

**UNIVERSITY OF ARKANSAS FOR MEDICAL SCIENCES  
GRADUATE FACULTY APPLICATION**

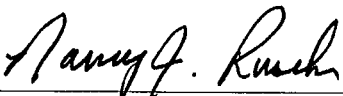
1. Name: Shengyu Mu
2. UAMS Graduate Program Sponsor: Nancy J Rusch Major field: Hypertension
3. Present UAMS academic title or administrative position: Assistant Professor
- Date appointed this rank/position: 5/1/2013 Employed by: Department of pharmacology & Toxicology, College of Medicine

4. **Comments of Department Chair/Head or Program Director including: evidence of scholarly development, effectiveness as a teacher, quality of publications and reallocation of duties if this application is approved.**


Dr. Shengyu Mu is an Assistant Professor in the Department of Pharmacology and Toxicology in the College of Medicine. He was recruited to UAMS because of his outstanding record of scientific discovery as a postdoctoral fellow and junior faculty member. Dr. Mu's laboratory is funded by the American Heart Association, and his research focuses on interactions between immune cells and the kidney that contribute to the development of hypertension. He is training a postdoctoral fellow in his laboratory, and he interacts with faculty and graduate students from many research groups on campus including laboratories in the Departments of Pharmacology/Toxicology, Biochemistry and Neurology. A hallmark publication from his laboratory pending acceptance after revision in Nature Communications includes two trainees in addition to multiple faculty members including Dr. Mu as senior author. I believe his interactions with graduate students will continue to grow as he applies for NIH funding for his laboratory.

Dr. Mu is starting to serve on dissertation committees, which is the impetus for his request for graduate faculty status. Additionally, he will be an outstanding role model of a successful new faculty member for our graduate students, and provide an example of scientific excellence, strong work ethic and collegiality as a model for academic success.

I believe his laboratory will become an active training site for graduate students once his NIH funding is secured, and he will be a valuable addition to our community of graduate faculty. He already is positioned to be a valuable member of dissertation committees, and looks forward to serving in this role.

	11/4/2016	
Department Chair/Head or Program Director	Date	Graduate Council Representative

I have read the comments of my Department Chair/Head or Program Director and I do,  do not (circle one) wish to supply additional information in support of my application.

	
Applicant's Signature	Date

**Approvals**

_____	_____
Chair, Graduate Faculty Committee	Date

_____	_____
Chair, Graduate Council	Date

_____	_____
Dean of the Graduate School	Date

5. **List your planned involvement in graduate education (courses, theses, dissertations):**

Serve as dissertation committee member for Hannah Huff (Mentor Dr. Feresin, Rafaela Goncalves).

6. **Briefly summarize your experience in graduate-level classroom teaching:**

2012, special lecture, University of Tokyo.

7. **Briefly summarize your experience in research and student research mentoring:**

My research focuses on the mechanism of developing of hypertension.

Involving in teaching experimental skills to PhD students in lab.

8. **Attach Curriculum Vita** showing educational background (including institutions attended, degrees awarded and dates), honors or awards received, scholarly or professional organization affiliations, teaching experience (give school, dates and advanced and graduate subjects taught), including student theses and/or dissertations supervised. Cite publications and research in progress.

# CURRICULUM VITAE

**Name:** Shengyu MU

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## **Professional Training and Employment:**

2013-Present: Research Assistant Professor; Department of Pharmacology & Toxicology;  
University of Arkansas for Medical Science (UAMS), Little Rock, AR, USA.

2012-2013: Project Assistant Professor; Division of Clinical Epigenetics, Research  
Center for Advanced Science and Technology, University of Tokyo, Tokyo, Japan.

2011-2012: Postdoctoral Researcher; Department of Nephrology and Endocrinology,  
School of Medicine, University of Tokyo, Tokyo, Japan.

## **Education**

2011 Ph.D. (Dr. of Medical Science), University of Tokyo, Tokyo, Japan

2004 M.B.B.S., TianJin Medical University, TianJin, China.

## **Research field:**

Pathophysiology of hypertension, Kidney disease, Renal-physiology,  
Renal-cardiovascular disease, Metabolic syndrome

## **Grants, Awards and Honors:**

2016 Kidney Council New Investigator Award, American Heart Association (AHA)  
Council for High Blood Pressure Research Scientific Session

2015 Grant-In-Aid funding award, American Heart Association (AHA)

2011 Kidney Council New Investigator Award, American Heart Association (AHA)  
Council for High Blood Pressure Research Scientific Session

2011 Young Investigators Award, Japan Society of Cardiovascular Endocrinology and  
Metabolism

2011 Banyu Life Science Foundation Cardiovascular Research award (Japan)

2011 1<sup>st</sup> prize, CKD Award 2011 (Japan)

2010 Young Investigators Award, Japan Society of Hypertension

**Academic Journal Editorial Duties:**

Editorial board member, *SM Journal of Endocrinology and Metabolism*

Editorial board member, *Journal of Clinical Nephrology and Renal Care*

**Academic Peer Reviewer:**

American Heart Association, Grant@Heart

*Plos One*

*American Journal of Physiology-Heart and Circulatory Physiology*

*Clinical and Experimental Pharmacology and Physiology*

*Hypertension research*

*Regulatory Peptide*

**Membership and Committee Assignments:**

Member of the American Physiological Society

Member of the Council for High Blood Pressure Research, American Heart Association

Member of the Council on Kidney in Cardiovascular Disease, American Heart Association

Member of the Early Career Committee of the Kidney in Cardiovascular Disease (KCVD) Council, American Heart Association

Member of the Japanese Society of Hypertension

Member of the Japanese Society of Cardiovascular Endocrinology and Metabolism

**Select Publications:**

1. Liu Y, Rafferty TM, Rhee SW, Webber JS, Song L, Ko B, Hoover RS, He B, **Mu S**. CD8+ T cells stimulate Na-Cl co-transporter NCC in distal convoluted tubules leading to salt-sensitive hypertension. *Nature Communications*. 2016 (In press)
2. Hirohama D, Kawakami-Mori F, Ogura S, **Mu S**, Jimbo R, Uetake U, Yatomi Y, Nangaku M, Fujita T and Shimosawa T. Renal Denervation Improves Cardiac Diastolic Dysfunction by Restoring Serca2a Transcription in Uninephrectomized Rats. *Journal of Hypertension (Los Angel)*. 5: 225, 2016
3. Uetake Y, Ikeda H, Irie R, Tejima K, Matsui H, Ogura S, Wang H, **Mu S**, Hirohama D, Ando K, Sawamura T, Yatomi Y, Fujita T, Shimosawa T. High-salt in addition to high-fat diet may enhance inflammation and fibrosis in liver steatosis induced by oxidative stress and dyslipidemia in mice. *Lipids in Health and Disease*. 14: 6, 2015.

4. Jimbo R, Kawakami-Mori F, **Mu S**, Hirohama D, Majtan B, Shimizu Y, Yatomi Y, Fukumoto S, Fujita T, Shimosawa T. Fibroblast growth factor 23 accelerates phosphate-induced vascular calcification in the absence of Klotho deficiency. *Kidney International*. 85(5): 1103-1111, 2014.
5. Ogura S, Shimosawa T, **Mu S**, Sonobe T, Kawakami-Mori F, Wang H, Uetake Y, Yoshida K, Yatomi Y, Shirai M, Fujita T. Oxidative stress augments pulmonary hypertension in chronically hypoxic mice overexpressing the oxidized LDL receptor. *American Journal of Physiology Heart and Circulatory Physiology*. 305(2): H155-62, 2013.
6. Shimosawa T, **Mu S**, Shibata S, Fujita T. The Kidney and Hypertension: Pathogenesis of Salt-Sensitive Hypertension. *Current Hypertension Reports*. 14: 468-472, 2012.
7. Mori-Kawakami F, Shimosawa T, Wang H, Ogura S, **Mu S**, Yatomi Y, Fujita T. NADPH oxidase-mediated Rac1 GTP activity is necessary for non-genomic actions of the mineralocorticoid receptor in the CA1 region of the rat hippocampus. *Am J Physiol Endoc Metab*. 302: E425-32, 2012.
8. Shimosawa T, Matsui H, Jing L, Guangquin X, Qingyou X, Jing Q, Mori F, Jimbo R, **Mu S**, Anan S, Rehemian L, Uetake U, Ogura S, Fujita T. Adrenomedullin and Oxidative Stress in Vascular Damage and Metabolic Disease. *Current Hypertension Reviews*. 7:251-256, 2011.
9. Shibata S\*, **Mu S**\*, Kawarazaki H\*, Muraoka K, Ishizawa K, Yoshida S, Kawarazaki W, Takeuchi M, Ayusawa N, Miyoshi J, Takai Y, Ishikawa A, Shimosawa T, Ando K, Nagase M, Fujita T (\*equally contributor). Rac1 GTPase in rodent kidneys is essential for salt-sensitive hypertension via a mineralocorticoid receptor-dependent pathway. *Journal of Clinical Investigation*. 121:3233-3243, 2011.
10. **Mu S**, Shimosawa T, Ogura S, Wang H, Uetake Y, Kawakami-Mori F, Marumo T, Yatomi Y, Geller DS, Tanaka H, Fujita T. Epigenetic modulation of the renal  $\beta$ -adrenergic-WNK4 pathway in salt-sensitive hypertension. *Nature Medicine*. 17:573-580, 2011.

#### Select Presentations in International Conferences:

1. Mu S, Liu Y, Rhee S, Webber J, He B, Rafferty T. CD8<sup>+</sup> T Cells Stimulate Sodium Chloride Co-transporter NCC in Kidney. *Council on Hypertension Scientific Sessions (HBPR2016)*, Orlando, 2016 Sep.
2. **Mu S**, Liu Y. T cell infiltration in kidney induces salt-retention via NCC up-regulation. *Experimental Biology (EB2016)*, San Diego. 2016 Apr.

3. Mu S, Matsui H, Wang H, Hirohama D, Tanaka H, Ando K, Shimosawa T, Fujita T. The interaction of ROS and MR develops cardiac diastolic dysfunction via NHE1 up-regulation. *24th Scientific meeting of the International Society of Hypertension (ISH2012)*, Sydney, 2012 Oct.
4. Mu S, Shimosawa T, Ogura S, Wang H, Uetake Y, Mori F, Fujita T. Salt-sensitive hypertension and renal-sympathetic tone, epigenetic modulation of WNK4. *24th Scientific meeting of the International Society of Hypertension (ISH)*, Sydney, 2012 Oct.
5. Mu S, Matsui H, Wang H, Hirohama D, Tanaka H, Ando K, Shimosawa T, Fujita T. The interaction of ROS and MR develops cardiac diastolic dysfunction via NHE1 up-regulation. *38th Meeting of the International Aldosterone Conference (IAC 2012)* Houston, 2012 June.
6. Mu S. Sympathetic tone and salt-sensitive hypertension, involvement of WNKs. Scientific Meeting in Philadelphia, 2011 Nov.
7. Mu S, Shimosawa T, Ogura S, Mori F, Wang H, Uetake Y, Saito R, Fujita T. Epigenetic Modulation of Renal  $\beta$ -Adrenergic-WNK4 Pathway in Salt-Sensitive Hypertension. *American Society of Nephrology (ASN kidney Week 2011)* Philadelphia, 2011 Nov.
8. Mu S, Shimosawa T, Ogura S, Wang H, Uetake Y, Mori F, Geller D, Fujita T. Salt-sensitive hypertension and sympathetic tone, epigenetic modulation of WNK4. *The 13th International Symposium on Hypertension and Related Disease, World Hypertension League Regional Congress (WHL)*, BeiJing, 2011, Nov.
9. Mu S, Shimosawa T, Ogura S, Mori F, Wang H, Uetake Y, Fujita T. Salt-sensitive hypertension and sympathetic tone, epigenetic modulation of WNK4. *High blood pressure research conference (HBPR2011)*, Orlando, 2011 Sep.
10. Mu S, Wang H, Matsui H, Shimosawa T, Ando K, Fujita T. MR activation plays a key role in ROS-induced diastolic dysfunction. *37th Meeting of the International Aldosterone Conference (IAC 2011)*, Boston, 2011 June.
11. Mu S, Shimosawa T, Ogura S, Mori F, Wang H, Uetake Y, Fujita T. Sympathetic-activity induced salt-sensitive hypertension involved of WNKs. *American Society of Nephrology (ASN Renal Week 2010)*, Denver, 2010 Nov.
12. Mu S, Shimosawa T, Ogura S, Mori F, Wang H, Uetake Y, Fujita T. Salt-sensitive hypertension and sympathetic tone, regulation of WNK4. *23th International Society of Hypertension (ISH2010)*, Vancouver, 2010 Sep.
13. Mu S, Shimosawa T, Ogura S, Mori F, Wang H, Uetake Y, Fujita T. Sympathetic-activity induced salt-sensitive hypertension involvement of WNKs. *14th International Congress of Endocrinology (ICE2010)*, Kyoto, 2010 Mar.

14. Mu S, Shimosawa T, Ogura S, Mori F, Wang H, Uetake Y, Saito R, Fujita T. Role of oxidative stress in kidney regeneration. *American Society of Nephrology (ASN Renal Week 2008)* Philadelphia, 2008 Nov.
15. Mu S, Shimosawa T, Ogura S, Mori F, Wang H, Uetake Y, Saito R, Fujita T. The role of oxidative stress in organ regeneration. *22nd Scientific Meeting of International Society of Hypertension*, Berlin, 2008 June