

**Professor Abeer M. Al-Ghananeem, Ph.D.**

*Curriculum Vitae*

Associate Dean, Research and Graduate Program

Sullivan University College of Pharmacy

2100 Gardiner Lane

Louisville, KY 40205

USA

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**PROFESSIONAL HIGHLIGHTS:**

**Academic & Research Experience:**

- Over \$2.5M in grants/contracts as Principal Investigator and Co-PI
- Over 70 scientific publications/abstracts and patents or patents families pending.
- Citation Report (Google Scholar): h-index: 11; i10-index: 14; Sum of Times Cited: 380
- National and international news coverage on a medicated cavity fighting gum project funded by the Department of Defense Research Foundation
- Educational Research
- Advanced Drug Delivery and Pharmaceuticals PharmD Courses design/execution/coordinating
- The Flipped Classroom: Course design/execution to improve student engagement and learning
- Pharmaceutical R&D and product development
- Member of multi States and Nationwide research grants review panels

**Management & Leadership Experience:**

- Honored as a certified Academic Leadership Fellow (ALFP) of the American Association of Colleges of Pharmacy (AACCP).
- Associate Dean for Research and Graduate program, including oversight over:
  - Strategic planning and monitoring/developing faculty scholarly initiatives
  - Executive Committee member and strategic planning member for the College of Pharmacy accreditation by the USA Accreditation Council for Pharmacy Education (ACPE)
  - Design and draft Graduate Program Prospectus and scholarly documents for The USA Southern Association of Colleges and Schools Commission on Colleges (SACSCOC)
  - Embrace suitable environment for Student, staff, and faculty research initiatives
  - Chair University wide IRB
  - Chair Research Committee and Research Task Force
  - Voting member University wide Academic Council
  - Member at Faculty/Academic Leaders recruitments and search committees
  - Actively engaged with Assistant Provost for International Affairs
- Establishment of the Office of Research Newsletter, with the mission to spotlight faculty and students scholarly accomplishments and to develop a community of innovative faculty
- Consult with pharma and biotechnology companies on drug delivery/product development
- Write U.S. and foreign patent applications and respond to office actions
- Leadership of R&D and FDA registration regulations of ANDA and NDA applications

- Vice President for Scientific Affairs at a successful startup USA company
- Lead scientist for the first Kentucky state US FDA ANDA approved drug; intravenous dantrolene sodium (Revonto®)
- Led Chemistry, Manufacturing, and Control (CMC) presentations for US FDA NDA meetings

### **EDUCATION:**

- 1999            Ph.D., Pharmaceutical Sciences (Pharmaceutics/Drug Delivery)  
College of Pharmacy, University of Kentucky, Lexington, KY United States of America
- 1993            B.Sc. Pharmacy, College of Pharmacy, Jordan University, Amman, Jordan, with Distinction

### **LICENSURE & TRAINING:**

- 2014            American Association of Colleges of Pharmacy Academic Leadership Fellow  
Actively participated and graduated the following leadership focus sessions:
- Leadership and Self: Discovery and Teamwork
  - Leadership Potpourri: Constructing Skills, Historical Perspectives and Higher Education
  - Selling in Leadership and Current Topics in Leadership and Higher Education
  - Refining Self and Current Topics in Leadership
- 2003-2004    University of Kentucky, Lexington, KY - Post Doctorate Fellow, Industrial Pharmacy & Drug Delivery
- 2002-2003    University of Kentucky, Lexington, KY - Post Doctorate Fellow, Pharmaceutical Technology & Drug Delivery
- 1993-present Registered Pharmacist, Jordan

### **ADMINISTRATIVE POSITIONS:**

- 2012-Present Associate Dean, Research and Graduate Programs  
Sullivan University, College of Pharmacy  
Louisville, KY-USA
- 2008-2012    Vice President, Scientific Affairs  
US WorldMeds, LLC  
Louisville, KY-USA
- 2005-2011    Graduate School Ph.D. Advisory Committees  
University of Kentucky, College of Pharmacy  
University of Kentucky, College of Arts & Sciences  
Lexington, KY-USA

## **POSITIONS & ACADEMIC APPOINTMENTS:**

- 2015-Present Visiting Professor  
Al-Zaytoonah University of Jordan, College of Pharmacy, Amman, Jordan
- 2013-Present Professor  
Sullivan University, College of Pharmacy, Department of Pharmaceutical Sciences  
Louisville, KY-USA
- 2012-2013 Associate Professor  
Sullivan University, College of Pharmacy, Department of Pharmaceutical Sciences  
Louisville, KY-USA
- 2008-2012 Associate Professor, PT  
Sullivan University, College of Pharmacy, Department of Pharmaceutical Sciences  
Louisville, KY-USA
- 2011-2012 Visiting Professor  
Jordan University, College of Pharmacy  
Amman, Jordan
- 2010-2011 Associate Professor, PT  
University of Kentucky, College of Pharmacy, Department of Pharmaceutical Sciences, Division of  
Drug Development and Delivery  
Lexington, KY-USA
- 2005-2009 Assistant Professor  
University of Kentucky, College of Pharmacy, Department of Pharmaceutical Sciences, Division of  
Drug Development and Delivery  
Lexington, KY-USA
- 2003-2004 Research Associate, Postdoctoral Fellow  
University of Kentucky, College of Pharmacy, Department of Pharmaceutical Sciences  
Lexington, KY-USA
- 2002-2003 Postdoctoral Scholar Fellow  
University of Kentucky, College of Pharmacy, Department of Pharmaceutical Sciences  
Lexington, KY-USA
- 2001-2002 Pharmaceutical Internship  
Eckerd Pharmaceutical Company  
Irving, TX-USA
- 2000-2001 Assistant Professor  
University of Jordan, College of Pharmacy, Department of Pharmaceutical Sciences  
Amman, Jordan
- 1996-1999 Teaching Assistant, Graduate Student  
University of Kentucky, College of Pharmacy, Department of Pharmaceutical Sciences  
Lexington KY-USA

1993-1996 Lecturer, Teaching Assistant  
University of Jordan, College of Pharmacy, Department of Pharmaceutical Sciences  
Amman, Jordan

### **SELECTED PROFESSIONAL SERVICE:**

#### College level

2012-Present Member, Sullivan University College of Pharmacy Executive Committee  
2012-Present Member, Sullivan University College of Pharmacy Management Team  
2012-Present Chair, Sullivan University College of Pharmacy Research Committee  
2013-2014 Member, Sullivan University College of Pharmacy Curriculum Committee  
2013-2014 Chair, Sullivan University College of Pharmacy Graduate Program Steering Committee  
2014-Present Member, Sullivan University College of Pharmacy Continuous Education Committee  
2009-2010 Member, University of Kentucky College of Pharmacy Ethics and Professional Committee

#### University Level

2014-Present Member, Sullivan University Academic Council  
2014-Present Chair, Sullivan University IRB Committee  
2013 Member, Sullivan University College of Pharmacy Dean Search Committee  
2007-2008 Member, University of Kentucky Women Faculty Forum

#### National Level

2014-Present Member, American Association of Colleges of Pharmacy (AACP) Leadership Development Special Interest Group (SIG)  
2013-2015 Reviewer, American Association of Colleges of Pharmacy (AACP) Express Scripts Scholarship Program  
2013-Present Member, AACP Curriculum Committee of the Graduate Education Special Interest Group  
2013-Present Chair, AACP Soft Skills in Graduate Education Sub-Committee  
2013-Present Member, AACP Teachers of Pharmaceutics Section (TOPS) Annual Meeting Program Committee  
2013-Present Member, American Association of Pharmaceutical Scientists (AAPS) Targeted Drug Delivery & Prodrug Focus Group Committee  
2012-Present Member, Kentucky Nanotechnology Symposium Steering Committee - University of Louisville, University of Kentucky, Sullivan University and Western Kentucky University.  
2009-Present Member, Ohio Valley Affiliates for Life Sciences (OVALS)  
2002-present Member, AAPS Inhalation and Nasal Technology Focus Group

### **TEACHING EXPERIENCE:**

PBS 626/627 Advanced Drug Delivery (2 credit hours): Coordinator and teaching full course to PharmD PY2 students  
PBS 520 Biopharmaceutics and Pharmacokinetics (4 credit hours): Coordinator and teaching to PharmD PY1 students  
PHR 6003 Biopharmaceutics and Pharmacokinetics 1 (2 credit hours): Coordinator and teaching full course to PharmD PY2 students  
PHR 5404 Pharmaceutical Biotechnology (1 credit hour): Teaching topics in Production, Processing, and Formulation of biotech products to PharmD PY2 students  
PBS 518 Pharmaceutics II with Laboratory (4 credit hours): Teaching topics in solid, semisolid, and liquid dosage forms with laboratory to PharmD PY2 students  
PHR 760 Introduction to Pharmaceutical Sciences (2 credit hours, elective): Teaching topics in drug development Good Manufacturing Practice (cGMP) per FDA guidelines to Ph.D. students

Further topics taught and/or coordinated across the academic experience to PharmD and Ph.D. students:

Pharmaceutical Technology  
Special Topics in Drug Delivery  
Clinical Pharmacokinetics I & II  
Pharmaceutics I & II  
Nanotechnology and Pharmaceutical Applications  
Drug Development Policies & Guidelines  
Dosage Form Design  
Chromatography Application & Instrumental Analysis  
Pharmacology and Medicinal Chemistry II, III, and IV  
Wilderness Medicine

#### **Ph.D. DISSERTATION COMMITTEE ACTIVITY:**

A graduate faculty in the following University of Kentucky students' Ph.D. dissertation advisory committees

Harpreet Kaur Dhooper  
Ujjwal Chakraborty  
Joshua Eldridge  
Sujit Pawar

#### **CONSULTANCIES:**

Adams Respiratory Therapeutics Inc, USA  
Ceptaris Therapeutics Inc, USA  
Louisiana Board of Regents, USA  
Teva Pharmaceutical Industries Ltd, USA  
USWorldMeds LLC, USA  
Union Springs, LLC, USA  
Yaupon Therapeutics Inc, USA

#### **HONORS AND AWARDS:**

2008 Nanotechnology Symposium Outstanding Research Paper Award  
2007 Pfizer Company Career Development Award  
2006 American Cancer Society IRG Award  
2006 Kentucky Science and Technology Corp. (KSTC) STTR/SIBR workshop award  
1999 P&G Drug Delivery Award  
1998 Rho Chi American Pharmaceutical Honor Society

#### **AWARDED RESEARCH GRANTS:**

1. Union Springs Industrial Grant: *Assessment and development of natural supplement based formulations for ADHD*, \$10,000 (6/2014-12/2014). Role: PI
2. US WorldMeds Industrial Grant: *Development of Stable Apomorphine Solutions and Oral Tablets Formulations*, \$136,000 (11/2012-11/2014). Role: PI
3. US Research Foundation: *Formulation development of intravenous nanoemulsion and lipid-drug complex products*, \$40,000 (10/2011-09/2012). Role: PI

4. KSTC R&D Grant, USWM, *Formulation development of intravenous and oral dosage forms*, \$338,572 (10/2007 - 09/2011). Role: PI
5. Swedish Match North America Inc. *Development of a microencapsulated system for food flavors*, \$275,796 (08/2005 - 09/2009). Role: PI since 08/2008
6. US Army Research Office, *Development of a sustained Antiplatelet, antimicrobial delivery system for KSL*, \$400,390 (01/2004 - 09/2009). Role: PI since 08/2008
7. KSTC R&D Voucher: *Product development and formulation*, \$975,088 (05/2002-09/2010). Role: CO-I
8. Pfizer Company Career Development Award, \$10,000 (09/2007- 08/2008). Role: PI
9. American Cancer Society IRG: *Hyaluronan Microspheres and Nanoparticles as Chemotherapeutic Delivery Device in Cancer Therapy*, \$20,000 (01/2007 – 05/2008). Role: PI
10. NIH/NCI PO1 CA104457 Subcontract from University of Vanderbilt: *Pharmacokinetics of Novel Radiation Sensitizers*, \$31,330. Role: CO- I
11. NIH/STTR: *Norketamine for Treatment of Pain*, \$259,841. Role: CO-I
12. NIH RO1 GM076063 Subcontract from University of California: *Formulation development for acid labile novel compound TRAM-34*, \$8,881 (09/2007 - 05/2008). Role: PI
13. Airmid Company Industrial Contract: *Formulation development for water insoluble novel compound PAP-1*, \$12,371 (09/2007 – 02/2008). Role: PI

#### **SELECTED SCIENTIFIC PROFESSIONAL PRESENTATIONS:**

- 2015 Keynote Speaker: Nanotechnology Delivery Systems for Drug Targeting to the Brain through Intranasal Route. 1<sup>st</sup> International Conference of the Jordanian Faculties of Pharmacy "JFP", Amman, Jordan.
- 2015 Keynote Speaker: Transmucosal Drug Delivery as a Promising Avenue for Breakthrough Cancer Therapy. 5<sup>th</sup> Al-Zaytoonah University of Jordan International Pharmaceutical Conference (ZTIPC 2015), Amman, Jordan.
- 2015 Invited Speaker: Drug Development and Clinical Trials Challenges for Natural Products-Based Drug Candidates. 1<sup>st</sup> International Conference on Natural Products and Drug Discovery. Amman, Jordan.
- 2015 Invited Speaker: Eye on the Future: Transmucosal Drug Delivery as a Promising Avenue for Breakthrough Cancer Therapy. 1<sup>st</sup> International Controlled Release Society Congress. Aegli Zappiou, Greece.
- 2014 Invited Speaker: SUCOP residents Teaching Certificate Session: Intellectual Property, Scholarship of Teaching and Learning (SoTL), and Grant Writing. Louisville, Kentucky
- 2014 Speaker and Moderator: SU Graduate Students Retreat Session: IRB guidelines and application submission requirements. Louisville, KY, USA.
- 2014 Speaker: Evolving Trends in Pharmacy Education. DUPHAT International Pharmaceuticals and Technologies Conference and Exhibition, Dubai, UAE
- 2013 Invited Judge and Moderator: 2<sup>nd</sup> Arab Innovation Network Annual Conference. Dead Sea, Jordan.
- 2013 Speaker: Transmucosal Drug Delivery for Breakthrough Cancer Therapy, DUPHAT International Pharmaceuticals and Technologies Conference and Exhibition, Dubai, UAE
- 2013 Invited Guest Speaker: Trends and Innovations in Pharmacy Education. Jordan University, College of Pharmacy. Amman, Jordan.
- 2013 Invited Guest Speaker: Trends and Innovations in Pharmacy Education. Al-Zaytoonah University, College of Pharmacy. Amman, Jordan.

- 2013 Invited Guest Speaker: Graduate Education in USA. The 3<sup>rd</sup> Students Pharmaceutical conference by Jordan Board of Pharmacy. Amman, Jordan.
- 2013 Speaker: Hyaluronic Acid Nanoparticles for Sustained Paclitaxel Delivery after Intra-Tumor Injection. 1<sup>st</sup> Annual Kentucky Nanotechnology Symposium. University of Louisville. Louisville, Kentucky, USA.
- 2012 Invited Speaker: The New Trends in Pharmacy Education and Practice. The 14<sup>th</sup> Annual Congress of the Scientific Association of Colleges of Pharmacy in the Arab World & The 2<sup>nd</sup> International Conference of the College of Pharmacy and Health Sciences, in Ajman UAE
- 2011 Invited Speaker: Challenges in Parenteral Dosage Form Preparations of Slightly Water-Soluble Drugs: Dantrolene Sodium a Successful Example of Academic-Industrial Collaboration. The 3<sup>rd</sup> International Conference on Drug Discovery and Therapy, Dubai, UAE
- 2010 Speaker, Symposium in Drug Discovery and Development. Lexington, KY, USA
- 2010 Invited Speaker: Pharmaceutical Development and Advances in Analytical Chemistry. The 5<sup>th</sup> National Analytical Chemistry Congress in Erzurum, Turkey
- 2010 Speaker: Nanotechnology and Therapeutics, International Conference on RNA, Cleveland, OH, USA
- 2009 Invited Speaker: Engineered Nanoparticles for Intratumor Cancer Therapy. International Congress on Tissue Engineering, Alexandria, Egypt
- 2009 Invited Speaker: Nanoparticulate Delivery Systems for Drug Targeting to the Brain through Intranasal Drug Delivery. The Sullivan University Nanotechnology Symposium, Louisville, KY, USA
- 2008 Invited Speaker: Nanotechnology in Breast Cancer Therapy. The Sullivan University Nanotechnology Symposium, Louisville, KY, USA
- 2007 Organizer and Moderator of Sunrise Session: Assessment of Nasal Drug Delivery in Humans Using Radionuclide Imaging Techniques. American Association of Pharmaceutical Scientists Annual meeting in San Diego, CA, USA
- 2007 Speaker: Paclitaxel-Loaded Cross-Linked Hyaluronan Nanoparticles for Breast Cancer Therapy. 16<sup>th</sup> International Symposium on Microencapsulation, Lexington, KY, USA.

#### **EDITORIAL ACTIVITIES:**

- 2013- on Editorial Board, Member, *Clinical & Experimental Pharmacology*
- 2007-on Editorial Board, Member, *Jordan Journal of Pharmaceutical Sciences*
- 2009- on Editorial Board, Member, *Journal of Advanced Research*
- 2011- on Editorial Board, Member, *International Journal of Life Sciences and Medical reviews*
- 1999-on Reviewer, *Journal of Pharmaceutical Sciences*
- 1999-on Reviewer, *AAPS PharmSci Tech Journal*
- 2005-on Reviewer, *European Journal of Pharmaceutics and Biopharmaceutics*
- 2007-on Reviewer, *Letters in Drug Design and Discovery*
- 2008-on Reviewer, *Nature Protocols*
- 2009-on Reviewer, *Journal of Drug Targeting*
- 2009-on Reviewer, *Journal of Microencapsulation*

#### **VISITING SCHOLARS TO PROFESSOR AL-GHANANEEM RESEARCH GROUP:**

- Dr. Mohammad Harb PhD., Assistant Professor, Sharjah University, 2011
- Dr. Bashar El Khaldi PhD., Assistant Professor, University of Jordan, 2010

Dr. Ahmed Hassan PhD., Professor, University of Damascus, 2010  
Mr. Mohammed Atiqzaman MS., Scientist, University of Bangladesh, 2009-2010  
Dr. Maggie Abbassi PhD., Assistant Professor, University of Cairo, 2008  
Dr. Hayder Saeed MD., PostDoctoral Scholar, University of Baghdad, 2007-2009

#### **PROFESSIONAL AFFILIATIONS:**

- Rho Chi American Pharmaceutical Honor Society (1998-present)
- American Association of Pharmaceutical Scientists (AAPS) (1998-present)
- American Association of Colleges of Pharmacy (AACP) (2003-present)
- Parenteral Drug Association (PDA) (2009-2010)
- Controlled Release Society (CRS) (2012-2015)
- American Chemical Society (ACS) (2008-2010)
- Jordan Association of Pharmacists (1993-present)
- Scientific Advisory Board, US WorldMeds, LLC (2005-2012)
- University of Kentucky Graduate Faculty (2005-2013)
- Susan Komen Breast Cancer Foundation (2005-2009)
- University of Sullivan College of Pharmacy, Nanosymposium International Advisory Board (2009-2011)
- Kentucky Nano Symposium Steering Committee (2012-present)

#### **RECORDS OF INVENTIONS:**

1. Co-solvent System for the Preparation of a Rapidly Reconstituted Freeze-dried Dantrolene Sodium Drug Product for Intravenous Injection. Ahmad Malkawi, Abeer Al-Ghananeem, Patrick DeLuca, and George A. Digenis. USPTO 20110160261 (2011)
2. Intranasal Delivery System for Dantrolene. Abeer M. Al-Ghananeem. PCT/US2010/032375 (2010)
3. Ketorolac Sublingual Spray for the Treatment of Pain. Abeer M. Al-Ghananeem. USPTO 20090246273A1 (2009)
4. Skin Patches and Sustained-Release Formulations Comprising Lofexidine for Transdermal and Oral Delivery. Abeer M. Al-Ghananeem. PCT/US09/048621 (2009)
5. Transmucosal drug delivery of Lofexidine. Abeer M. Al-Ghananeem. PCT/US09/38172 (2009)
6. Transdermal Delivery of Apomorphine Hydrochloride Using Microneedles. Abeer M. Al-Ghananeem, PCT/US09/54604 (2009)
7. Stabilized compositions of volatile alkylating agents and methods of using thereof. Crooks PA, Lessin SR, Pimley MA, Alonso R, Al-Ghananeem A. PCT international application WO/2006/099385 (2007), European Patent No. EP1858864 (2007), U.S. patent Application No. US2008/0194699 (2008)
8. Lofexidine enantiomers for use as a treatment for CNS disease and pathologies and its chiral synthesis. Digenis G, Crooks, PA, and Al-Ghananeem A. U.S. Patent No: US 2006-376710 20060314. Priority: US 2005-661525 20050314 (2008)
9. Scopolamine sublingual spray for the treatment of motion sickness. Crooks P, Al-Ghananeem A, and Malkawi A. U.S. Patent No. : US 2006-360690 20060224. Priority: US 2005-656359 20050225 (2006)
10. Sublingual spray for the treatment of pain. By Peter A. Crooks, Abeer Al-Ghananeem, and Ahmad H. Malkawi, PCT Int. Appl. No. WO 2006105205. Priority: US 2005-666060 (2006)
11. Intranasal codeine for the rapid suppression of cough and rapid relief of pain. Hussain A, Dittert L, and Al-Ghananeem A. PCT international application WO 99-US23788 19991014. Priority: US 98-104272 19981014 (2000)



## PUBLISHED BOOKS:

**Drug Targeting to the Lung: Chemical and Biological Consideration.** Crooks PA and Al-Ghananeem AM. *Pharmaceutical Aerosol Technology; Drugs and the Pharmaceutical Sciences Series/134*, Second edition. Anthony Hickey, Marcel Dekker, NY 200X 0097142232646. ISBN: 0-8247-4253-2. Sept 2003.

**Nanoparticles as Delivery System in Breast Cancer Therapy.** Al-Ghananeem AM and Saeed H. *Advances in Nanotechnology and Applications*, Volume 1. Pathak YV and Tran HT, Center for Nanotechnology: Education, Research, and Applications, 1-4392-5489-3. Oct 2009.

## PEER-REVIEWED PUBLICATIONS:

*\*Corresponding author*

1. **Biotechnology in practice: call for incorporation of biosimilars into pharmacy education.** Malcom DR and Al-Ghananeem AM\*. *Currents in Pharmacy Teaching and Learning*. 2014, doi: <http://dx.doi.org/10.1016/j.cptl.2014.11.001>
2. **Intranasal drug delivery of olanzapine-loaded chitosan nanoparticles.** Baltzley S, Mohammad A, Malkawi AH, Al-Ghananeem AM\*. *AAPS PharmSciTech*. 2014, 15(4). doi: 10.1208/s12249-014-0189-5
3. **Advances in brain targeting and drug delivery of anti-HIV therapeutic agents.** Al-Ghananeem AM\*, Michael Smith, Maria Coronel, Hieu Tran. *Expert Opinion on Drug Delivery*. 2013, 10(7), 973-985.
4. **Sublingual and nasal transmucosal drug delivery for breakthrough pain: a frontier in cancer therapy.** Al-Ghananeem AM\*. *Journal of Bioequivalence and Bioavailability*. 2013, 5(3), Editorial. doi:10.4172/jbb.10000e29
5. **Bioavailability of  $\Delta^9$ -tetrahydrocannabinol following intranasal administration of a mucoadhesive gel spray delivery system in conscious rabbits.** Al-Ghananeem AM\*, Malkawi AH, Crooks, PA. *Drug Dev Ind Pharm*. 2011, 37(3), 329-334.
6. **Formulation-based approach to support early drug discovery efforts: a case study with enteric microencapsulation dosage form development for a triarylmethane derivative TRAM-34; a novel potential immunosuppressant.** Al-Ghananeem AM\*, Abbassi M, Shrestha S, Raman G, Wulff H, Pereira L, Ansari A. *Drug Dev Ind Pharm*. 2010, 36(5), 563-569
7. **Intranasal drug delivery of didanosine loaded chitosan nanoparticles for brain targeting; an attractive route against infections caused by aids viruses.** Al-Ghananeem AM\*, Saeed H, Florence R, Yokel RA, Malkawi AH. *Journal of Drug Targeting*. 2010, 18(5), 381-388.
8. **Materials for pharmaceutical dosage forms: molecular pharmaceuticals and controlled release drug delivery aspects.** Mansour HM, Sohn M, Al-Ghananeem AM, DeLuca PP. *International Journal of Molecular Sciences*. 2010, 11, 3298-3322.

9. **Urine and plasma pharmacokinetics of lofexidine after oral delivery in opiate dependent patients.** Al-Ghananeem AM\*, Herman B, Abbassi M, Yu E, Miotto K, O'Brien; Ling; Montgomery A, Walsh R. *Am J Drug Alcohol Abuse*. 2009, 35(5), 311-315.
10. **Intratumoral Delivery of Paclitaxel in Solid Tumor from Biodegradable Hyaluronan Nanoparticle Formulations.** Al-Ghananeem AM\*, Malkawi AH, Muammer YM, Balko JM, Black EP, Mourad W, Romond E. *AAPS PharmSciTech*. 2009, 10(2), 410-117.
11. **Pharmacokinetics of Lofexidine Hydrochloride in Healthy Volunteers.** Al-Ghananeem AM\*. *J Pharm Sci*. 2009, 98(1), 319-326.
12. **Nicotine exposure can be detected in cerebrospinal fluid of active and passive smokers.** Malkawi, AH, Al-Ghananeem, AM, de Leon J, Crooks PA. *J Pharmaceut Biomed*. 2009, 49(1), 129-132.
13. **Clinical Pharmacokinetics of Lofexidine, the  $\alpha$ 2-Adrenergic Receptor Agonist, in Opiate Addicts Plasma Using a Highly Sensitive Liquid Chromatography Tandem Mass Spectrometric Analysis.** Yu E, Miotto K, Akerele E, O'Brien CP, Ling W, Kleber H, Fischman MW, Elkashef A, Herman BH, and Al-Ghananeem AM\*. *Am J Drug Alcohol Ab*. 2008, 34, 611-616.
14. **Gamma Scintigraphy for Testing Bioequivalence: A Case Study on Two Cromolyn Sodium Nasal Spray Preparations.** Al-Ghananeem AM\*, Sandefer EP, Doll WJ, Page RC, Chang Y, Digenis GA. *Int J Pharm*. 2008, 357(1-2), 70-76.
15. **Development of a GC-MS Assay for the Determination of Fentanyl Pharmacokinetics in Rabbit Plasma after Sublingual Spray Delivery.** Malkawi AH, Al-Ghananeem AM, and Crooks PA. *AAPS J*. 2008, (10)2, 261-267.
16. **An HPLC Method for the Simultaneous Determination of Neurotoxic Dipyrindyl Isomers in Human Plasma.** Malkawi A, Al-Ghananeem AM, Naseem S, de Leon J and Crooks PA. *J Pharmaceut Biomed*. 2007, 45(1), 120-124.
17. **Pharmacokinetic Study on Oral Z-( $\pm$ )-2-(1-Benzylindole-3-yl-methylene)-azabicyclo-[2.2.2]octane-3-ol; a Novel Radio-sensitization Agent.** Al-Ghananeem AM, Al-Bayati Z, Malkawi AH, Sonar VN, Freeman ML and Crooks PA. *A Cancer Chemoth Pharma*. 2007, 60(6), 915-919.
18. **A Novel Chemical Delivery System Comprising an Ocular Sustained Release Formulation of a 3 $\alpha$ , 17 $\alpha$ , 21-trihydroxy-5 $\beta$ -pregnan-20-one-BIS-5-Flourouracil Codrug.** Howard-Sparks M, Al-Ghananeem AM, Pearson A and Crooks PA. *Drug Dev Ind Pharm*. 2007, 33, 677-684.
19. **Scopolamine Sublingual Spray: An Alternative Route of Delivery for the Treatment of Motion Sickness.** Al-Ghananeem AM\*; Malkawi AH and Crooks PA. *Drug Dev Ind Pharm*. 2007, 33, 577-582.
20. **Phase I and Phase II Ocular Metabolic Activities and the Role of Metabolism in Ophthalmic Prodrug and Codrug Design and Delivery.** Al-Ghananeem AM and Crooks PA. *Molecules*. 2007, 12, 373-388.

21. **Opiate Receptor Binding Properties of Morphine-, Dihydromorphine-, and Codeine 6-O-sulfate Ester Congeners.** Crooks PA, Kottayil S, Al-Ghananeem AM, Byrn S and Butterfield A. *Bioorg Med Chem Lett.* 2006, 16(16), 4291-4295.
22. **Assessment of Nasal Drug Delivery in Humans Using Radionuclide Imaging Techniques.** Al-Ghananeem AM and Crooks PA. *Pharmaceutical Formulation and Quality.* 2006, 8(4), 38-43.
23. **Synthesis and Stability of Two Indomethacin Prodrugs.** Chandrasekaran S, Al-Ghananeem AM, Riggs R and Crooks PA. *Bioorg Med Chem Lett.* 2006, 6(7), 1874-1879.
24. **Effect of pH on Sublingual Absorption of Oxycodone Hydrochloride.** Al-Ghananeem AM, Malkawi AH and Crooks PA. *J Pharm Sci Technol.* 2006, 7(1), E23.
25. **Evaluation of  $O^{3\alpha}$ -, $O^{21}$ -di-( $N^1$ -methyloxycarbonyl-2,4-dioxo-5-fluoropyrimidinyl) $17\alpha$ -hydroxy- $5\beta$ -pregnan-20-one as a Novel Potential Antiangiogenic Codrug.** Howard-Sparks M, Al-Ghananeem AM, Pearson A and Crooks PA. *J Enzyme Inhib Med Chem.* 2005, 20(5), 417-428.
26. **Novel Antiglaucoma Prodrugs and Codrugs of Ethacrynic Acid.** Cynkowska G, Cynkowski T, Al-Ghananeem AM, Guo H, Ashton P and Crooks PA. *Bioorg Med Chem Lett.* 2005, 15(15), 3524-3527.
27. **Targeted Brain Delivery of  $17\beta$  Estradiol via Nasally Administered Water Soluble Prodrugs.** Al-Ghananeem AM, Traboulsi A, Dittert L and Hussain AA. *J Pharm Sci Technol.* 2002, 3(1), E5.

#### SELECTED ABSTRACTS/POSTERS:

1. **Design, formulation and *in vitro* dissolution of core-coat oral tablets containing immediate release antiemetic and sustained release chemotherapeutic agent.** Leah Johannes; Katie Trueblood; Katie Petrone; Catherine Pham; Anne Lei; Nu Nguyen; Sarah Baltzley; and Abeer Al-Ghananeem. (2015 AACP Annual Meeting, WA USA).
2. **Development of Alternative Acetaminophen Formulations for Pediatrics.** Jason Knopp; Leon Le; Caitlyn Elmes; Sarah Baltzley; Abeer Al-Ghananeem. (2015 AACP Annual Meeting, WA USA).
3. **Design and in-vitro release profiles for combined multilayer immediate release antiemetic and sustained release anticancer oral tablets.** Petrone K, Baltzley S, Al-Ghananeem AM. (2014 ASHP Midyear Clinical Meeting, CA USA).
4. **Design, synthesis and optimization of a novel amoxicillin-erdosteine codrug.** Camargo MA, Strano J, Smith M, Al-Ghananeem AM. (2014 ASHP Midyear Clinical Meeting, CA USA).
5. **A high-performance liquid chromatography (HPLC) stability indicating assay for Estradiol and related substances.** Baltzley S and Al-Ghananeem AM. (2014 AACP Annual Meeting, Grapevine, TX USA).
6. **Design, synthesis and kinetic study on a novel Amoxicillin-Erdosteine codrug.** Smith M, Baltzley S, Hoffman C, Al-Ghananeem AM. (2014 AACP Annual Meeting, Grapevine, TX USA).

7. **Design and Evaluation of Multilayer and Core Sustained Release Tablets.** Curry D, Rosas S, Richardson M, Baltzley S, Al-Ghananeem AM. (2014 AACP Annual Meeting, Grapevine, TX USA).
8. **Olanzapine formulations for intranasal drug delivery.** Baltzley S and Al-Ghananeem AM. (2013 AAPS Annual Meeting, San Antonio, TX, USA).
9. **Transdermal drug delivery of apomorphine using microneedles.** Al-Ghananeem AM, Malkawi AH, and Saeed H. (2013 AACP Annual Meeting, Chicago, IL, USA).
10. **Kinetics and mechanism of apomorphine hydrolysis.** Al-Ghananeem AM, Baltzley S, Zhao Y, Coronel L, Tran H. (2013 AACP Annual Meeting, Chicago, IL, USA).
11. **Novel experiential learning opportunity in pharmacy training: Molecular Biology research using cardiac stem cell model.** Sumanasekera WK, Thy Dao H, Mehul J, Shultz K, Felix G, Abdi F, Al-Ghananeem AM, Coronel L, and Tran H. (2013 AACP Annual Meeting, Chicago, IL, USA).
12. **Improvement of Academic Performances in a Pharmacy Didactic Course with the Initiation of Competency-Based Assessment.** Zhao Z, Coronel L, Koomer A, Al-Ghananeem AM, Tran H. (2013 AACP Annual Meeting, Chicago, IL, USA).
13. **Intranasal drug delivery of Olanzapine loaded chitosan nanoparticles.** Saeed H, Atiquzzaman M and Al-Ghananeem AM. (FIP Pharmaceutical Sciences 2010 World Congress in Association with the AAPS Annual Meeting and Exposition, New Orleans, LA, USA).
14. **In vivo assessment of paclitaxel-loaded hyaluronic acid nanoparticles in rats bearing 7,12-dimethylbenz[A]anthracene (DMBA) induced tumor.** Saeed H, Mourad W and Al-Ghananeem AM. (2009 AAPS Annual Meeting and Exposition, Los Angeles, CA, USA) Poster # R6259
15. **Intranasal drug delivery of didanosine loaded chitosan nanoparticles for brain targeting; an attractive route against infections caused by aids viruses.** Saeed H, Florence R, Yokel R and Al-Ghananeem AM. (2009 AAPS Annual Meeting and Exposition, Los Angeles, CA, USA) Poster # R6358
16. **Incremental versus cumulative in vitro release testing: a case study with methyl salicylate release from a microencapsulated system.** Saeed H, Sohn M, Ritchie C, DeLuca P and Al-Ghananeem AM. (2009 AAPS Annual Meeting and Exposition, Los Angeles, CA, USA) Poster # W5011
17. **Paclitaxel-Loaded Nanoparticles Based on Hyaluronic Acid Chemically Cross-Linked with Glutaraldehyde for Intratumor Cancer Therapy.** Al-Ghananeem AM. (2008 AAPS Annual Meeting and Exposition, Atlanta, GA, USA)
18. **Enteric Coating Microencapsulation of TRAM-34, a Novel Potent and Selective Inhibitor of the Intermediate-conductance  $Ca^{2+}$ -activated  $K^+$  Channel,  $KCa3.1$ : A Potential Immunosuppressant.** Shrestha S, Wulff H, Raman G, Pereira LE, Muammer Y, Ansari AA, Villinger F, Al-Ghananeem AM. (2008 AAPS Annual Meeting and Exposition, Atlanta, GA, USA)

- 19. Preclinical Pharmacokinetic Evaluation of Z-(±)-2-(1-Benzenesulfonyl-1H-indol-3-ylmethylene)-1-azabicyclo[2.2.2]octan-3-one (BSAO); a Novel Radio-sensitization Agent.** Al-Ghananeem AM, Malkawi AH, Al-Bayati ZF, Freeman ML, Crooks PA. (2008 AAPS Annual Meeting and Exposition, Atlanta, GA, USA)
- 20. Gamma Scintigraphy for Testing Bioequivalence: A Case Study on Two Cromolyn Sodium Nasal Spray Preparations.** Al-Ghananeem AM, Sandefer EP, Doll WJ, Page RC, Chang Y, Digenis GA. (2008 AAPS Annual Meeting and Exposition, Atlanta, GA, USA)
- 21. Pharmacokinetics of Lofexidine Hydrochloride in Healthy Volunteers.** Al-Ghananeem AM. (2008 AAPS Annual Meeting and Exposition, Atlanta, GA, USA).
- 22. In vivo Assessment of Paclitaxel-Loaded Hyaluronic Acid Nanoparticles in Rats.** Saeed H, Mourad M, Romond E and Al-Ghananeem AM. (Markey Cancer Center Research Day, University of Kentucky, Lexington, KY, USA)
- 23. Does the Use of Warmed Water for Injection Accelerate the Reconstitution of the Sparingly Water Soluble Drug Dantrolene Sodium.** Al-Ghananeem AM, Malkawi AH, Digenis GA, DeLuca P and Crooks PA. (2007 AAPS Annual Meeting and Exposition, San Diego, CA, USA)
- 24. A Pharmacokinetic Study on Z-(±)-2-(1-Benzylindole-3-yl-methylene)azabicyclo-[2.2.2]-octane-3-ol; a Novel Radio-sensitization Agent.** Al-Ghananeem AM, Al-Bayati Z, Malkawi A, Sonar VN, Freeman ML and Crooks PA. (2007 AAPS Annual Meeting and Exposition, San Diego, CA, USA)
- 25. Development and Validation of a Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) Method for the Determination of the Novel Radiosensitization Agent; Z-(±)-2-(1-Benzylindole-3-yl-methylene)azabicyclo-[2.2.2]-octane-3-ol (BMABO).** Al-Ghananeem AM, May J, Rogers B, Malkawi A, Thirupathi R, Sonar VN, and Crooks PA. (2007 AAPS Annual Meeting and Exposition, San Diego, CA, USA)
- 26. Kinetic Studies on Dantrolene Sodium.** Al-Ghananeem AM\*, Malkawi AH, Digenis GA, DeLuca P and Crooks PA. (2007 AAPS Annual Meeting and Exposition, San Diego, CA, USA)
- 27. A Pharmacokinetic Study on Z-(±)-2-(1-Benzylindole-3-yl-methylene)azabicyclo-[2.2.2]-octane-3-ol; a Novel Radio-sensitization Agent.** Al-Ghananeem AM\*, Al-Bayati Z, Malkawi AH, Sonar VN, Rogers B, Freeman ML and Crooks PA. Forefront of Basic and Translational Cancer Research 7th American Association for Cancer Research -Japanese Cancer Association Joint International Conference (2007 AACR-JCA Conference, Waikoloa, Hawaii, USA)
- 28. Drug-ability Case Study: Exploration of Structural Modifications and their Impact on Oral Bioavailability of Novel Radio-sensitization Agents (Z-(±)-2-(1-Benzylindole-3-yl-methylene)azabicyclo[2.2.2]octane-3-ol and Z-(±)-2-(1-Benzylindole-3-yl-methylene)azabicyclo[2.2.2]octane-3-ol).** Al-Ghananeem AM\*, Al-Bayati Z, Malkawi A, Sonar VN, Freeman ML and Crooks PA. (2007 233rd ACS National Meeting, Chicago, IL, USA)
- 29. Nasal Delivery of  $\Delta^9$ -Tetrahydrocannabinol Loaded Bioadhesive Chitosan Gels in Rabbits.** Al-Ghananeem AM\*, Malkawi AH and Crooks PA. (2006 AAPS Annual Meeting and Exposition, San Antonio, TX, USA)

- 30. Scopolamine Sublingual Spray: An Alternative Route of Delivery for the Treatment of Motion Sickness.** Al-Ghananeem AM, Malkawi AH and Crooks PA. (2006 AAPS Annual Meeting and Exposition, San Antonio, TX, USA)
- 31. A Highly Sensitive Analytical Method for 5-Fluorouracil in Plasma and Vitreous Humor by Liquid Chromatography-Mass Spectrometry.** Malkawi AH, Al-Ghananeem AM and Crooks PA. (2006 AAPS Annual Meeting and Exposition, San Antonio, TX, USA)
- 32. Sublingual Drug Delivery of Oxycodone for Acute Pain Management.** Al-Ghananeem AM\*, Malkawi AH and Crooks PA. (2005 AAPS Annual Meeting and Exposition, Nashville, TN, USA)
- 33. Sublingual Drug Delivery of Nicotine for Smoking Cessation.** Al-Ghananeem AM\*, Malkawi AH, Wei X and Crooks PA. (2005 AAPS Annual Meeting and Exposition, Nashville, TN, USA)
- 34. A Gas Chromatography and Mass Selective Method for the Determination of Fentanyl in Plasma at Nanogram Levels.** Malkawi AH, Al-Ghananeem AM and Crooks PA. (2004 AAPS Annual Meeting and Exposition, Baltimore, MD, USA)
- 35. A Stability Study of Dantrolene Sodium.** Al-Ghananeem AM\*, Neelakantan S and Crooks PA. (2003 AAPS Annual Meeting and Exposition, Salt Lake city, UT, USA)
- 36. Enhancement of Direct Brain Delivery of 17- $\beta$  Estradiol by the Administration of its Water Soluble Prodrugs via the Nasal Route.** Al-Ghananeem AM\*, Hussain M, Traboulsi A, Dittert L and Hussain A. (1999 AAPS Annual Meeting and Exposition, New Orleans, LA, USA)
- 37. Enzymatic Hydrolysis of *O*-2-Acetoxybenzyl-salicylamide. A Potent Oral Analgesic.** Wang H, Hussain A, Al-Ghananeem AM and Wedlund P. (1999 AAPS Annual Meeting and Exposition, New Orleans, LA, USA)