Curricular Vitae
Ali O. Azghani, Ph.D.

Professor of Biology
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ACADEMIC BACKBGOUND

Ph.D. 1986, Radiation Microbiology, Texas Woman's University (TWU), Denton, TX
M.Sc. 1981, Microbiology, TWU
B.Sc. 1972, Medical Technology, University of Tabriz, Tabriz, Iran
Fellow, Pulmonary Injury, 1986-1988, University of Texas Health Science Center, Tyler, Texas (UTHSCT)

EMPLOYMENT

2015– Present **Professor** of Biology, University of Texas at Tyler (UTT)
2005 – 2015 **Associate Professor,** UTT
2005 - Present *Adjunct Faculty***,** Biomedical Research, University of Texas Health Science Center, Tyler, Texas (UTHSCT)
1998 - 2005 **Assistant Professor** of Medicine, UTHSCT
1996 - 1998 **Director**, Research Projects, Infinity Care, Inc., Tyler, Texas
1992 - 1996 **Assistant Professor**, Biomedical Research, UTHSCT
1989 - 1992 **Instructor**, Department of Biochemistry, UTHSCT
1986 - 1989 **Postdoctoral *Fellow***, Dept. of Biochemistry, UTHSCT
1979 - 1985 **Teaching Assistant**, Dept. of Biology, TWU
1972 - 1976 **Medical Technologist**, Cardiovascular Research Institute, Tehran, Iran

TEACHING EXPERIENCE

2005 - Present University of Texas at Tyler
1994 - 2004 Adjunct Faculty, UTT
1990 -1992 Adjunct Faculty, Jarvis Christian College, Tyler, TX.
1988 -1990 Adjunct Faculty, Tyler Junior College
1978 - 1984 Teaching Assistant, TWU

Courses currently taught at UTT

BIOL 2301 **Anatomy and Physiology I & II**
Biol 3334 **Cell Biology**
BIOL 4350 **Immunology;** BIOL 4199 **Bacterial Pathogenesis**
BIOL 5383 **Host-Pathogen Interaction**;
BIOL 5380 **Cellular Physiology**;
BIOL 5193 **Graduate Seminar;**
BIOL 5396 **Thesis**

RESEARCH PROJECTS

I. Comparative Studies on the Antibiotic use in Clinical Settings in the USA and Azerbaijan

This Fulbright-funded project will conduct surveys on the adherence of clinicians to guidelines and patients' compliance in two different settings. We will identify antibiotic resistant clinical isolates common to East Texas, USA and Baku hospitals in relation to the set guidelines. We will designate genome-wide genetic determinants of antimicrobial drug resistance in target bacterial strains as well. In an effort to measure the outcomes of this evidence-based research, we will conduct seminars and training workshops for clinicians in Azerbaijan and will conduct a follow up survey in 2019.

II. Liposomal Antibiotics in Infection and Inflammation Therapy

Liposomes are emerging as a preferred drug carrier to combat antibiotic resistant strains due to their ability to fuse with the prokaryotic cell membrane as the endpoint of their carrier function. In this project, we investigate the efficacy of this alternate method on microbial adhesion, which is accepted as a prerequisite to *P. aeruginosa* colonization and infection. In an ongoing research with undergraduate research students, we are investigating the efficacy of both free and liposomal erythromycin in reducing inflammation in human alveolar cells. Using human A549 cells, we model inflammation and the immunomodulatory effects of erythromycin. We use an ELISA to determine exact concentrations of various mediators of inflammation including IL-8 and TNFα. **Our ultimate goal** is to understand the inflammatory process set forth by structural cells of the lungs in an effort to provide more options for relieving inflammation in the pulmonary system.

III. Cellular Mechanism of Pulmonary edema- *Pseudomonas aeruginosa* frequently infects patients with cystic fibrosis and immunocompromised individuals. One of the first steps in pulmonary injury is the loss of epithelium integrity; which is followed by inflammation and edema. Previous reports from our lab indicate that *P. aeruginosa* elastase (PE) activates host cells' signal transduction pathways that, in part, contribute to tight junction disruption. The exact mechanism of epithelial disruption, however, is not yet fully understood. **We investigate** the role of cell receptors and signaling cascades in PE-induced modification of Tight Junction organization and epithelial barrier integrity. An *in vitro* model of human pulmonary epithelial cell are being used by Derek Draper to investigate the molecular interactions between bacterial elastase and the host cells epidermal growth factor receptors.

IV. **Plasminogen Activator inhibitor (PAI-1) activity as a biomarker and target for therapeutic intervention.** Pleural loculation or scarring in the pleural space is now difficult to treat and is associated with poor outcomes. As a con-investigator of a research team at UT Health Northeast, we identified PAI-1 activity as a biomarker and target for therapeutic intervention. **The ultimate goal of the recently funded pre-clinical project by NIH**, is to identify a novel PAI-1-targeted intrapleural fibrinolytic therapeutic, which

we will advance to IND-enabling work in anticipation of near-term clinical trial testing to provide better, safer treatment for patients with pleural loculation.

V. The Effects of Microgravity on *S. tuberosum*
Resistance to *P. infestans.* This collaborative project is part of NASA's Student **Spaceflight Experiments Program** (SSEP). The 4 Bullard High School students in the team and their Biology teacher will prepare the space module and run the "earth part" of the experiment under my supervision in my lab at UT-Tyler. This experiment will be flown to the International Space Station Spring 2017.

PEER REVIEWED PUBLICATIONS (44)

Students' publications are in Italics

1. Florova G, Azghani AO, Karandashova S, Schaefer C, Yarovoi SV, Declerck PJ, Cines DB, Idell S, Komissarov AA. Targeting plasminogen activator inhibitor-1 in tetracycline-induced pleural injury in rabbits. Am J Physiol Lung Cell Mol Physiol. **2018** 314(1):L54-L68.

2. Precision-guided, Personalized Intrapleural Fibrinolytic Therapy for Empyema and Complicated Parapneumonic Pleural Effusions: The Case for the Fibrinolytic Potential. Idell S, Florova G, Shetty S, Tucker T, Idell R, Koenig K, **Azghani A**, Rahman NM, Komissarov A. **Clin Pulm Med. 2017** Jul;24(4):163-169.

3. 2. Efficacy of neutral and negatively charged liposome-loaded gentamicin on planktonic bacteria and biofilm communities. Alhariri M, Majrashi MA, Bahkali AH, Almajed FS, **Azghani AO**, Khiyami MA, Alyamani EJ, Aljohani SM, Halwani MA. **Int J Nanomedicine. 2017 Sep** 18;12:6949-6961.

4. 3. Targeting Plasminogen Activator Inhibitor 1 in Tetracycline-Induced Pleural Injury in Rabbits. Florova G, **Azghani AO**, Karandashova S, Schaefer C, Yarovoi SV, Declerck PJ, Cines DB, Idell S, Komissarov AA. **Am J Physiol Lung Cell Mol Physiol. 2017 Aug** 31:ajplung.00579.2016. doi: 10.1152/ajplung.00579.2016.

5. Andrey A. Komissarov, Galina Florova, **Ali O Azghani**, Ann Buchanan, Jake Boren, Timothy Craig Allen, Najib M. Rahman, Kathleen Koenig, Mignote Chamiso, Sophia Karandashova, James Henry, Steven Idell. 2016. Dose dependency of outcomes of intrapleural fibrinolytic therapy in new rabbit empyema models. **Am J Physiol - Lung Cell Mol Physiol**. 311, 2, p. 389-399. **2016**

6. Komissarov AA, Florova G, **Azghani** AO, Buchanan A, Bradley WM, Schaefer C, Koenig K, Idell S. The time course of resolution of adhesions during fibrinolytic therapy in tetracycline-induced pleural injury in rabbits. **Am J Physiol Lung Cell Mol Physiol**. **2015**

7. Florova G, **Azghani** A, Karandashova S, Schaefer C, Koenig K, Stewart-Evans K, Declerck PJ, Idell S, Komissarov AA. Targeting of plasminogen activator inhibitor 1 improves fibrinolytic therapy for tetracycline-induced pleural injury in rabbits. **Am J Respir Cell Mol Biol. 2015 Apr;52(4):429-37**

8. **Ali Azghani**, Kourtney Neal, Steven Idell, Rodolfo Amaro, Jason W. Baker, Abdelwahab Omri, and Usha R. Pendurthi. **2014**. Mechanism of Fibroblasts Inflammatory Response to *Pseudomonas aeruginosa* Elastase. **Microbiology,** 160, 547-555.

9. Andrey A. Komissarov, Galina Florova, **Ali Azghani**, Sophia Karandashova, Anna K. Kurdowska, and Steven Idell. **2013**. Active α-macroglobulin is a reservoir for urokinase after fibrinolytic therapy in rabbits with tetracycline-induced pleural injury and in human pleural fluids. **A J. Physiol, Lung Cell and Molecular Physiol. (305): L682-L692.**

*10. Moayad Alhariri, **Ali Azghani**, Abdelwahab Omri. **2013**. Liposomal Antibiotics for the Treatment of Infectious Diseases. **Expert Opin. Drug Deliv.** 10(11): 1-18.*

*11. Karandashova S, Florova G, **Azghani AO**, Komissarov AA, Koenig K, Tucker TA, Allen TC, Stewart K, Tvinnereim A,0 Idell S. **2013**. Intrapleural adenoviral delivery of human plasminogen activator inhibitor-1 exacerbates tetracycline-induced pleural injury in rabbits. Am J Respir Cell Mol Biol. 48(1): 44-52.*

*12. Curtis A. Clark, Lauren K. Thomas, and **Ali O. Azghani**. **2011**. Inhibition of PKC attenuates Pseudomonas aeruginosa elastase-induced epithelial barrier disruption. Am. J. Respir. Cell Mol. 45: 1263-1271.*

13. **Azghani, Ali**. **2010**. The Central Dogma of Molecular Biology and the New Clinical Research Order. The Monitor, 24(1): 25-28.

*14. Alipour M, Suntres ZE, Halwani M, **Azghani AO**, Omri A. **2009**. Activity and interactions of liposomal antibiotics in presence of polyanions and sputum of patients with cystic fibrosis. PLoS One, 4(5): e5724.*

*15. Halwani M, Hebert S, Suntres ZE, Lafrenie RM, **Azghani AO**, Omri A. **2009**. Bismuththiol incorporation enhances biological activities of liposomal tobramycin against bacterial biofilm and quorum sensing molecules production by Pseudomonas aeruginosa. Int J Pharm. 21;373(1-2): 141-6.*

*16. Halwani, M, B. Yebio1, Z. E. Suntres, M. Alipour, **A. O. Azghani**, and A. Omri1, **2008**.Co-encapsulation of gallium with gentamicin in liposomes enhances antimicrobial activity of gentamicin against Pseudomonas aeruginosa. Journal of Antimicrobial Chemotherapy 62(6): 1291-7.*

*17. Halwani, M, Shanna Blomme , Zacharias E. Suntres, Misagh Alipour, **Ali O. Azghani**, Aseem Kumar, Abdelwahab Omri**. 2008**. Liposomal Bismuth-Ethanedithiol Formulation Enhances Antimicrobial Activity of Tobramycin. International Journal of Pharmaceutics, 2008, 358(1-2): 254-63.*

18. Idell S, **Azghani A,** Chen S, Koenig K, Mazar A, Kodandapani L, Bdeir K, Cines D, Kulikovskaya I, Allen T. **2007**. Intrapleural low-molecular-weight urokinase or tissue plasminogen activator versus single-chain urokinase in tetracycline-induced pleural loculation in rabbits. Exp Lung Res. 33(8): 419-40.

19. *Yarlagadda, B, N. Subramanian, and **A. Azghani**. **2007**. Artificial Neural Network-Based Estimation for Pseudomonas aeruginosa Experiments. IEEE Proceedings, 1-4244, 133-137.*

20. *Alipour Mr., Zacharias E. Suntres, Aseem Kumar, Marina Ulinova, **Ali O. Azghani** and Abdelwahab Omri. **2007**. Antimicrobial Properties of Liposomal Aminoglycosides. Journal of Antimicrobial Chemotherapy.*

21. Steven Idell, Timothy Allen, Shande Chen, Kathy Koenig, Andrew Mazar and **Ali Azghani**. **2007**. Intrapleural activation, processing, efficacy, and evolving tetracycline-induced pleural injury in rabbits. Am J Physiol Lung Cell Mol Physiol. 292: 25-32.

22. *Majed Halwani, Clement Mugabe, **Ali O. Azghani**, Robert M. Lafrenie, Aseem Kumar and Abdelwahab Omri. **2007**. Bactericidal Efficacy of Liposomal-Aminoglycosides against Burkholderia cepacia. J Antimicrob Chemother. 60(4): 760-9.*

23. *Mugabe C, **Azghani AO**, Omri A. **2007**. Preparation and characterization of dehydration-rehydration vesicles loaded with aminoglycoside and macrolide antibiotics. Journal of Antimicrobial Chemotherapy, 60(4): 760-9. 2007.*

24. Morrow, D.M', Tahereh Entezari-Zaher, John Romashko II, **Ali O. Azghani**, Mohammad Javdan, Luis Ulloa, Edmund J. Miller, and Lin L. Mantell. **2007**. Antioxidants preserve macrophage phagocytosis of Pseudomonas aeruginosa during hyperoxia. Free Radical Biology and Medicine 42(9), 2007.

25. *Mugabe, M. Halwani, **A. O. Azghani**, R. M. Lafrenie, A. Omri. **2006**. Mechanism of Enhanced Activity of Liposome-Entrapped Aminoglycosides against Resistant Strains of* Pseudomonas aeruginosa. *Antimicrobial Agents and Chemotherapy. 6; 50: 2016-2022*

26. *Sachar, P., N. Subramanian, and **A. Azghani. 2006**. A Knowledge Base for Biological Experiments. Proceedings of the IEEE Sixth Annual Emerging Information Technology Conference, Dallas, TX.*

27. *Gavin Rukholm, Clement Mugabe, Ali O. Azghani, and Abdelwahab Omri. **2006.** Antibacterial activity of liposomal gentamicin against Pseudomonas aeruginosa: a time–kill study. International Journal of Antimicrobial Agents 27: 247–252.*

28. *Clement Mugabe, **Ali O. Azghani**, Abdelwahab Omri. **2006**. Preparation and Characterization of Dehydration-Rehydration Vesicles Loaded Aminoglycoside and Macrolide Antibiotics. Int. Journal of Pharmaceutics, 307: 244–250.*

29. *Clement Mugabe, **Ali O. Azghani**, and Abdelwahab Omri, **2005**. Liposome-Mediated Gentamicin Delivery: Development and Activity against Resistant Strains of Pseudomonas aeruginosa Isolated from Cystic Fibrosis Patients. Journal of Antimicrobial Chemotherapy, 55: 269-271.*

30. *Shawn Rossi, **Ali O. Azghani** and Abdelwahab Omri. **2004.** Antimicrobial efficacy of a new antibiotic-loaded poly (hydroxybutyric-co-hydroxyvalaric acid) controlled release system. Journal of Antimicrobial Chemotherapy, 54, 1013-1018.*

31. *Ashraf I. Zahra, **Ali O. Azghani**, Jason W. Baker, Siegfried Pueblitz, Anna Kurdowska, and Steven Idell. **2004**. Experimental Acute Pseudomonas aeruginosa Pneumonia in Rabbits. The Medical Journal of Teaching Hospitals & Institutes, Egypt, 61: 49-60.*

32. *Ashraf I. Zahra, Steven Idell, **Ali Azghani**, Mamdouh Sallam, Hosny el Sallab. 2004, Inflammation and Infection in Cardiothoracic Patients. The Medical Journal of Teaching Hospitals & Institutes, Egypt, 2004, 61, 19-45.*

33. **Azghani, A.O**., Steven Idell, Manjeet Bains, and Robert E.W. Hancock. **2002.** Pseudomonas aeruginosa outer membrane protein F is an adhesin in bacterial binding to lung epithelial cells in culture. Microbial Pathogenesis 33:109-14.

34. **Azghani, A.O**., Jason W. Baker, Sreerama Shetty, Ed J. Miller, and G. Jayarama Bhat. **2002.** Pseudomonas aeruginosa elastase stimulates ERK signaling pathway and enhances IL-8 production by alveolar epithelial cells in culture. Inflammation Research 51 (10): 506 – 510.

35. Shetty, Sreerama, Usha R. Pendurthi, Prathap K. Shetty Halady, **Ali O. Azghani**, and Steven Idell. **2002**. Urokinase induces its own expression in Beas2B lung epithelial cells. Am. J. Physiology, Lung Cellular and Molecular Physiology; 283: L319-L328.

36. Steven Idell M.D., Ph.D., Andrew Mazar Ph.D., Douglas Cines M.D., Graham Parry Ph.D., Susan Gawlak, Jose Juarez M.S., Kathy Koenig, **Ali Azghani** Ph.D., Will Hadden D.V.M., Jerry McLarty Ph.D. and Edmund Miller Ph.D. **2002**. Intrapleural Single-chain Urokinase Alone or Complexed to its Soluble Receptor Protects Against Pleural Adhesions in Tetracycline-induced Pleuritis in Rabbits. Am J Respir Crit Care Med. 166: 920–926

37. **Azghani, A.O**., Miller E.J., and Peterson, B.T. **2000.** Virulence factors from Pseudomonas aeruginosa increase lung epithelial permeability. Lung, 178: 261-269.

38. **Azghani, A.O.** and T.F. Bedinghaus, T.F. and Klein, R. **2000**. Detection of Elastase from Pseudomonas aeruginosa in Sputum and its potential Role in Epithelial Permeability. Lung, 178: 181-189.

39. *Obiso, Jr., R.J., **Azghani, A.O**., and Wilkins, T.D. **1997**. Bacteriodes fragilis Disrupts the tight junctions of epithelial cells lines. Infection & Immunity. 65: 1431-1439.*

40. **Azghani, A.O. 1996**. Pseudomonas aeruginosa and epithelial permeability: role of virulence factors, elastase and exotoxin A. Am. J. Res. Cell & Ml. Biol. 15:132-140.

41. **Azghani, A.O**., Williams, I.F., Holiday, D.B., and Johnson, A. R. **1995**. Inhibition of adherence of Pseudomonas aeruginosa to lung epithelial cells. Glycobiology, 5: 39-44.

42. **Azghani, A.O**., Gray, L.T., and Johnson, A.R., **1993**. Bacterial elastase perturbs paracellular barrier functions in a cultured transporting epithelium. Infection Immunity. 61: 2681-686.

43. **Azghani, A.O.,** Kondepudi, A.Y., and Johnson, A.R. **1992**. Interaction of *Pseudomonas aeruginosa* with human lung fibroblasts: role of bacterial elastase. Am. J. Respir. Cell and Mol. Biol. 6: 652-657.

44. Peterson, B.T., Collins, M.L., Gray, L.D., and ***Azghani, A.O.,*** **1992**. Aerosolized Pseudomonas elastase and lung fluid balance in anesthetized sheep. J. Appl. Physiology 72: 1927-1933.

45. **Azghani, A.O**., Connelly, J.C., Peterson, B. T., Gray, L.D., Collins, M.L., and Johnson, A.R., **1990**. Effects of Pseudomonas aeruginosa elastase on alveolar epithelial permeability in guinea pigs. Infection & Immunity, 58: 433-438.

46. Garcia, Joe G.N., **Azghani, A.O**., Callahan, K.S., and Johnson, A.R. **1988**. Effects of platelet activating factor on leukocyte-endothelial cell interactions. Thromb. Res. 51: 83-96.

47. **Azghani, A.O**. and Fuerst, R., **1988**. Studies of antibiotic resistant mutants of Bacteroides fragilis obtained by Cs-137 ionizing radiation. J. Ind. Microbiol. 3: 299-304.

48. **Azghani, A.O.** and Fuerst, R., **1982.** Effects of gamma irradiation on *Pseudomonas aeruginosa* antibiotic susceptibility. Dev. Ind. Microbiol. 123: 579-585.

MANUSCRIPTS IN PREPARATION

1. Omar Castillo, Beatriz Calvo, and **Ali Azghani.** Pseudomonas aeruginosa elastase modifies tight junction proteins via an EGFR dependent pathway. Submitted to **PlosOne 2016**. Submission Confirmation for PONE-D-16-45410.
2. Bidisha Pal and **Ali Azghani**. Pseudomonas aeruginosa Elastase Disturbs Actin Filament Dynamics via the RhoA- Mediated Signaling. Intended for Am J Resp Cell Mol Biol 2017
3. Hepatitis E Seroprevalence in Canines, Smith County Texas; Confirmation of IgG results. **Andrea Grzybowski M.S,** William Sorensen, **Ali Azghani PhD**, Sharon Phillips DVM, Gary Heseltine MD MPH. for CDC's Emerging Infectious Disease Journal.

RECENTLY PUBLISHED ABSTRACTS

Ali O. Azghani 2018. Risk factors associated with the development of multiple drug resistant bacteria in healthcare organizations; 1st International conference,on One Healh, Baku, Azerbaijan.

Galina Florova, **Ali O. Azghani**, Sophia Karandashova, Chris Schaefer, Serge V. Yarovoi, Paul J. Declerck, Douglas B. Cines, Steven Idell, and Andrey A. Komissarov. 2018
The Rate of Fibrinolysis Determines the Selection of the Mechanism for Targeting Plasminogen Activator Inhibitor 1 in Tetracycline-Induced Pleural Injury in Rabbits. **Gordon Research Conference 2018**

Galina Florova, **Ali O. Azghani**, Ann Buchanan, Mignote Chamiso, Rene Girard, Krishna Sarva, Amy R. Tvinnereim , Kathleen Koenig, Steven Idell and Andrey A. Komissarov. 2018 Fibrinolytic Therapy for Infectious and Chemically-induced Acute Pleural Injury in Rabbits: Differential Efficacy of sctPA and scuPA. **American Thoracic Society 2018**

Derek Draper, Christy Hjorth, Jessica Bird, Andrea Hernandez, Dr. Dustin Patterson, and Dr. Ali Azghani. Cloning and Expression of *Pseudomonas aeruginosa* Elastase in *E. coli* for Examining Inflammatory Response of Lung Tissue**. American Society for Microbiology 2017**

Ali Azghani and *Bidisha Pal*. Mechanism of Pseudomonas Elastase-induced Cytoskeleton Remodeling Collaborative Group of the Americas on Inherited Colorectal Cancer (CGA-ICC), Oct 2015, Baltimore, MD.

Validation of a Novel Rabbit *S. pneumoniae* Model of Empyema and Responses to Intrapleural Fibrinolytic Therapy with tPA or scuPA. Galina Florova[‡], Andrey A. Komissarov[‡], Ali O. Azghani[†], Ann Buchanan[1], Jake Boren[‡], Chris Schaefer[‡], Kathleen Koenig[‡], and Steven Idell[‡]. ATS 2015

The slow rate of fibrinolyisis limits inhibitor selection when targeting plasminogen activator inhibitor 1 to enhance intrapleural fibrinolytic therapy. Galina Florova[‡], Ali O. Azghani[†], Sophia Karandashova[‡], Chris Schaefer[‡], Serge V. Yarovoi[§], Paul J. Declerck[♯], Douglas B. Cines[§], Steven Idell[‡], and Andrey A. Komissarov[‡,] ATS 2015.

Derek Draper, Christy Hjorth, Jessica Bird, Andrea Hernandez, Dustin Patterson, Ali Azghani. Cloning and Expression of Pseudomonas aeruginosa Elastase in E. coli for Examining Inflammatory Response of Lung Tissue. ASM, Texas Brach, Fall meeting 2016.

Andrew Griffin, Andrea Grzybowski, William Sorensen, Sharon Phillips, and Ali Azghani. 2016 Seroprevalence of Canine HEV in Smith County, Texas. TriBeta Regional Conference 2016,

Galina Florova, Andrey A. Komissarov, Ali O. Azghani, Ann Buchanan, Jake Boren, Chris Schaefer, Kathleen Koenig, and Steven Idell. Validation of a Novel Rabbit *S. pneumoniae* Model of Empyema and Responses to Intrapleural Fibrinolytic Therapy with tPA or scuPA. ATS 2016.

Galna Florova, Ali O. Azghani, Sophia Karandashova, Chris Schaefer, Serge V. Yarovoi, Paul J. Declerck, Douglas B. Cines, Steven Idell, and Andrey A. Komissarov. The slow rate of fibrinolyisis limits inhibitor selection when targeting plasminogen activator inhibitor 1 to enhance intrapleural fibrinolytic therapy. ATS 2016.

BOOK CHAPTERS

1. **Azghani, A.O**. and Curtis Clark. **2011.** Bacterial Infection Process: An overview. Infection and Immunity. Transworld Research Network
2. Alipour M, Zacharias E. Suntres, **Ali O. Azghani**, and Abdlewahab Omri. **2008**. Pulmonary infection in Cystic Fibrosis: Role of quorum-sensing. Recent Development in Signal Transduction Research, 2008, Editors; CV Ramana, Richard I. Enelow and Aseem Kumar.

3. Omri, M.L Anderson, C. Mugabe, Z. Suntres, M. R. Mozafari, and **A. Azghani**. **2007.** Artificial implants–new developments and associated problems in nanomaterials and nanosystems for biomedical applications, Springer, Volume editor: M. Reza Mozafari

4. **Azghani, A.O.** and Rodolfo Amaro. **2003.** Molecular basis of Pseudomonas inflammation and new therapeutic interventions in cystic fibrosis. Infection & Immunity 1:387-403; Transworld Research Network.

5. Hector, J., **Azghani, A.O**., and Johnson, A.R. **1993.** Genetic regulations of elastase in *P. aeruginosa*, pp. 145-162. In "Microbial Pathogenesis and Immunity," edited by M. Campa et al, Plenum Press, New York.

NON-PEER REVIEWED PUBLICATIONS

Azghani, Ali O, **2004**. Professional Achievements of Dr. Robert Fuerst. ASM news 70 (8): 376.
Azghani, Ali O, **2003.** Pharmacogenomics and Anti-infective Drugs Discovery. Newsletter, Association of Clinical Research Professional, North Texas Chapter, 6 (1): 2.
Azghani, Ali O, **2002**. Gene Therapy. Newsletter, Association of Clinical Research Professional, North Texas Chapter, 5(2): 2.

INTERNAL AND EXTERNAL GRANT

a. <u>Active Funded Proposals</u>

1. 2017- 2020 **NIH**, Co- Investigator, Delivery of PAI-1-targeted intrapleural fibrinolytic therapy for empyema, PI: Andrey Komissarov, UTHSC.

2. 2017-2020 **Fulbright** US Scholar Program, PI. Risk factors associated with the development of multiple drug resistant bacteria in healthcare organizations

3. 2018-2019 – **University of Texas at Tyler**, PI, Molecular Mechanisms of Growth Factor Receptor Activation by Bacterial Protease: Application and Education of Nanocarrier Biotechnology.

4. 2017-2018**, Biological Honor Society, USA (TriBeta),** Undergraduate Research Grants 2017-2018**,** Liposomal Entrapped Erythromycin Derived Immunomodulation in Human Alveolar Epithelial Cells in Culture

INVITED SEMINARS

I. <u>International</u> (7)

2018 Khazar University, Azerbaijan, One Health, One Health Approach to Minimize the Emergence and Spread of Antibiotic Resistance Bacteria in Azerbaijan

2016 Khazar University, Azerbaijan, My 9 -13, 2016. Emerging Antibiotic Resistant Bacteria.

2013 Molecular Mechanism of Increased Tight Junction Permeability by Bacterial Elastase. International Society for Hereditary Tumors, Cairns, AU.

2012 East Mediterranean University, Cyprus (EMU). Mechanism of Epithelial Barrier Disruption by *Pseudomonas aeruginosa* and its Consequences. Dec 18, 2012

2012 EMU. Strategies for Team-Based Scientific Teaching. Dec. 19, 2012

2009 Laurentian University, Department of Chemistry and Biochemistry, Montreal, Canada. Mechanism of ERK 1/2 Activation in Pseudomonal Infection"

1993 International Congress of Physiology and Pharmacology, University of Tabriz, Iran

II. National (18)

2017 Oncology Support group, ETMC/East Texas, April 11, 207 "Cancer Immunotherapy".
2016 Association of Clinical Research Professional, Fall Symposium, October 22, 2016, Molecular Pathogenesis of *Pseudomonas aeruginosa*, a Pulmonary Infection of Global Interest.
2014 Gulf Coast Summer Institute, July 23-25, 2014, LSU, LA. "Lessons Learned from Student-Centered Teaching"

ASM, Texas Fall meeting 2014**,** Strategies for Team-Based Scientific Teaching.

UTT biology seminar series, Oct 10, 2014. Pathogenesis and Treatment of *P. aeruginosa* Infection: Past, Present, and Future.

2013 CCRI: Faculty Collaborative Culminating Conference, May 16, 2013. "Scientific way of Knowing"
2013 American Society for Microbiology, Texas Branch. Baylor University, Waco, TX
2012 ACRP Global Conference and Exhibition, April 14-17, Houston, TX
2010 Association of Clinical Research Professional (ACRP), North Texas Chapter, Dallas, TX
2009 Dept. of Biochemistry, Laurentian University, Ontario, Canada
2009 Association of Clinical Research Professional, Global Meeting, Denver, CO
2008 Association of Pharmaceutical Physicians and Investigators, International Meeting, Boston, MA.
2008 American Society for Microbiology, Texas Branch Spring Meeting, Austin, TX
2007 Association of Clinical Research Professionals, International Meeting, Seattle, WA
2006 Association of Clinical Research Professionals, Annual Meeting, Phoenix, AZ
2005 Association of Clinical Research Professionals North Texas Chapter, Dallas, TX
2003 Dept. of Surgery, North Shore - LIJ Research Institute, Manhasset, NY
2002 Board of Directors, Smith County Division of the American Heart Association, Tyler, TX
1996 Dept. of Biochemistry & Anaerobic Micro, Virginia Institute and State University
1995 Dept. of Biology, The University of Texas at Tyler (UTT)
1993 Dept. of Pulmonary & Critical Care Med, UT Southwestern Medical School, Dallas, TX
1993 International Congress of Physiology and Pharmacology, University of Tabriz, Iran

Community and Local Schools

2017 Mentoring the winners of NASA's Student Spaceflight Experiments Program (SEEP) at Bullard High School. The winning project, "The Effects of Microgravity on *S. Tuberosum* Resistance to *P. infestans*," will be flown to the international Space Station aboard Mission 9 in Fall 2016. Four students preparing the space module and running the earth portion of the experiment in Azghani lab.

2014 Organized a "Hereditary Cancer Public Awareness" Meeting on March 22, 2014, UTT. Keynote Speaker: Dr. Patrick Lynch, Professor of Medicine, MD Anderson Cancer Center, Panelists included: Dr. E. Sauter, UTHSC; Dr. R. Cali, MF Hospital and two Nurse Practitioners.

2014 Austin Elementary School, Tyler, TX, Read-a-thon focusing on Science, Technology, Engineering and Math (STEM)

2014 Officiate area High Schools' Soccer games

2008 Grace Community High school, How to Conduct Biological Science Experiments, Tyler, TX

STUDENT ADVISING

GRADUATE STUDENTS

Current UTT Graduate Students

1. **Derek Draper**, B.S. Biology – Research Topic: Mechanism of activation of Epidermal growth factor receptor by *Pseudomonas aeruginosa* Elastase.

2. **Beatriz Calvo**, BS, Biology – Molecular mechanism of anti-inflammatory effects of Liposomal erythromycin.

3. **Craig Peek**, MS, Biology –Review Research Paper on Microbiome

Completed Graduate Students at UTT

1. **Bidisha Pal,** MS, Biology, 2015. *Pseudomonas aeruginosa* Elastase Induces Restructuring of Actin Cytoskeleton by Phosphorylation of RhoA Proteins.

2. **Brandon Beddingfield**, MS, Biology, 2014. The role of PIUA, an outer membrane iron receptor, in the pathogenesis of *pseudomonas aeruginosa*
3. **Omar Castillo**, M.S. Biology, 2013. Cellular mechanisms of parthenogenesis of *Pseudomonas aeruginosa*.

4. **Kourtney Neal**, M.S. Biology, 2012. Human lung fibroblasts influence on pulmonary inflammation.

5. **Curtis Clark**, M.S. Biology, 2009. Mechanism of epithelial barrier disruption by *Pseudomonas aeruginosa* elastase.

6. **Ashraf Zahra**, MD, 2003**, UTHSCT –** Student of the Graduate Program, General Surgery Department, Al Azhar, University, Cairo, Egypt.

Graduate Committees – UTT/ UTHSC

MS in Biology/Biotechnology

1. **Lauren E. Davis**, 2017, Genotypic and Phenotypic Investigation of a Possible New *Mycobacterium kansasii* subspecies.

2. **Kelsey Howard** , 2016, Mechanism of Endothelial Protein c Receptor (epcr)- mediated Apoptosis in Mesothelioma Cells

3. **Briana Echols,** 2016, Effects of a Triterpenoid Antioxidant on IAV Induced Lung Inflammatory Response in Mice

4. **Courtney Mitchell**,2015, Organic Dust Induced Lung Inflammatory response in Mice

5. **Han Chen,** 2015, Characterization and Prevalence of Mycobacterium abscesses Subgroups in Cystic Fibrosis Pulmonary Infections"

6. **Terry Ray Smith,** 2015**,** Protective Mechanisms against Influenza Infection

7. **Henry L. Schreiber IV**, Advisor: Dr. Blake R. Bextine, 2011. Genetic analysis of the prophage regions of a phytopathogenic bacterium.

8. **Kaitlyn Pettingill**, Advisor: Dr. Neil Ford. 2013. Physiological consequeneces of compensatory growth: a look at snake species exhibiting sexual size dimorphism.

9. **Jeremy Chamberlain,** Advisor: Dr. Neil Ford. 2012. Stochastic life-history variation in populations of western ribbon snakes (*Thamnophisproximus*) in East Texas

10. **Katie Patrick**, Advisor: Dr. John S. Placyk, Jr. 2012. Effects of the herbicide atrazine on the behavior of the checkered gartersnake (Thamnophis marcianus).

Interdisciplinary Research/Advising

M.S. in Kinesiology

Andrea Grzybowski, MS, 2014. Hepatitis E Seroprevalence Study in *canis lupis familiaris* and Associations to Human Owners, Smith County, Texas

MS in Computer Sciences

1. **Sachar, P**. MS, Computer Sciences, 2006. A Knowledge Base for Biological Experiments.

2. **Yarlagadda, B**., MS, Computer Sciences, 2008. Artificial Neural Network-Based Estimation for *Pseudomonas aeruginosa* Experiments

Graduate Committee – International

Laurentian University, Ontario, Canada

1. **YiMei Jia,** Ph.D. Biochemistry, 2009, Lipid-Based Nanoparticle Formulations for Delivery of Clarithromycin for the Treatment of Pseudomonal Lung Infections in Cystic Fibrosis.

2. Shawn Rossi, MS Biochemistry, 2004, Antimicrobial efficacy of a new antibiotic-loaded poly (hydroxybutyric-co-hydroxyvalaric acid) controlled release system.

RECENT Undergraduate Research Students- Azghani Lab, 2014-

Josh Keam, Erin Coley, Christian Stacks, Andrew Griffin, Isaiha Reyna, Sarah Atwell, Izeah Douglas Vaughan, Molly Fisher, Brenda Arras, Spencer Shastid, and Jesus , Espinoza, Lee Parker, and Molly Fischer

Mentoring Senior Students with their Scientific Communication Project

2015 – Present Antwaneta Wallace, Idah Mozwa, Trey Carter, Dominick Wright, Rachel Eldore Douglas Vaughan, Spencer Shastid, Lauren Downey, Adriana Sanders, and Erica Forester, E. Forester, A. Morris,

HONORS

1. President, American Society for Microbiology- July 2015-2017
2. Editor, International Issues in Biology and Pharmaceutical, 2016-
3. Associate Editor, Drug Design & Delivery (Open Access, UK) – 2014-
4. National Academies Education Fellow in the Life Sciences- 2013
5. District Director, National Biological Honor Society (TriBeta) 2010-
6. President, North Texas Chapter of Associates of Clinical Research Professionals (ACRP) 2007 - 2008

LEADERSHIP and PROFESSIONAL SERVICES

Service Activities - University of Texas at Tyler

2014	New Core Workgroup
2014	Research Integrity Sub-Committee
213-14	Microbiology Search Committee
2014 - 2017	Faculty Senate, Senator
2013- Present	Chair, Institutional Biosafety Committee
2013-2015	CAS Commencement committee
2011-2012	Undergraduate Council
2011-2014	Microbiology Search Committee, Chair
2009-2011	Faculty Senate, Senator
2010	Faculty, Math Camp for incoming freshmen
2008	Discover Science Summer Camp - Held a half day Biology session
2008-2011	UTT-Institutional Animal Care and Use Committee (IACUC)
2007-Pesent	Institutional Biohazard Committee, Chair.
2007-Present	Advisor, KAPPA XI Chapter (UTT), Beta Beta Beta National Biological Society
2006 -2009	Information Technology Committee
2006-2007	Biology Faculty Search Committee

University of Texas Health Science Center, Tyler, TX

2005 - 2006	Chair, Governance committee, Research Faculty Assembly, UTHSCT.
2004 – 2005	Chair, Research Core, CF and Childhood Diseases Steering Committee, UTHSC
2005 - 2006	Chair, Governance committee, Research Faculty Assembly, UTHSCT.

NATIONAL ORGANIZATIONS

Leadership

2015- President, American Society for Microbiology, Texas Branch
2011- District Director, Biological Honor Society- Southcentral Region
2011 Committee member, Southwestern Association of Naturalists Meeting, UTT
2010 Director, Fall Meeting of the Texas Branch of American Society for Microbiology, UTT
2010 Chair, Advancement Committee, TX ASM
2009 Madison Who's Who, Executives and Professionals
2007- Advisor, KAPPA XI Chapter (UTT), Beta Beta Beta National Biological Society
2007 - 2008 President, North Texas Chapter of Associates of Clinical Research Professionals (ACRP)
2002 - 2006 Chair, Newsletter Committee, ACRP, NTX
2001 - 2002 Chair, Membership Committee, ACRP, NTX

Membership

2014- Collaborative Group of Americas on Inherited Colorectal Cancer
2013- International Society for Gastrointestinal Hereditary Tumors
2008 - Human Anatomy and Physiology Society
1994 - Association of Clinical Research Professionals
1990 - American Thoracic Society
1979 - American Society for Microbiology; National and Texas chapter

EDITORSHIP

JOURNALS

Editor, Issues in Biological and Pharmaceutical Research
Associate Editor, OA Drug Design & Delivery (Open Access, UK)

Ad-hoc Reviewer for

1. Am. J. Respir. Cell Mol. Biol; 2. Microbes and Infections; 3. Microbial Pathogenesis; 4. hysiological Genomics; 5. International Journal of Nanomedicine; 6. American Journal of Respiratory Cell and Molecular Biology; 7. Journal of Pharmacy and Pharmacology (UK); 8. Molecular and Cellular Biochemistry; 9. Trends in Microbiology (UK); 10. Journal of Inflammation Research; 11. Journal of Infection and Drug Resistance; 12. Annals of the American Thoracic Society; 13. Molecular Medicine - The Feinstein Institute for Medical Research, USA; 14. Molecular and Cellular Biochemistry; 15. Nature Review (UK).

BOOKS

Editor in Chief

Regulation of the Inflammatory Response in Health and Disease, Research Signpost, **2011**. Edited by A. Azghani and Edmund Miller.

Guest Editor

McKinley/O'Loughlin/Bidle. of Anatomy & Physiology: An Integrative Approach, 1st Edition. **2011.**
Jenkins Human Anatomy and Physiology, 3rd Edition, Wiley & Sons, Inc. **2010.**

RESEARCH GRANT REVIEWER FOR

2007 - American Association for Advancement of Science
2009 - American Heart Association
2007- American Association for the Advancement of Science

COMMUNITY SERVICE

1996 - Tyler Soccer Association, Officiate area High Schools UIL and Recreational Soccer games.

1996 – 2005 Asthma Camp for Kids, Sponsored by UTHCT & ALA, Martial Arts Instructor.

1996 - 2006 Tyler Bicycle Club, Vice President, Editorial (Exercise Physiology).

1997 - 1998 Tyler Chamber of Commerce, Chairman, PR Subcommittee.