 4.0/4.0

Advisor: Dr. Natalie D. Eddington.

**Thesis Research:** Improving the Transport and Oral Bioavailability of Therapeutic Agents via Modulation of the Paracellular Absorption by  $\Delta G$  and Inhibition of P-glycoprotein mediated Drug Efflux.

1993 –1998

**Cairo University**, Faculty of Pharmacy, Cairo, Egypt.

B.Sc. in Pharmaceutical Sciences, GPA: 4.0/4.0, Cumulative grade: Excellent with Honors (ranked first in a class of 800 students for five consecutive years).

**PROFESSIONAL EXPERIENCE**

08/2009 - Current

Assistant Professor of Pharmaceutics and Biopharmaceutics, St. Louis College of Pharmacy, Division of Basic and Pharmaceutical Sciences, St. Louis, MO.

03/2013 – Current

Associate Professor, Cairo University, Faculty of Pharmacy, Department of Pharmaceutics and Industrial Pharmacy, Cairo, Egypt. **(on Leave)**

10/2012 - Current

Visiting Researcher, Washington University at St. Louis, Department of Radiation Oncology, Cancer Biology Division, St. Louis, MO.

08/2012	Visiting Assistant Professor of Pharmacy, University of New Mexico College of Pharmacy, Albuquerque, NM.
08/2009 – 12/2012	Visiting Assistant Research Scientist, University of Michigan, College of Pharmacy, Department of Clinical, Social and Administrative Sciences, Ann Arbor, MI
03/2008 – 12/2012	Adjunct Clinical Instructor, University of Michigan, College of Pharmacy, Department of Clinical, Social and Administrative Sciences, Ann Arbor, MI.
01/2007 – 06/2009	Clinical Postdoctoral Research Fellow, University of Michigan, College of Pharmacy, Department of Clinical, Social and Administrative Sciences, Ann Arbor, MI.
03/2006 – 11/2006	Assistant Professor, Cairo University, Faculty of Pharmacy, Department of Pharmaceutics and Industrial Pharmacy, Cairo, Egypt.
03/2004 - 02/2006	Research Associate, University of Washington, School of Pharmacy, Department of Pharmaceutics, Seattle, WA.
06/2001 - 02/2004	Graduate Research Assistant, University of Maryland School of Pharmacy, Department of Pharmaceutical Sciences, Pharmacokinetics & Biopharmaceutics Laboratory, Baltimore, MD.
08/2000 - 05/2001	Graduate Teaching Assistant, University of Maryland School of Pharmacy, Department of Pharmaceutical Sciences, Baltimore, MD
10/1998 - 07/2000	Teaching and Research Assistant, Cairo University, Faculty of Pharmacy, Department of Pharmaceutics and Industrial Pharmacy, Cairo, Egypt.
06/1998 - 09/1998	Community Pharmacist, El-Thawra Pharmacy, Cairo, Egypt.
05/1996 - 08/1996	Summer Intern, Bristol-Meyers Squibb Inc., Department of Quality Control, Cairo, Egypt.

## **PUBLICATIONS:**

### **I. PEER-REVIEWED RESEARCH PUBLICATIONS:**

1. Azab F, Muz, B., de la Puente, P., **Salama, N.**, Azab, Abdel-Kareem. Buparlisib. Phosphatidylinositol 3-kinase alpha inhibitor, Oncolytic. *Drugs of the Future {Drugs Fut}*, 2013, 38(2): 73. Monograph.
2. Butterfield JM, Mueller BA, Patel N, Cardone KE, Grabe DW, **Salama NN**, Lodise TP Daptomycin Pharmacokinetics and Pharmacodynamics in a Pooled Sample of Patients receiving Thrice-weekly Hemodialysis. *Antimicrobial Agents and Chemotherapy*. 2013 Feb; 57(2):864-72.
3. Pasko DA, Churchwell MD, **Salama NN**, and Mueller BA. Longitudinal Hemodiafilter Performance in Modeled Continuous Renal Replacement Therapy. *Blood Purification* 2011;32 (2):82-88
4. Vilay AM, Grio M, Depestel DD, Sowinski KM, Gao L, Heung M, **Salama NN**, Mueller BA. Daptomycin pharmacokinetics in critically ill patients receiving continuous venovenous hemodialysis. *Crit Care Med*. 2011 Jan;39(1):19-25.
5. **Salama NN**, Segal J, Churchwell MD, et al. Single dose daptomycin pharmacokinetics in chronic hemodialysis patients. *Nephrology Dialysis Transplantation, Nephrol Dial Transplant*. 2010 Apr; 25(4):1279-84. Erratum: *Nephrology Dialysis Transplantation* 2010 25: 3803-3803

6. Fleming GM, **Salama NN**, Eid SK, Cooke KR, and Mueller BA. Etanercept Adsorption during CRRT: an in vitro investigation using Polysulphone, Polyacrylonitrile and BK-F Hemofilters. *Blood Purification* 2009 Sep; 28(4): 348-353.
7. **Salama NN**, Segal J, Churchwell MD, et al. Intradialytic administration of daptomycin in end stage renal disease patients on hemodialysis. *Clin J Am Soc Nephrol* 2009 Jul; 4(7):1190-4.
8. **Salama NN**, Yang Z, Bui T, Ho RJ. MDR1 Haplotypes significantly minimize Intracellular Uptake and Transcellular P-gp Substrate Transport in Recombinant LLC-PK1 Cells. *J Pharm Sci.* 2006 Oct; 95(10):2293-308.
9. **Salama NN**, Kelly EJ, Bui T, Ho RJ. The Impact of Pharmacologic and Genetic Knockout of P-glycoprotein on Nelfinavir Levels in the Brain and other Tissues in Mice. *J Pharm Sci.* 2005 Jun; 94(6):1216-25.
10. **Salama NN**, Fasano A, Thakar M, Eddington ND. The Impact of Delta G on the Oral Bioavailability of Low Bioavailable Therapeutic Agents. *J Pharmacol Exp Ther.* 2005 Jan;312(1):199-205. Epub 2004 Sep 24.
11. **Salama NN**, Scott KR, Eddington ND. DM27, an Enaminone, Modifies the in Vitro Transport of Antiviral Therapeutic Agents. *Biopharm Drug Dispos.* 2004 Jul; 25(5):227-236.
12. **Salama NN**, Fasano A, Thakar M, Eddington ND. The Effect of Delta G on the Transport and Oral Absorption of Macromolecules. *J Pharm Sci.* 2004 May; 93(5):1310-1319.
13. **Salama NN**, Scott KR, Eddington ND. The Influence of Enaminones on the Transport and Oral Bioavailability of P-glycoprotein Substrate Therapeutic Agents. *Int J Pharm.* 2004 Apr 1; 273(1-2):135-147.
14. Khurana M, **Salama NN**, Scott KR, Nemieboka NN, Bauer KS Jr, Eddington ND. Preclinical Evaluation of the Pharmacokinetics, Brain Uptake and Metabolism of E121, an Antiepileptic Enaminone Ester, in Rats. *Biopharm Drug Dispos.* 2003 Dec; 24(9):397-407.
15. Eddington ND, Cox DS, Khurana M, **Salama NN**, Stables JP, Harrison SJ, Negussie A, Taylor RS, Tran UQ, Moore JA, Barrow JC, Scott KR. Synthesis and Anticonvulsant Activity of Enaminones. Part 7. Synthesis and Anticonvulsant Evaluation of Ethyl 4-[(Substituted Phenyl)Amino]-6-Methyl-2-Oxocyclohex-3-Ene-1-Carboxylates and their corresponding 5-Methylcyclohex-2-Enone Derivatives. *Eur J Med Chem.* 2003 Jan; 38(1):49-64.
16. **Salama NN**, Fasano A, Lu R, Eddington ND. Effect of the Biologically Active Fragment of Zonula Occludens Toxin, Delta G, on the Intestinal Paracellular Transport and Oral Absorption of Mannitol. *Int J Pharm.* 2003 Jan 30; 251(1-2):113-121.
17. Cox DS, Raje S, Gao H, **Salama NN**, Eddington ND. Enhanced Permeability of Molecular Weight Markers and Poorly Bioavailable Compounds across Caco-2 Cell Monolayers using the Absorption Enhancer, Zonula Occludens Toxin. *Pharm Res.* 2002 Nov; 19(11):1680-1688.

## **II. REVIEW ARTICLES:**

1. Endsley AN, **Salama NN**, Ho RJ. Combining drug and immune therapy: a potential solution to drug resistance and challenges of HIV vaccines?, *Current HIV Research*, 2008 Sep;6(5):401-410.

2. Edafigho IO, Kombian SB, Ananthalakshmi KV, **Salama NN**, Eddington ND, Wilson TL, Alexander MS, Jackson PL, Hanson CD, Scott KR. Enaminones: Exploring Additional Therapeutic Activities. *J Pharm Sci.* 2007 Oct;96(10):2509-2531.
3. **Salama NN**, Endsley A, Ho RJ. Recent Developments in Drug Targets and Delivery of Anti-HIV Drugs. *Infect Disord Drug Targets.* 2006 Jun;6(2):107-119.
4. **Salama NN**, Eddington ND, Fasano A. Tight Junction Modulation and its Relationship to Drug Delivery. *Adv Drug Deliv Rev.* 2006 Apr 20;58(1):15-28. Epub 2006 Mar 6.
5. **Salama NN**, Eddington ND, Payne D, Wilson TL, Scott KR. Multidrug Resistance and Anticonvulsants: New Studies with Some Enaminones. *Curr Med Chem.* 2004 Aug;11(15):2093-2113

### **III. BOOK CHAPTERS**

1. **Salama NN**, Eddington ND, Fasano A. Tight Junction Modulation By Zonula Occludens Toxin and its Relationship to Drug Delivery In "Tight Junctions", Gonzalez-Mariscal L. (Ed), Landes Bioscience/Eurekah.Com, ISBN: 0-387-33201-4, May 11<sup>th</sup>, 2006.  
[http://www.landesbioscience.com/books/intelligence\\_unit/id/802](http://www.landesbioscience.com/books/intelligence_unit/id/802).

### **IV. SCIENTIFIC ABSTRACTS AND POSTER PRESENTATIONS:**

1. Bridget A. Scoville, **Noha N. Salama**, Jonathan H. Segal, Michael Heung, and Bruce A. Mueller, Pharmacokinetics of a 1,000 mg Dose of Ranolazine in Subjects Receiving Maintenance Hemodialysis, 2013 American Heart Association meeting, *under review*.
2. Thanh Thao T. Nguyen, Lynda S. Welage, and **Noha N. Salama**. Evidence of concurrent Downregulation in Mdr1a and BCRP under Acute Inflammation, 27<sup>th</sup> Annual Meeting and Exposition of The American Association of Pharmaceutical Scientists, AAPS, November 10-14, 2013, San Antonio, TX.
3. Rhonda Bilger, **Noha N. Salama** and Rasma Chereson. Assessment of student compounding skills at St. Louis College of Pharmacy. *ACCP Annual Meeting Pharmacy Education 2013*, July 13–17, 2012, Chicago, IL.
4. Nick Potter, Pilar de la Puente, Feda Azab, **Noha N. Salama**, and Kareem Azab. Biodegradable Hydrogels for Brachytherapy in Breast Cancer. St. Louis College of Pharmacy 4<sup>th</sup> annual student research symposium April 6, 2013, St. Louis, MO.
5. Thanh Thao T. Nguyen, Lynda S. Welage, and **Noha N. Salama**. Genetic Downregulation of Mdr1a In Acute Inflammation Such As Systemic Inflammation Response Syndrome, St. Louis College of Pharmacy 4<sup>th</sup> annual student research symposium April 6, 2013, St. Louis, MO.
6. **Salama NN**, Welage LS. Evidence of Genetic Downregulation in the Breast Cancer Resistance Protein in Diseases Characterized by Acute Inflammation such as Systemic Inflammatory Response Syndrome, 26<sup>th</sup> Annual Meeting and Exposition of The American Association of Pharmaceutical Scientists, AAPS, October 14- 18, 2012, Chicago, IL.
7. Butterfield J, Mueller B, Grabe D, Patel N, Cardone K, **Salama NN**, Lodise TP. Pharmacokinetics (PK) of daptomycin (D) in a pooled sample of hemodialysis (HD) patients (pts), Inaugural IDWeek 2012 meeting (TM), October 17 – 21, 2012, San Diego, CA. (joint meeting of Infectious diseases society of America (IDSA), the society for healthcare epidemiology of America (SHEA), the HIV Medicine Association (HIVMA), and the pediatric infectious diseases society (PIDS).

8. Bilger R., **Salama NN**, Chereson R. Compounding Accuracy: A Study of the Development of Student Compounding Skills, AACP Annual Meeting, *Pharmacy Education 2012*, July 14–18, 2012, Kissimmee, Florida.
9. **Salama NN**, Nielsen JC, Stout SM, Patel JH, Welage LS. Disease Associated Changes in P-glycoprotein in Acute Inflammation, 23<sup>rd</sup> Annual Meeting and Exposition of The American Association of Pharmaceutical Scientists, AAPS, November 8-12, 2009, Los Angeles, CA
10. Vilay AM, Griio M, DePestel DD, Sowinski K, Gao L, **Salama NN**, Mueller BA. Daptomycin (DAP) Pharmacokinetics (PK) in Patients Treated with Continuous Venovenous Hemodialysis (CVVHD), The American Society Of Nephrology (ASN) Renal Week 2008, November 4-<sup>9th</sup>, Philadelphia, PA.
11. **Salama NN**, Segal J, Churchwell MD, Patel JH, Gao L, Heung M, Mueller BA. Daptomycin Dose Adjustments in End Stage Renal Disease on Intermittent Hemodialysis, The American Society Of Nephrology (ASN) Renal Week 2008, November 4-<sup>9th</sup>, Philadelphia, PA.
12. **Salama NN**, Segal J, Churchwell MD, Patel JH, Gao L, Heung M, Mueller BA. Intradialytic Administration of Daptomycin in End Stage Renal Disease (ESRD) Patients on Hemodialysis, The American Society Of Nephrology (ASN) Renal Week 2008, November 4-<sup>9th</sup>, Philadelphia, PA.
13. **Salama NN**, Nielsen J, Patel JH, Welage LS. Disease Associated Changes in P-glycoprotein in Acute Inflammation, Michigan Institute for Clinical and Health Research (MICH-R) Annual Clinical Research Symposium, October 31<sup>st</sup>, 2008, Ann Arbor, MI.
14. **Salama NN**, Fleming GM, Cooke KR, Mueller BA. Absence of Etanercept Clearance in Modeled Continuous Hemofiltration, 13<sup>th</sup> Annual International Conference On Continuous Renal Replacement Therapy (CRRT 2008), *Blood Purification* 2008; 26:183, Feb 27-March 1<sup>st</sup>, 2008, San Diego, CA.
15. **Salama NN**, Nielsen J, Patel JH, Welage LS. Decreased Hepatic P-glycoprotein Expression in Endotoxin-induced Acute Inflammation, Society Of Critical Care Medicine's 37<sup>th</sup> Critical Care Congress, *Crit Care Med* 2007, Vol 35 (12, Supplement): Pp A37, February 2-6, 2008, Honolulu, Hawaii.
16. **Salama NN**, Kelly EJ, Bui T, Ho RJ. Nelfinavir Disposition in *Mdr1a/1b* (-/-) Mice may also be influenced by *Mdr1a/1b* independent Mechanisms, 19<sup>th</sup> Annual Meeting and Exposition of The American Association of Pharmaceutical Scientists, AAPS, November 6-10, 2005, Nashville, TN.
17. **Salama NN**, Eddington ND, Wilson TL, Scott KR. Multidrug Resistance and Anticonvulsants: New Studies with some Enaminones, The American Epilepsy Society 58th Annual Meeting, December 3-8, 2004, New Orleans, LA.
18. **Salama NN**, Fasano A, Thakar M, Eddington ND. Zonula Occludens Toxin, A Novel Absorption Enhancer, and its Biologically Active Fragment, Delta G, significantly enhance Oral Drug Delivery, Podium. Globalization Of Pharmaceuticals Education Network (GPEN)-International Graduate Student Meeting, May 26-28, 2004, Kyoto, Japan.
19. Garimella TS, Ross DD, **Salama NN**, Edelman MJ, Nemieboka N, Bauer KS. Benzoylphenylurea (BPU) is a substrate for the Breast Cancer Resistance Protein (BCRP/ABCG2) Transporter but not P-glycoprotein (Pgp/MDR1/ABCB1), The

- American Association For Cancer Research 95th Annual Meeting, March 27-31, 2004, Orlando, FL.
20. Garimella TS, Edelman MJ, **Salama NN**, Horn JJ, Colevas AD, Bauer KS. In Vitro Metabolism of the Novel Antimicrotubule Agent Benzoylphenylurea (BPU) currently under Phase I investigation in Patients with Advanced Malignancy, 18th Annual Meeting and Exposition of the American Association of Pharmaceutical Scientists, AAPS Pharm Sci Vol. 5, No. 4, Abstract T3328, October 26-30, 2003, Salt Lake City, Utah.
  21. **Salama NN**, Fasano A, Eddington ND. A Significant increase in the Transport and Oral Bioavailability of Paracellular Markers, Antiviral and Immunosuppressant Drugs achieved by reversible Tight Junction Opening with Delta G, a Novel Absorption Enhancer, 18<sup>th</sup> Annual Meeting and Exposition of the American Association of Pharmaceutical Scientists, AAPS Pharm Sci Vol. 5, No. 4, Abstract R6098, October 26-30, 2003, Salt Lake City, Utah.
  22. **Salama NN**, Scott K, Eddington ND. In Vitro and in Vivo Functional Evaluation of The Enaminones as a Novel Series of P-glycoprotein Modulators for Different Therapeutic Agents, 18<sup>th</sup> Annual Meeting and Exposition of the American Association of Pharmaceutical Scientists, AAPS Pharm Sci Vol. 5, No. 4, Abstract R6097, October 26-30, 2003, Salt Lake City, Utah.
  23. **Salama NN**, Scott K, Eddington ND. Functional Screening Study in Vitro and in Vivo reveals a Novel Series of P-glycoprotein Modulators; Enaminones, 23<sup>rd</sup> Annual Meeting of Graduate Research Association of Students in Pharmacy (GRASP), Virginia Commonwealth University, May 30-June 1, 2003, Richmond, Virginia.
  24. **Salama NN**, Fasano A, Eddington ND. Delta G strikes against a Diversity of Life Threatening Diseases, University of Maryland School of Pharmacy, Pharmacy Research Day, May 16, 2003, Baltimore, MD.
  25. **Salama NN**, Scott K, Eddington ND. The Potential of Enaminones to enhance the Oral Bioavailability of Therapeutic P-glycoprotein Substrates, 25<sup>th</sup> Annual Graduate Research Conference, April 17, 2003, Baltimore, MD.
  26. **Salama NN**, Fasano A, Lu R, Eddington ND. The active fragment of Zonula Occludens Toxin (Zot), Delta G, increases the *in Vitro* Transport and the *in Vivo* Absorption of the Hydrophilic Paracellular Markers, Mannitol and Inulin and the Hydrophobic Anti-Cancer Agent, Paclitaxel, 17<sup>th</sup> Annual Meeting And Exposition of the American Association of Pharmaceutical Scientists, AAPS Pharm Sci Vol. 4, No. 4, Abstract T2176, November 10-14, 2002, Toronto, Canada.
  27. Khurana M, **Salama NN**, Scott KR, Eddington ND. Brain Uptake, Pharmacokinetics and Metabolic Profile of the Anti-Convulsant Enaminone, E121, after IP dosing in Sprague Dawley (SD) Rats, 17<sup>th</sup> Annual Meeting and Exposition of the American Association of Pharmaceutical Scientists, AAPS Pharm Sci Vol. 4, No. 4, Abstract M1284, November 10-14, 2002, Toronto, Canada.
  28. **Salama NN**, Eddington ND. The Effect of Delta G on *in Vitro* and *in Vivo* Paracellular Transport, University of Maryland School of Pharmacy, Pharmacy Research Day, May 2, 2002, Baltimore, MD.
  29. **Salama NN**, Eddington ND. Effect of the active fragment of Zonula Occludens Toxin (ZOT), Delta G, on the Oral Bioavailability of Mannitol, 24<sup>th</sup> Annual Graduate Research Conference, April 19, 2002, Baltimore County, MD.

30. **Salama NN**, Eddington ND. Effect of the active fragment of Zonula Occludens Toxin (ZOT), Delta G, on the Oral Bioavailability of Mannitol, American Association of Pharmaceutical Scientists-Philadelphia Pharmaceutical Forum, March 14, 2002, Ambler, PA.
31. Raje S, Gao H, **Salama NN**, Cao J, Newman AH, Eddington ND. Blood-Brain-Barrier Permeability, Brain Uptake and Pharmacokinetics of a Series of Novel Dopamine Uptake Inhibitors, The 3a [BIS(4'-Fluorophenylmethoxy)] Tropane Analogs: Potential Cocaine-Abuse Therapeutics, 16<sup>th</sup> Annual Meeting and Exposition of the American Association of Pharmaceutical Scientists, AAPS Pharm Sci Vol. 3, No. 3, 2001.
32. **Salama NN**, Gao H, Du J, Eddington ND. Opening of the Tight Junctions with Zonula Occludens Toxin (ZOT) in the BBB to enhance DM5 Drug Distribution to the Brain, 21<sup>st</sup> Annual Meeting of Graduate Research Association of Students in Pharmacy (GRASP), University of Connecticut, June 8-10, 2001, Storrs, CT.
33. **Salama NN**, Gao H, Du J, Eddington ND. Opening of the Tight Junctions with Zonula Occludens Toxin (ZOT) in the BBB to enhance DM5 Drug Distribution to the Brain, University of Maryland School of Pharmacy, Pharmacy Research Day, May 8, 2001, Baltimore, MD.

#### **HONORS & AWARDS:**

- |               |   |
|---------------|---|
| 2013          | Award recipient of the Instructional Design Academy (IDA) program, St. Louis College of Pharmacy, St. Louis, MO.  |
| 2009 and 2011 | Recognition award for publishing in International Scientific Research Journals, Cairo University, Cairo, Egypt.   |
| 2009          | <i>“Disease Associated Changes in P-glycoprotein in Acute Inflammation”</i> , selected podium presentation at the Annual Meeting and Exposition of The American Association of Pharmaceutical Scientists (AAPS) Symposium on The Role of ATP Binding Cassette Transporters in Tissue Defense and Organ Regeneration, Nov 8-12, 2009, Los Angeles, CA. |
| 2008-2009     | Postdoctoral Translational Scholars Program (PTSP), Multidisciplinary Career Development Award designed to recognize Future Translational Scientists, supported by Michigan Institute for Clinical and Health Research (MICH-R), University of Michigan, Ann Arbor, MI.   |
| 2008          | Complimentary Registration and Travel Grant (\$500) for the 13 <sup>th</sup> Annual International Conference on Continuous Renal Replacement Therapy (CRRT 2008), Feb 27-March 1 <sup>st</sup> , 2008, San Diego, CA.   |
| 2007          | Complementary Registration for the 37 <sup>th</sup> Critical Care Congress, awarded by Society of Critical Care Medicine, February 2-6, 2008, Honolulu, Hawaii.   |
| 2004          | Invited Member of the National Honor Society of Phi Kappa Phi.  |
| 2004          | Arthur Schwartz Award for Academic Advancement, University of Maryland, Graduate Student Association, Baltimore, MD.  |
| 2004          | Selected to represent the University of Maryland School of Pharmacy, Department of Pharmaceutical Sciences in the Globalization of Pharmaceutics Education Network (GPEN)-International Graduate Student Meeting, Kyoto, Japan.   |
| 2003 – 2004   | Ralph Shangraw Fellowship, University of Maryland School of Pharmacy, Department of Pharmaceutical Sciences, Baltimore, MD.   |

- 2002 Member of the Rho-Chi National Pharmacy Honor Society.
- 2002 Graduate Student Association Travel Award, for Participation at the American Association of Pharmaceutical Scientists-Philadelphia Pharmaceutical Forum, Ambler, PA.
- 1999 The Pharmacists Club Award, for the Best Pharmacy Graduate of the Faculties of Pharmacy Nationwide (Egypt) for the academic year 1997-1998, awarded on the Pharmacist Recognition Day.
- 1998 Cairo University-Faculty of Pharmacy Recognition Award, recognizing the highest grades achieved in the Undergraduate Pharmacy Courses of: Pharmaceutics, Industrial Pharmacy, Pharmaceutical Legislation, Pharmacognosy, Applied Pharmacognosy & Phytochemistry, Toxicology & Bioassay, Biochemistry, And Pharmaceutical Microbiology.
- 1994-1998 Cairo University-Faculty of Pharmacy Award for Excellence and Distinctive Ranking, for achieving and maintaining a Cumulative Grade of Excellent with Honors and the 1<sup>st</sup> Rank throughout the five years of the Undergraduate Pharmacy Program.
- 1993 National Science Award, for Excellence and Distinctive Ranking in the General Secondary School Certificate Examination.
- 1993 Giza Governorate Award, for the Highest Score and 1<sup>st</sup> Rank in the General Secondary School Certificate Examination in the Giza Governorate.

### **GRANT FUNDING**

- May 2013 Grant's title: Renal and Hepatic Changes in Transporter regulation under acute inflammation.  
Funding agency: St. Louis College of Pharmacy- Faculty Research Incentive Fund. Role: Principal Investigator, Status: funded **\$10,000**, Funding period: 06/2013 to 06/2015.
- October 2012 Grant's title: Changes in the expression of the breast cancer resistance protein under acute inflammation.”  
Funding From the University of New Mexico. Role: Principal Investigator (collaboration with Dr. Lynda Welage (Co-PI), U. of New Mexico) Status: **funded up to \$10,000** for research supplies, Funding period: 06/2012 to 08/2012
- June 2011 Grant's title: Changes in the expression of the breast cancer resistance protein under acute inflammation.  
Funding agency: The Inflammation Foundation core equipment. Role: Principal Investigator, Status: Not funded.
- Fall 2011 Grant's title: Pharmacokinetics of Single-Dose Oral Ranolazine in Hemodialysis Patients. Funding agency: Gilead Sciences. Role: Co-investigator (PI: Bruce Mueller, U. of Mich), Status: funded **\$130,000**. Funding period: 7/1/2011 to 4/30/2013
- March 2011 Grant's title: Changes in the expression of the breast cancer resistance protein under acute inflammation.  
Funding agency: St. Louis College of Pharmacy- Faculty Research



- Incentive Fund. Role: Principal Investigator, Status: Funded **\$10,000**,  
Funding period: 04/26/2011 to 12/31/2013.
- Sept 2010 Grant's title: Changes in P-glycoprotein under acute inflammation  
Funding agency: American Association of Colleges of Pharmacy  
(AACP). Role: Principal Investigator, Status: Not funded
- July 2010 Grant's title: Multiple Dose Pharmacokinetics and Pharmacodynamics of  
Daptomycin in Chronic Hemodialysis Patients. Funding agency:  
Cubist Pharmaceuticals. Role: Co-Principal Investigator Status: on hold

### **TEACHING EXPERIENCE**

- Assistant Professor of Pharmaceutics, **St. Louis College of Pharmacy**, Division of Basic and Pharmaceutical Sciences, St. Louis, MO.
 

2010 – current	Pharmaceutics (PH3100)
2010 – 2011	Special Project in Biopharmaceutics (SP4740)
2009 – current	Biopharmaceutics (PH4100)
- Adjunct Clinical Instructor, **University of Michigan**, College of Pharmacy, Department of Clinical, Social and Administrative Sciences, Ann Arbor, MI:
 

2007 - 2009	Investigations in Pharmacy (Pharmacy 569). <u>Topic:</u> Hands-on training on Pharmacokinetic Data Analysis (WinonLin)
2007 - 2008	Pathophysiology & Therapeutics (Pharmacy 431). <u>Topic:</u> Pathophysiology of the Kidney and the Renin-Angiotensin-Aldosterone System.
2007	Pharmaceutical Care (Pharmacy 352). <u>Topic:</u> Aseptic Compounding Techniques.
- Teaching and Research Assistant, **University of Maryland**, School of Pharmacy, Department of Pharmaceutical Sciences, Baltimore, MD:
 

2003	Biopharmaceutics and Pharmacokinetics (PHAR 541 & PHAR 602). <u>Topic:</u> Physiological Factors that Affect Drug Absorption.
2000 - 2001	Pharmacy Calculations and Pharmaceutical Compounding Laboratories. <u>Topic:</u> Prescription Filling and Preparation of Solid and Liquid Dosage Forms
- Teaching and Research Assistant, **Cairo University**, Faculty of Pharmacy, Department of Pharmaceutics and Industrial Pharmacy, Cairo, Egypt:
 

1998 - 2000	Pharmaceutics Laboratory Sessions. <u>Topics:</u> Prescription Filling, Preparation of Solid and Liquid Dosage Forms, Biopharmaceutics, and Pharmacokinetics.
1998 - 2000	Industrial Pharmacy Laboratory sessions. <u>Topics:</u> Basic Concepts and Operation of Industrial Pharmaceutical Equipment.

**CLINICAL TRAINING:**

- 2007 - 2009 Clinical Immersion in Intensive Care Units as part of Postdoctoral Translational Scholars Program (PTSP) training, supported by Michigan Institute for Clinical and Health Research (MICH-R), University of Michigan Hospital Systems.
- 2007 - 2009 Participated in 1.5 Year Clinical Training Program including course work and workshops focusing on: Design, Conduct and Analysis of Clinical Trials, Regulatory Affairs and Funding Sources, Responsible Research and Scholarship Ethics.
- 2007 - 2009 Clinical research experience in Dialysis and Critical Care Settings.
- 03/2007 Educational Limited Pharmacy Intern License (# 5302037646), MI.
- 06/2006 Foreign Pharmacy Equivalency Examination, National Association of Boards of Pharmacy, Mount Prospect, IL.

**MENTORSHIP EXPERIENCE**

- 2012-2013 Research Training with Professional Students, St. Louis College of Pharmacy, St. Louis, MO.
- Joseph Abraham, Pharm D. candidate.
  - Thanh Thao T. Nguyen, Pharm.D. candidate
  - Saba Mehkri, Pharm.D. candidate
  - Rebecca Gilene, Pharm.D. candidate
  - Kara Dyson, Pharm.D. candidate
  - Saba Aziz, Pharm.D. candidate
  - Khuloud Al-Joudi, Pharm.D. candidate
- 2007 - 2009 Research Training with Professional Students in Laboratory Settings, University of Michigan College of Pharmacy, Ann Arbor, MI.
- Stephen Marc Stout, Pharm.D.
  - Carrie Deierlein, Pharm.D.
  - Jennifer Lunger, Pharm.D. candidate
  - Anne Chen, Pharm.D. candidate
  - James Stevenson, Pharm.D. candidate
- 2004 - 2005 Research Training with Professional and Graduate Students, University of Washington School of Pharmacy, Seattle, WA.

**INVITED PRESENTATIONS:**

- 05/2010 Society of cosmetic chemists monthly meeting, St. Louis, MO. Title: Bioavailability of Drug Actives in Over The Counter Drugs.
- 03/2010 BIT Life Sciences 3<sup>rd</sup> Annual Protein and Peptide Conference (PepCon 2010), Conference Theme: After a Solution for the Machines of Life, Session: Protein Trafficking/ Transport/ Translocation, Assembly, Beijing, China. Title: Zonula Occludens Toxin and Its Derivatives Show Potential Success as Novel Absorption Enhancers Improving Drug Delivery
- 11/2009 23<sup>rd</sup> Annual Meeting and Exposition of The American Association of Pharmaceutical Scientists Symposium on The Role of ATP Binding

- Cassette Transporters in Tissue Defense and Organ Regeneration, Los Angeles, CA. Title: Disease Associated Changes in P-glycoprotein in Acute Inflammation.
- 02/2005 Natestch Pharmaceutical Company, Inc., R&D Department Seattle, WA. Title: Improving the Transport and Oral Bioavailability of Therapeutic Agents via Modulation of the Paracellular Pathway by Delta G and Inhibition of P-glycoprotein mediated Drug Efflux.
- 11/2003 University of Washington, Department of Pharmaceutics, Seattle, WA. Title: Novel Approaches to improve the Transport and Oral Bioavailability of Therapeutic Agents via Modulation of the Paracellular Absorption and Inhibition of P-glycoprotein.
- 08/2003 University of Maryland, School of Medicine, Department of Pediatrics and Gastroenterology, Baltimore, MD. Title: Improving Low Oral Bioavailability: in vivo and in vitro evaluation of  $\Delta G$  as an Absorption Enhancer.
- 06/2003 Howard University, Department of Pharmaceutical Sciences, Washington D.C. Title: The Potential use of Enaminones as Novel P-glycoprotein Inhibitors to enhance the Oral Bioavailability of P-gp Substrate Therapeutic Agents.
- 05/2002 University of Maryland, School of Medicine, Department of Pediatrics and Gastroenterology, Baltimore, MD. Title: The Effect of Delta G on in Vitro and in Vivo Paracellular Transport.

#### **PROFESSIONAL MEMBERSHIPS:**

- 2009 American Association of Colleges of Pharmacy
- 2007 Society of Critical Care Medicine.
- 2006 The American Association for the Advancement of Science Program for Excellence in Science.
- 2004 The Honor Society of Phi Kappa Phi.
- 2002 The Rho-Chi National Pharmacy Honor Society.
- 2001 The American Association of Pharmaceutical Scientists.
- 1998 The General Syndicate of Pharmacists in Egypt.
- 1998 The Egyptian Association of Pharmacists.

#### **PROFESSIONAL SERVICE RECORD:**

- 05/2013 Invited Reviewer for abstracts submitted to the Pharmacokinetics, Pharmacodynamics and Drug Metabolism Section for the 2013 American Association of Pharmaceutical Scientists annual meeting and exposition, San Antonio (November 2013).

- 5/2013 Invited Speaker at the first Career Day, “the Role of a Pharmacist Faculty member”, Meramec Elementary School (KG to 5<sup>th</sup> grade).
- 4/2013 Invited speaker at the “Catalysts for Change”, STEM (Biology/Biotechnology, Physical Sciences, Engineering) workshop, organized by the American Association of University Women (AAUW), Women’s Society of Washington University and the Department of Chemistry at Washington University [three-tiered mentoring program between graduate, undergraduate, and high-school students].
- 04/2012 Invited Reviewer for abstracts submitted to Physical Pharmacy and Biopharmaceutics Section and the Pharmacokinetics, Pharmacodynamics and Drug Metabolism Section for the 2012 American Association of Pharmaceutical Scientists annual meeting and exposition, Chicago, IL (October 2012).
- 2012-2013 AACP Council of Faculties, Rules and Resolutions Committee  
 11/2012 -Current Editor, Natural Products Chemistry & Research  
 01/2012-Current Editor, Open Journal of Applied Sciences
- 2011-2012 AACP Council of Faculties, Faculty Affairs Standing Committee
- 2011-2013 and 2014-2016 Faculty Governance Committee elected divisional representative, St. Louis College of Pharmacy, St. Louis, MO.
- 2011-2013 Animal Care and Use Committee, Chair, St. Louis College of Pharmacy, St. Louis, MO.
- Spring 2011 Faculty search committee, St. Louis College of Pharmacy, St. Louis, MO.
- 4/2011 2<sup>nd</sup> Student Research Symposium organizing Committee, St. Louis College of Pharmacy, St. Louis , MO.
- 3/2011 Participated in the “Catalysts for Change” Biology and biotech mentoring session, organized by the American Association of University Women (AAUW) , which focused on enhancing the current Women in Science program at Washington University by providing a three-tiered mentoring program for 9th grade women at University City High and women pursuing a PhD in the sciences
- 09/2010-07/2011 Initiated and established an Interinstitutional Agreement for sharing of research animal facilities between Washington University in St. Louis and St. Louis College of Pharmacy.

- 2009-2011 and  
2012-2013  
2009-2010
- Research and Scholarly Activity Committee, elected divisional representative, St. Louis College of Pharmacy, St. Louis, MO.  
Ad hoc curriculum design committee, St. Louis College of Pharmacy, St. Louis, MO.
- Design of integrated “Asthma” model
  - Design of “Foundation courses”
- 2007
- Consultant – Novel Technologies in Oral Drug Delivery - The Frankel Group, [www.Frankel-Group.com](http://www.Frankel-Group.com), A Life Science focused Management consulting firm based in New York City.
- 2004
- Participated in the organization of the University of Maryland School of Pharmacy Research Day, as a Member of the Graduate Studies And Research Committee.
- 2003 - 2004
- Selected as the Graduate Student Member of the Graduate Studies and Research Committee, School of Pharmacy, University Of MD.
- 2003 - Current
- Invited Journal Reviewer for:
- Biochemical Pharmacology
  - Clinical Journal of the American Society of nephrology
  - Journal of Pharmacology and Experimental Therapeutics
  - Journal of Pharmaceutical Sciences
  - American Journal of Health-System Pharmacy
  - Journal of Pharmacy and Pharmacology
  - European Journal of Cancer
  - Recent Patents on Drug Delivery and Formulation
  - Critical Care Medicine
- 2001 - 2002
- Elected Graduate Student Association Representative in the Pharmacy Graduate Student Association (PGSA) for two consecutive terms, University of Maryland, Baltimore, MD.