

## **Dr. Alia Shatanawi**

Assistant Professor  
The University of Jordan  
Faculty of Medicine  
Department of Pharmacology  
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### **Education:**

- 2007-2011** Ph.D. with Distinction in Pharmacology, Medical College of Georgia, Georgia Health Sciences University, Augusta GA. Advisor: Prof. R. William Caldwell
- Dissertation title: "Signal Mechanisms in Elevation of Arginase Activity/Expression and Vascular Dysfunction in Response to Angiotensin II"
- 1997-2002** Bachelor Degree of Dental Surgery (DDS), Faculty of Dentistry, The University of Jordan, Amman Jordan

### **Work Experience:**

- 2012-present** Assistant Professor, Department of Pharmacology, Faculty of Medicine, The University of Jordan
- 2014- 2015** Visiting Research Scientist, Medical College of Georgia, Georgia Regents University
- 2008-2011** Graduate Research Assistant, Department of Pharmacology and Toxicology, Medical College of Georgia
- 2007-2008** Graduate Research Assistant, Department of Oral Biology, School of Dentistry, Medical College of Georgia
- 2003-2007** Clinical Dentist, private practice, Amman-Jordan
- 2002-2003** Trainee Clinical Dentist  
Queen Alia Military Hospital, Amman-Jordan

### **Grants and Fellowships:**

<b>Mar 2014- present</b>	UNESCO-L'OREAL For Women in Science International Fellowship-2014
<b>Dec 2012-Jan 2014</b>	UNESCO-L'OREAL For Women in Science Pan-Arab Regional Fellowship-2012
<b>Oct 2012-Sep 2014</b>	University of Jordan Research Deanship Grant
<b>July 2010-Jun 2012</b>	American Heart Association Predoctoral Fellowship
<b>Jan 2009-Jun 2010</b>	Multidisciplinary Pre-Doctoral NIH Training Grant Integrative Cardiovascular Biology T32 NIH/NHLBI

### **Honors and Awards:**

<b>2015</b>	Jury Member, UNESCO-L'OREAL For "Women in Science" Levant and Egypt Fellowship
<b>Mar 2014</b>	UNESCO-L'OREAL For Women in Science International Fellowship-2014
<b>Dec 2012</b>	UNESCO-L'OREAL For Women in Science Pan-Arab Regional Fellowship-2012
<b>Nov 2011</b>	Graduate School Travel Award, AHA Scientific Sessions
<b>May 2011</b>	Dr. Jerry Buccafusco Graduate Travel Award, Medical College of Georgia
<b>May 2011</b>	Oral presentation award, 1 <sup>st</sup> place in senior division, 10th Annual Pharmacology & Toxicology Graduate Student Research Symposium, Medical College of Georgia
<b>May 2010</b>	Oral presentation award, 1 <sup>st</sup> place in junior division, 9th Annual Pharmacology & Toxicology Graduate Student Research Symposium, Medical College of Georgia
<b>April 2010</b>	ASPET Graduate Student Travel Award, Experimental Biology Conference, Anaheim, California, USA
<b>May 2009</b>	Oral presentation award, 2 <sup>st</sup> place in junior division, 8 <sup>th</sup> Annual Pharmacology & Toxicology Graduate Student Research Symposium, Medical College of Georgia
<b>April 2009</b>	Drug Discovery and Development (DDD) Young Investigator Best Abstract Award, Experimental Biology Conference, New Orleans, Louisiana, USA
<b>April 2009</b>	Graduate School Travel Award, Experimental Biology Conference, New Orleans, Louisiana, USA

**March 2009**

Ji Cheng Memorial Award for Excellence in Biomedical Research, Graduate Research Day, Medical College of Georgia, Augusta, Georgia, USA

**List of Published Research:**

1. Bhatta A, Yao L, Toque HA, **Shatanawi A**, Xu Z, Caldwell RB, Caldwell RW "Angiotensin II-induced Arterial Thickening, Fibrosis and Stiffening Involves Elevated Arginase Function". *PLOS One* 2015 *PloS one* 2015;10 (3) e0121727
2. **Shatanawi A**, Lemtalsi T, Yao L, Patel P, Caldwell RB, Caldwell RW "Angiotensin II Limits NO Production by Upregulating Arginase through a p38 MAPK - ATF-2 Pathway", *European Journal of Pharmacology* 2015;746 106-114
3. **Shatanawi A**, Gharaibeh MN, Caldwell RB, Caldwell RW "High Glucose Upregulates Arginase 1 and Decreases Nitric Oxide Production through ATF-2 and c-Jun Transcription Factors", *Life Science Journal* 2014;11(5)
4. **Shatanawi A**, Lemtalsi T, Caldwell RB, Caldwell RW "High Glucose and Angiotensin II Limit NO Production through a p38 MAPK-AP1 Transcriptional Regulation of Arginase" *Proceedings of the British Pharmacological Society* <http://www.pa2online.org/abstracts/Vol11Issue3>
5. **Shatanawi A**, Alkilany AM, Caldwell RB, Caldwell RW "High Glucose limits NO Production through ATF-2 and c-Jun transcriptional regulation of Arginase" *The FASEB Journal*, 2012 26:1b524
6. Alkilany AM, **Shatanawi A**, Kurtz, T, Caldwell RB, Caldwell RW "Toxicity and Cellular Uptake of Gold Nanorods in Vascular Endothelium and Smooth Muscles of Isolated Rat Blood Vessel: Importance of Surface Modification" *Small*. 2012 Apr 23;8(8):1270-8.
7. Chandra S, Romero M, **Shatanawi A**, Alkilany AM, Caldwell RB, and Caldwell RW. "Oxidative Species Increase Arginase Activity in Endothelial Cells through RhoA/Rho Kinase Pathway". *British Journal of Pharmacology*. 2012 Jan;165(2):506-19.
8. **Shatanawi A**, Alkilany AM, Caldwell RB, Caldwell RW "Angiotensin II Limits NO Production by Upregulating Arginase through a Mitogen Activated Protein Kinase-Activating Transcription Factor-2 pathway" *Circulation* 2011; 124: A16962
9. **Shatanawi A**, Caldwell, RB, Caldwell, RW "Angiotensin II-induced elevation of arginase activity and impaired vasorelaxation can be prevented by p38 MAPK inhibition" *The FASEB Journal* 25, 809.6, 2011
10. **Shatanawi A**, Romero MJ, Iddings JA, Chandra S, Umapathy NS, Verin AD, Caldwell RB, and Caldwell RW. "Angiotensin II-Induced Vascular Endothelial Dysfunction through RhoA/Rho

Kinase/p38 Mitogen-Activated Protein Kinase/Arginase Pathway". *American Journal of Physiology* 2011, 300: C1181-1192.

11. Toque HA, Romero MJ, Tostes RC, **Shatanawi A**, Chandra S, Carneiro ZN, Inscho EW, Webb RC, Caldwell RB, and Caldwell RW. "p38 Mitogen-activated protein kinase (MAPK) increases arginase activity and contributes to endothelial dysfunction in corpora cavernosa from angiotensin-II-treated mice. *The Journal of Sexual Medicine* 2010, 7: 3857-3867.
12. **Shatanawi A**, Romero MJ, Chandra S, Yao L, Toque HF, Iddings JA, Caldwell RB, Caldwell RW. "p38 MAPK Inhibition Prevents Angiotensin II-Induced Elevation of Arginase Activity and Impaired Vasorelaxation" *FASEB J. April 2010 24. 959.2*.
13. Chandra S, Romero MJ, **Shatanawi A**, Caldwell RB, Caldwell RW. "Peroxynitrite and Hydrogen Peroxide Increase Arginase Activity through the RhoA/Rho Kinase (RAK) pathway" *FASEB J. April 2010 24. 959.4*
14. Torque, HA, Romero MJ, Tostes RC , **Shatanawi, A**, Iddings JA, Carneiro Z, Inscho E, Webb CR, Caldwell RB, Caldwell RW. "Decrease of arginase activity by p38 mitogen-activated protein kinase inhibition improves corpora cavernosal relaxation in angiotensin-II mice" *Proceedings from the 15th Annual fall Scientific Meeting of the Sexual Medicine Society of North America San Diego, CA, November 19–21 2009, 7: 6–49*
15. **Shatanawi A**, Romero MJ, Iddings JA, Caldwell RB, Caldwell RW "Angiotensin II Elevates Arginase Activity via Rho/MAPK Pathways" *FASEB J. April 2009 23. 935.1*

### **Affiliations:**

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|---------------------|---|
| <b>2010-present</b> | American Heart Association  |
| <b>2008-present</b> | American Society for Pharmacology & Experimental Therapeutics (ASPET) |
| <b>2002-present</b> | Jordan Dental Association   |

### **References:**

1. **Prof. William Caldwell**, Department of Pharmacology and Toxicology, Medical College of Georgia, Georgia Regents University. email:[wcaldwel@gru.edu](mailto:wcaldwel@gru.edu) Tel: +1706-721-3384
2. **Prof. Munir Ghareibeh**, Chairman of Department of Pharmacology, Faculty of Medicine, The University of Jordan, email: [mgharaib@ju.edu.jo](mailto:mgharaib@ju.edu.jo) Tel: +962-6-5355000 ext-23455
3. **Prof. John Johnson**, Graduate Program Director, Department of Pharmacology and Toxicology, Medical College of Georgia, Georgia Regents University. email: [JJohnson@gru.edu](mailto:JJohnson@gru.edu) Tel: +1706-721- 4173.