

Dr. AMIN SHAH

OVERVIEW:

I am an Assistant Professor in the Department of Molecular Science, School of Medicine at the University of Texas Rio Grande Valley (UTRGV). I am a medical science educator and research scientist with the specialization in heart diseases, obesity, and fetal programming of cardiovascular and metabolic diseases.

HIGHLIGHTS OF SKILLS

- Over 10 years of experience as an educator in medical and health-professional schools
- Over 12 years of research expertise in cardiovascular biology, fetal programming, and obesity
- Expertise in *in vivo* and *ex vivo* cardiovascular techniques and surgical animal models
- Fluent in scientific writing: authored/co-authored 25 peer-reviewed research articles
- Experienced in writing grant and fellowship applications
- Experienced in critical appraisal of scientific papers as a reviewer of scientific journals
- Mentoring: Supervised undergraduate/graduate students in designing research projects, conducting experiments, analyzing and interpreting data
- Demonstrated teamwork, interpersonal and communication skills through completion of multidisciplinary projects involving clinicians, researchers, and community partners
- Proven organizational and priority setting skills demonstrated by timely completion and publication of multiple research projects and Master of Medical Science program proposal
- Demonstrated leadership skills as a Lead of the medical course (cardiovascular and respiratory module) and a faculty lead to develop new Master of Medical Science program (approved by the The Coordinating Board of Higher Education) in School of Medicine at the University of Texas RGV

CONTACT INFORMATION

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School of Medicine
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EDUCATION

Doctor of Philosophy (Medical Sciences) Chonbuk National University	2011
Master of Science (Medical Physiology) Manipal College of Medical Sciences, Kathmandu University	2005
Bachelor of Science (Zoology/ Botany/ Chemistry) Tribhuvan University	2002

EDUCATIONAL EQUIVALENT IN THE UNITED STATES

Bachelor of Science Degree in Physiology
Doctor of Philosophy Degree in Medical Science

RELEVANT WORK EXPERIENCE

Assistant Professor Department of Molecular Science School of Medicine University of Texas Rio Grande Valley, United States	2018-present
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Postdoctoral Fellow 2013–2018
Department of Obstetrics and Gynecology/ Physiology
University of Alberta, Canada

Graduate Teaching and Learning Program (Level I and II) 2015
University of Alberta, Canada

Assistant Professor 2011-2012
Department of Physiology
Chitwan Medical College, Nepal

Teaching Assistant 2008-2009
Department of Physiology
Chonbuk National University, South Korea

Lecturer 2005-2008
Department of Physiology
Kathmandu University, Nepal

Member Secretary of Examination Committee 2007-2008
Kathmandu University, Nepal

STUDENT MENTORING AND SUPERVISION

- Graduate and undergraduate students:
 - PhD student (Physiology) 2017-2018
 - Undergraduate student (Physiology honors) 2014-2015
University of Alberta, Canada
 - Medical students (6-8), Lab class demonstration and supervision 2008-2011
Chonbuk National University, South Korea.
- Summer students: 2014-2015
- Two undergraduate students (Physiology and Biology)
University of Alberta, Canada

Medical Students (group of 6-8) 2009-2011
Chonbuk National University, Jeonju, South Korea

- Delivered lab class, demonstrated lab techniques, and supervised students

SELECTED ACHIEVEMENTS

- **Postdoctoral Research Fellowship** 2016-2018
Molly Towell Perinatal Research Foundation, Canada (RES0031751)
Awarded to 1 best young researchers pursuing perinatal research in Canada.
- **Postdoctoral Fellowship** 2014–2016
Heart and Stroke Foundation Canada (J-14-SH-5399)
Awarded to 12 of Canada's best young researchers pursuing research at universities, hospitals, and institutes across Canada and abroad.
- **International Early Career Physiologist Travel Award** 2016
Awarded to 12 international early career physiologists by the American Physiological Society
Experimental Biology, April, San Diego, USA
- **Jiri Widimsky Sr Award** 2012
Awarded to 3 early career scientists for the best research in hypertension, International Society

of Hypertension (ISH), Sydney, Australia.

- **Young Scientist Award** 2012
Awarded to 5 early career scientists for their excellence in research, National Academy of Science and Technology, Government of Nepal, Nepal.
- **Best Thesis Award** 2010
Chonbuk National University Medical School, South Korea
- **Doctoral Fellowship** 2008– 2011
Korea Research Foundation Fellowship (KRF-2008-211-E00001)
Awarded to the 30 best international graduate students enrolled at universities in South Korea
- **Travel Grant Award** 2010
Brain Korea 21, International Society of Hypertension, Canada
- **Travel Grant Award** 2009
Brain Korea 21, International Congress of Physiological Sciences, Japan
- **Full Tuition Fee Scholarship** 2008-2009
Chonbuk National University, South Korea
- **Brain Korea 21 Scholarship** 2008
Chonbuk National University, South Korea

PUBLICATIONS- Dr. Shah

Peer-reviewed Publication: Published (Total: 25)

(<https://scholar.google.com/citations?user=7KQY9BkAAAAJ&hl=en>)

Total citation (based on google scholar): 282

1. Kumar P, Morton JS, **Shah A**, Do V, Sergi C, Lomelin JS, Davidge ST, Beker D, Levasseur, and Hornberger LK. Intrauterine exposure to chronic hypoxia in the rat leads to progressive diastolic function and increased aortic stiffness from early

- postnatal developmental stages. *Physiological Reports* 2020; 8: e14327.
2. **Shah A***, Cooke CL*, Kirschenman R, Quon A, Jude S Morton, Care AS, and Davidge ST. Sex-specific effects of advanced maternal age on cardiovascular function in aged adult rat offspring. *American Journal of Physiology-Heart and Circulatory Physiology* 2018; 315:H1724-H1734. *,equal contribution.
(Citations: 3)
 3. Cooke CL*, **Shah A***, Kirschenman R, Quon A, Jude S Morton, Care AS, and Davidge ST. Increased susceptibility to cardiovascular disease in offspring born from dams of advanced maternal age. *Journal of Physiology* 2018; 596: 5807-5821. *,equal contribution.
(Citations: 12)
 4. L. M. Reyes, **A. Shah**, A. Quon, J. S. Morton and S. T. Davidge. The role of the tumor necrosis factor (TNF)-related weak inducer of apoptosis (TWEAK) in offspring exposed to prenatal hypoxia. *Journal of Developmental Origins of Health and Disease*, 2017;18:1-9.
(Citations: 4)
 5. **Shah A**, Matsumara N, Quon A, Morton JS, Dyck JRB, Davidge ST. Cardiovascular susceptibility to in vivo ischemic myocardial injury in male and female rat offspring exposed to prenatal hypoxia. *Clinical Science*, 2017; 131: 2303-2317. (Commentary published in *Clinical Science*, 2017; 131:2791–2794).
(Citations: 7)
 6. **Shah A**, Quon A, Morton JS, Davidge ST. Postnatal resveratrol supplementation improves cardiovascular function in male and female intrauterine growth restricted offspring. *Physiol Rep*, 2017; 5: e13109, doi:10.14814/phy2.13109
(Citations: 10)
 7. **Shah A**, Reyes LM, Morton JS, Fung D, Schneider J, Davidge ST. Effect of resveratrol on metabolic and cardiovascular function in male and female adult offspring exposed to prenatal hypoxia and a high-fat diet. *J Physiol* 2016; 594:1465-1482.
(Citations: 32)
 8. Reyes LM, Kirschenman R, Quon A, Morton JS, **Shah A**, Davidge ST. Aerobic exercise training reduces cardiac function in adult male offspring exposed to prenatal hypoxia. *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology* 2015;309:R489-R498.
(Citations: 9)
 9. **Shah A**, Oh YB, Lee SH, Lim JM, Kim SH. Angiotensin-(1-7) attenuates hypertension in exercise-trained renal hypertensive rats. *American Journal of Physiology-Heart and Circulatory Physiology* 2012; 302:H2372-H2380.
(Citations: 42)
 10. Gao S, Yuan K, **Shah A**, Kim JS, Park WH, Kim SH. Suppression of high pacing induced ANP secretion by antioxidants in isolated rat atria. *Peptides* 2011; 32:2467-2473.
(Citations: 4)
 11. Gao S, Oh YB, **Shah A**, Park WH, Kim SH. Suppression of ANP secretion by somatostatin through somatostatin receptor type 2. *Peptides* 2011; 32:1179-1186.
(Citations: 7)
 12. **Shah A**, Gao S, Oh YB, Park WH, Kim SH. Oxidative stress augments the secretion of atrial natriuretic peptide in isolated rat atria. *Peptides* 2011; 32: 1172-1178.
(Citations: 3)
 13. Oh YB, Gao S, **Shah A**, Kim JH, Park WH, Kim SH. Endogenous Angiotensin II suppresses stretch-induced ANP secretion via AT1 receptor pathway. *Peptides* 2011; 32:374-381.

(Citations: 31)

14. Gao S, Oh YB, **Shah A**, Park WH, Chung MJ, Lee YH, Kim SH. Urotensin II receptor antagonist attenuates monocrotaline-induced cardiac hypertrophy in rats. *American Journal of Physiology-Heart and Circulatory Physiology* 2010; 299:H1782-1789.
(Citations: 19)
15. **Shah A**, Oh YB, Gao S, Song CH, Park BH, Kim SH. Angiotensin-(1-7) attenuates hyposmolarity-induced ANP secretion via the Na⁺-K⁺ pump. *Peptides* 2010; 31:1779-1785.
(Citations: 10)
16. Yuan K, Kim SY, Oh YB, Yu J, **Shah A**, Park BH, Kim SH. Upregulation of ANP and NPR-C mRNA in the kidney and heart of eNOS knockout mice. *Peptides* 2010; 31:1319-1325.
(Citations: 6)
17. **Shah A**, Gul R, Yuan K, Gao S, Oh YB, Kim UH, Kim SH. Angiotensin-(1-7) stimulates high atrial pacing-induced ANP secretion via Mas-PI3-kinase/Akt axis and Na⁺-H⁺ exchanger. *American Journal of Physiology-Heart and Circulatory Physiology* 2010; 298:H1365-H1374.
(Citations: 31)
18. Han JH, Kim KA, **Shah A**, Park BH, Park WH, Kim SH. Regulation of renin release by connexin 43 in As 4.1 cell line. *Peptides* 2010; 31:899-902.
(Citations: 4)
19. Yuan K, Yu J, **Shah A**, Gao S, Kim SY, Kim SZ, Park BH, Kim SH. Leptin reduces plasma ANP level via nitric oxide-dependent mechanism. *American Journal of Physiology-Regulatory, Comparative Physiology* 2010; 298:R1007-R1016.
(Citations: 23)
20. Gao S*, **Shah A***, Oh YB, Park WH, Kim SH. Urotensin II stimulates high frequency-induced ANP secretion via PLC-PI3K-PKC pathway. *Peptides* 2010; 31:164-169. *equal contribution.
(Citations: 7)
21. Bai G, Gao S, **Shah A**, Yuan K, Park WH, Kim SH. Regulation of ANP secretion from isolated atria by prostaglandins and cyclooxygenase-2. *Peptides* 2009; 30:1720-1728.
(Citations: 12)
22. Yuan K, Jin X, Gao S, **Shah A**, Kim SY, Kim SZ, Kim SH. Osmoregulation of natriuretic peptide receptors in bromoethylamine-treated rat kidney. *Peptides* 2009; 30:1137-1143.
(Citations: 6)
23. **A Shah**, S Bhandary, SL Malik, P Risal, R Koju. Waist circumference and waist-hip ratio as predictors of type 2 diabetes mellitus in the Nepalese population of Kavre District. *Nepal Medical College Journal* 2009; 11:261-267.
24. **Shah A**, Bhandary S, Malik SL. Appropriate body mass index cut-of point in relation to type 2 diabetes mellitus in the population of Kavre district. *Kathmandu University Medical Journal* 2008; 6:184-190.
25. **Shah A**, Parthasarathi D, Sarkar D, Saha CG. A comparative study of body mass index (BMI) in diabetic and non-diabetic individuals in Nepalese population. *Kathmandu University Medical Journal* 2006; 4:4-10.

Presentations or Published peer-reviewed abstracts (Total: 28)

1. **Shah A**, Cooke CL, Morton JS, Quon A, Care A, Davidge ST. Sex-specific susceptibility to cardiovascular disease in rat offspring born from dams of advanced maternal age. "UTRGV

School of Medicine Research Symposium – *Health Disparities: Community Engagement*”, September 14, 2019, McAllen Convention Center, McAllen, Texas

2. **Shah A**, Cooke CL, Morton JS, Quon A, Davidge ST. Cardiovascular Disease Susceptibility of Adult Male and Female Offspring Born to Advanced Maternal Aged Rat Dams. Society of Reproductive Investigation 2018, San Diego, CA, USA May 6-10. (Abstract no. 812)
3. **Shah A**, Care AS, Cooke CL, Morton JS, Quon A, Kirschenman R, Davidge ST. Effect of Advanced Maternal Age on Cardiovascular Function in Adult Male and Female Rat Offspring. Experimental Biology 2017, Chicago, IL, USA April 22-26. (Abstract no. 4626)
4. **Shah A**, Matsumura N, Morton JS, Dyck JRB, Davidge ST. 2016. Cardiovascular susceptibility to acute myocardial ischemic injury in male and female rat offspring born growth restricted. Experimental Biology 2016, San Diego, CA, USA April 2-6. (Abstract no. 4138)
5. **Shah A**, Reyes LM, Morton JS, Davidge ST. Effect of resveratrol on cardiovascular and metabolic function in intrauterine growth restricted male and female rats on a high-fat diet. Experimental Biology 2015, Boston, USA.
6. Care AS, Bourque SL, Morton JS, **Shah A**, Cooke CLM, Reyes LM, Davidge ST. 2014. Growth restriction and increased susceptibility to cardiovascular disease in offspring born from dams of advanced maternal age. Oral presentation at The Annual Scientific Meeting of the Endocrine Society of Australia and the Society for Reproductive Biology, Melbourne, Australia.
7. **Shah A**, Lee SH, Im JM, Oh YB, Kim SH. 2012. Angiotensin-(1-7) attenuates hypertension in exercise trained 2K1C hypertensive rats. Journal of Hypertension 30:e301.
8. Kim SH, **Shah A**, Gao S, Oh YB, Lee SH, Im JM. 2011. Pathophysiological role of atrial natriuretic peptide. Special lecture (SL-12) at the 7th FAOPS Congress, Taipei, Taiwan.
9. Gao S, **Shah A**, Oh YB, Park WH, Kim SJ, Kim SH. 2011. Somatostatin decreases ANP secretion through somatostatin receptor type 2. Poster presentation at the 19th Federation meeting of Korean Basic Medical Scientists, South Korea.
10. **Shah A**, Oh YB, Gao S, Lee SH, Kim HT, Im JM, Kim SH. 2010. Angiotensin-(1-7) attenuates cardiac hypertrophy in trained 2K1C hypertensive rats. Poster presentation at 62nd Annual Meeting of the Korean Physiological Society, Bucheon, South Korea.
11. Oh YB, Gao S, **Shah A**, Kim SH. 2010. Disruption of caveolin blocks the angiotensin II type 1 receptor-mediated ANP secretion. Poster presentation at 62nd Annual Meeting of the Korean Physiological Society, Bucheon, South Korea.
12. Oh YB, **Shah A**, Gao S, Park WH, Kim SH. 2010. Attenuation of stretch-induced ANP secretion by endogenously generated angiotensin II via AT1 receptor pathway. Poster presentation at the 23rd Meeting of the International Society of Hypertension (ISH), Vancouver, Canada. Abstract # 00835
13. **Shah A**, Gao S, Oh YB, Park WH, Kim SH. 2010. Angiotensin-(1-7) attenuates hypoosmolarity-induced ANP secretion via Na⁺-K⁺ pump. Poster presentation at the 23rd Meeting of the International Society of Hypertension (ISH), Vancouver, Canada. Abstract # 01191
14. Gao S, **Shah A**, Oh YB, Park WH, Kim SJ, Kim SH. 2010. Urotensin II receptor antagonist protects monocrotaline-induced cardiac hypertrophy in rats. Poster presentation at The 18th Federation meetings of Korean Basic Medical Scientists, Seoul, South Korea.

15. Oh YB, Gao S, **Shah A**, Park WH, Kim SH. 2010. Endogenous angiotensin II suppresses stretch-induced ANP secretion via AT1 receptor pathway. Poster presentation at The 18th Federation meetings of Korean Basic Medical Scientists, Seoul, South Korea.
16. Gao S, **Shah A**, Oh YB, Kim JH, Kim SH. 2010. Effects of urotensin II on hypoxia-induced ANP secretion. *FASEB J*, 24:1040.7
17. **Shah A**, Gul R, Yuan K, Gao S, Oh YB, Kim UH, Kim SH. 2010. Angiotensin-(1-7) stimulates high atrial pacing-induced ANP secretion. *FASEB J*, 24:1040.2
18. Kim SH, **Shah A**, Oh YB, Gao S, Park WH. 2010. Pathophysiological role of angiotensin-(1-7). Oral presentation at The 9th Japan-Korea Joint Symposium, Kagoshima, Japan.
19. **Shah A**, Yuan K, Gao S, Oh YB, Kim SJ, Park WH, Kim SH. 2009. Modulation of high pacing-induced ANP secretion by antioxidant in diabetic rat atria. Poster presentation at 61st Annual Meeting of the Korean Physiological Society, Gangneung, South Korea.
20. Gao S, **Shah A**, Oh YB, Park WH, Kim SJ, Kim SH. 2009. Urotensin II decreases hypoxia-induced ANP secretion via UT receptor in rats. Poster presentation at 61st Annual Meeting of the Korean Physiological Society, Gangneung, South Korea.
21. **Shah A**, Gul R, Yuan K, Gao S, Oh YB, Kim UH, Kim SH. 2009. Angiotensin-(1-7) stimulates high atrial pacing-induced ANP secretion via Mas/PI3 kinase/Akt axis and Na⁺/H⁺ exchanger. Poster presentation at 61st Annual Meeting of the Korean Physiological Society, Gangneung, South Korea.
22. Kim SH, Yuan K, Jin X, Gao S, **Shah A**, Kim JH, Kim SZ. 2009. Intra-renal hyposmolarity downregulates natriuretic peptide receptors in the kidney. *The Journal of Physiological Sciences*, 59 (Supplement 1), 486.
23. Kim SH, Gao S, Yuan K, **Shah A**, Park WH, Kim SY. 2009. Different response of ANP secretion to PGF2a and COX-2 inhibitor in renal hypertensive rat atria. *The Journal of Physiological Sciences*, 59 (Supplement 1), 275.
24. Kim SH, **Shah A**, Yuan K, Gao S, Kim JH, Park WH. 2009. Stimulation of ANP release by angiotensin-(1-7) through Mas receptor and PI3 Kinase-Akt pathway from isolated perfused rat. *The Journal of Physiological Sciences*, 59 (Supplement 1), 359.
25. **Shah A**, Gao S, Yuan K, Park WH, Kim SZ, Kim SH. 2008. Angiotensin-(1-7) stimulates the ANP release through Mas receptor and nitric oxide from isolated perfused rat atrium. Poster presentation at 60th Annual meeting of the Korean Physiological Society, Seoul, South Korea.
26. Gao S, Yuan K, **Shah A**, Park WH, Kim SZ, Kim SH. 2008. Effects of urotensin II on the regulation of atrial ANP release in rats. Poster presentation at 60th Annual meeting of the Korean Physiological Society, Seoul, South Korea.
27. Yuan K, Kim K, **Shah A**, Gao S, Park WH, Kim SY, Kim SH. 2008. Attenuation of PGF2a-induced ANP secretion in renal hypertensive rat atria. Poster presentation at 16th Federation meeting of Korean Basic Medical Scientists, Seoul, South Korea.
28. Yuan K, **Shah A**, Gao S, Park WH, Kim SY, Kim SH. 2008. Continuous monitoring of blood pressure and heart rates using implantable pressure transducer during cold-exposure in conscious rats. Poster presentation at 16th Federation meeting of Korean Basic Medical Scientists, Seoul, South Korea.

INSTITUTIONAL SERVICE

UTRGV School of Medicine, Edinburg, TX, United States

Member, Interprofessional Education (IPE) Committee:	2020-present
Member, Admission Committee	2018-present
Member, Pre-clerkship subcommittee	2018-present
Member, Central Curricular Authority Committee (CCAC)	2019-present
Member, Faculty Development Workgroup	2019
Member of the “Educational Program Objectives, Content and Curriculum Management” Interview Team for LCME Accreditation visit (February 2020)	
Member of the “LCME citation (element 8.3) Task workgroup, (August- December 2020)	

SCIENTIFIC COMMUNITY SERVICE

Reviewer for scientific journals

- | | |
|---|--------------|
| • Frontiers in Cardiovascular Medicine | 2020-present |
| • American Journal of Physiology-Heart and Circulatory Physiology | 2017-present |
| • Biochemical | 2018-present |
| • Bioscience Report | 2018-present |

Member, Communication Committee

Cardiovascular section, American Physiological Society, MD, USA

2016-2019

PROFESSIONAL MEMBERSHIPS

- | | |
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| • American Physiological Society | 2013-present |
| • Society of Reproductive Investigation | 2017-2018 |
| • Women’s and Children Health Research Institute | 2013-2018 |
| • Cardiovascular Research Center | 2013-2018 |
| • Korean Physiological Society | 2008-2011 |