

Summary: March–May 2007 professional activity (Culver, Du, Ren & Sreejayan labs)**A. Research paper in press or in print (alphabetically by last name of 1st author):**

1. Dong F*, Yang X*, Sreejayan N, Ren J. Chromium (D-phenylalanine)₃ improves obesity-induced cardiac contractile defect in ob/ob mice. *Obesity Res.* in press. (*equal first authorship)
2. Dong F, Ford SP, Nijland MJ, Nathanielsz PW, Ren J. Influence of maternal undernutrition and overfeeding on cardiac ciliary neurotrophic factor receptor and ventricular size in fetal sheep. *J. Nutri. Biochem.* in press.
3. Dong F, Ren J. Fidarestat improves cardiomyocyte contractile function in db/db diabetic obese mice through a histone deacetylase Sir2-dependent mechanism. *J. Hypertens* in press (IF=5.22).
4. Dong F, Ren J. Fitness or fatness - the debate continues for the role of leptin in obesity-associated heart dysfunction. *Curr Diabetes Rev.* in press.
5. Du M, Shen QW, Zhu MJ, Ford SP. Leucine stimulates mTOR signalling in C2C12 myoblast cells through inhibition of AMP-activated protein kinase. *Journal of Animal Science*, 2007; 85: 919-927.
6. Duan J, Xu HS, Dai S, Wang X, Wu Y, Zhang Y, Sun R, Ren J. Phytoestrogen α -zearalanol inhibits homocysteine-induced endothelin-1 expression and oxidative stress in human umbilical vein endothelial cells. *Atherosclerosis* in press (IF=3.78).
7. Han B, Ma C, Zhu MJ, Du M. Insulin-like growth factor-1 (IGF-1) and leucine stimulate mammalian target of rapamycin (mTOR) signaling in pig myogenic satellite cells. *Molecular Reproduction and Development.* In press.
8. Li LL, Ma XL, Ran JX, Sun XF, Xu LM, Ren J, Mao XM. Genetic polymorphism of peroxisome proliferator-activated receptor- γ 2 pro12Ala on ethnic susceptibility to diabetes in Uygurs, Kazaks and Hans subjects. *Clin Exp. Pharm. Physiol.* in press.
9. Li Q, Ren J. Chronic alcohol consumption reduces activation of mammalian target of rapamycin (mTOR) and ribosomal p70S6 kinase in cerebral cortex. *Exp. Neurol.* 204:840-844, 2007 (IF=3.78).
10. Li Q, Ren J. Influence of cardiac specific overexpression of insulin-like growth factor-1 on life span and aging-associated changes in cardiac intracellular Ca²⁺ homeostasis, protein damage and apoptotic protein expression. *Aging Cell* acceptable (IF=6.01).
11. Li Q, Wu S, Li SY, Lopez FL, Du M, Kajstura J, Anversa P, Ren J. Cardiac specific overexpression of insulin-like growth factor-1 attenuates aging-associated cardiac diastolic contractile dysfunction and protein damage. *Am J Physiol: Heart Circ Physiol* 292: H1398-H1403, 2007 (IF=3.56).
12. Li Q, Yang X, Sreejayan N, Ren J. Insulin-like growth factor I deficiency prolongs survival and antagonizes paraquat-induced cardiomyocyte dysfunction: Role of oxidative stress. *Rejuven Res.* acceptable (IF=8.57).
13. Ren J, Ceylan-Isik AF, Fliethman RM. Herbal and traditional Chinese medicine for treatment of cardiovascular complications in diabetes mellitus. *Curr Diabetes Rev.* accepted (IF=N/A).
14. Ren J, Duan J, Thomas DP, Yang X, Sreejayan N, Sowers JR, Leri A, Kajstura J, Anversa P. IGF-1 alleviates diabetes-induced RhoA activation, eNOS uncoupling and myocardial contractile dysfunction. *Eur. Heart J.* acceptable.
15. Ren J, Privratsky JR, Dong F, Carlson EC, Yang X. Metallothionein prevents glutathione depletion-induced oxidative cardiomyopathy in murine hearts. *Hypertension* acceptable.
16. Ren J. Interaction between high fat diet and ADH on ethanol-elicited cardiac depression in murine myocytes. *Obesity Res.* in press (IF=4.00).
17. Ren J. New technology, new concept - American College of Cardiology 2007. *New Drug Invest. Tribune* in press
18. Shen QW, Underwood KR, Means WJ, McCormick RJ, Du M. Halothane gene, energy metabolism, AMP-activated protein kinase, and glycolysis in postmortem pig longissimus dorsi muscle. *Journal of Animal Science.* 2007; 85: 1054-1061.

19. Zhang QJ, Li QX, Zhang HF, Zhang KR, Guo WY, Wang HC, Fan M, Zhou Z, Cheng HP, Ren J, Gao F. Aerobic exercise sensitizes myocardial contractile response to insulin - Role of Akt-dependent eNOS activation. *Cardiovasc Res.* in press (IF=5.28).
20. Zhu MJ, Du M, Hess BW, Means WJ, Nathanielsz PW, Ford SP. Maternal nutrient restriction upregulates growth signaling pathways in the cotyledonary artery of cow placentomes. *Placenta* In press.

B. Research paper submitted in March-May 2007 (alphabetically by last name of 1st author):

21. Han, B., M. J. Zhu, C. Ma, S. P. Ford, P. W. Nathanielsz, and M. Du. (2007). Down-regulation of insulin signaling and AMP-activated protein kinase in pregnant sheep skeletal muscle due to obesity and over-nutrition. *Endocrinology*. In review.
22. Han, B., M. J. Zhu, J. Tong, C. Ma, and M. Du. (2007). Rat hindlimb unloading induces down-regulation of insulin like growth factor-1 signaling and AMP-activated protein Kinase, and severe Atrophy of Soleus muscle. *Applied Physiology, Nutrition and Metabolism*. Submitted.
23. Shen, Q. W., J. Ren, M. J. Zhu, and M. Du. (2007). Ca²⁺/calmodulin-dependent protein kinase kinase is involved in AMP-activated protein kinase activation by α -lipoic acid in C2C12 myotubes. *American Journal of Physiology-Cell Physiology*. In revision.
24. Stratton MS, Yang X, Sreejayan N, Ren J. Impact of insulin-like growth factor-I on migration, proliferation and Akt-ERK signaling in early and late-passages of vascular smooth muscle cells. *Atherosclerosis* in review.

C. Meeting presentation and abstract submitted in March – May 2007.

EB meeting: Drs. Min Du and Sreejayan presented at the EB meeting.

CHS ground round: Susan, Bruce, Jun and Sreejayan presented at the CHS research day (4/27)

UW Graduate Forum: 2 Neuroscience students Xiaochun (Susan) Zhang and Shawna McBride presented posters at the University of Wyoming Graduate School Symposium, April 2007

UW Undergraduate Research Day: Chris Peryam, Kayla Luhrs & Jamie Hexem presented the results of their research at Undergraduate research day, April 2007 (directed by [Dr. Culver](#) and [Susan Zhang](#)).

UW honors program completion: [Lindsay Hueckstaedt](#) “Role of serine protease Omi/HtrA2 UCF-101 in the development of diabetic heart diseases” supervised by Drs. [Ren](#) and [Catherine Li](#).

Other presentations or accepted presentations

Mei J. Zhu, Jessica M. Kimsey, Junfeng Tong, Stephen P. Ford, Peter W. Nathanielsz, and Min Du. (2007) Enhanced adipogenesis and decreased AMPK ACTIVITY in fetal muscle of obese, overnourished pregnant sheep. Aspen Perinatal Biology Symposium, The Given Institute, Aspen, Colorado, August 25 to 28, 2007.

Shen, Q. W., and M. Du. (2007) Ca²⁺/calmodulin-dependent protein kinase kinases are involved in AMP-activated protein kinase activation by alpha-lipoic acid in C2C12 myotubes. 2007 Graduate Student Symposium. April 3-4, 2007.

Sreejayan, N, J. Dolence, Y. Liu, M. Du, J. Ren. (2007) Chromium (D-Phenylalanine)₃ Reverses Free Fatty Acid-Induced Cellular Insulin Resistance by Activating the Akt/PI3 Kinase pathway. College of Health Sciences Research Day Presentation, March 9, 2007.

Tong, J., K. R. Underwood, J. M. Kimsey, M. J. Zhu, W. J. Means, and M. Du. (2007) Myosin type IIb isoform is absent in the longissimus dorsi muscle of beef cattle. The 60th Reciprocal Meat Conference, Brookings, South Dakota. June 17-20, 2007.

Zhu, M. J., J. Tong, K. R. Underwood, and M. Du. (2007) Activation of AMP-activated protein kinase inhibits adipogenesis in 3T3 cells. The 60th Reciprocal Meat Conference, Brookings, South Dakota. June 17-20, 2007.

Du, M., B. Han, M. J. Zhu, P. W. Nathanielsz, S. P. Ford. (2007) Insulin signaling and AMP-activated protein kinase are down-regulated in skeletal muscle of overnourished, obese pregnant sheep. Annual Meeting of the Society for the Study of Reproduction. San Antonio, Texas, July 21 to July 25, 2007.

Du, M., B. Han, M. J. Zhu, P. W. Nathanielsz, S. P. Ford. (2007) Down-regulation of AMP-activated protein kinase in fetal muscle of obese, overnourished pregnant sheep. Annual Meeting of the Society for the Study of Reproduction. San Antonio, Texas, July 21 to July 25, 2007.

Han, B., C. Ma, M. J. Zhu, Q. W. Shen, and M. Du. (2007) Leucine supplementation mitigates atrophy of non-weight-bearing skeletal muscle in rats. Experimental Biology Annual Meeting, Washington DC, April 28-May 2, 2007.

Shen, Q. W., J. Ren, and M. Du. (2007) Ca²⁺/calmodulin-dependent protein kinase kinases are mainly responsible for AMP-activated protein kinase activation by α -lipoic acid in C2C12 myotubes. Experimental Biology Annual Meeting, Washington DC, April 28-May 2, 2007.

Zhu, M. J., S.P. Ford, and M. Du. (2007) Androgen enhances both Akt/mTOR and MAPK signaling in C2C12 myoblast cells. Experimental Biology Annual Meeting, Washington DC, April 28-May 2, 2007.

Zhu, M. J., M. Du, B.W. Hess, P.W. Nathanielsz, and S.P. Ford. (2007) Localization of key growth signaling proteins in placentomes of overfed ewes. Society for Gynecologic Investigation, Reno, Nevada, March 14-17, 2007.

Du, M. Maternal nutrition and fetal skeletal muscle development. Aspen Perinatal Biology Symposium, The Given Institute, Aspen, Colorado, August 25 to 28, 2007.

Ren J. The 2007 IEEE International Conference presentation on Nano/Molecular Medicine and Engineering (IEEE-NANOMED 2007); Macau, China, August 6-9, 2007.

D. Research Proposal submitted or awarded in March – April 2007

Zhang Xiaochun (Susan): College of Health Sciences Student Research Grant \$1242 (awarded), Title: Role of Indomethacin in Chronic-Methamphetamine-Abuse Induced Behavioral Sensitization

Du, M. (PI), Stephen P. Ford, Brenda M. Alexander, Daniel C. Rule, Kristi M. Cammack. USDA-National research Initiative Competitive Grant Program. Purchase of an Odyssey Infrared Imaging System for Reproductive Biology Research. \$22,750. (2007/7-2008/6). Funded.

E. C-CRAM activities, news & other laboratory issues:

- (1). The next C-CRAM research award will be announced on July 1, 2007.
- (2). Congratulations to [Qingwu Shen](#) and [Peisheng Xu](#), our most recent PhD products. Drs. Shen and Xu successfully defended their dissertations on March 27 and April 23, respectively ([M Du](#) and [Y Shen](#) as respective advisor). Both are heading to Purdue University to start their postdoctoral employment.
- (3). The College of Health Sciences Grand Round (Research Day) was held on April 27. [Jun, Sree \(Machender\)](#) and [Culver \(Susan\)](#) each presented a poster. Overall, participation from our C-CRAM members in this year's research day and keynote speech on MS and child obesity is very discouraging.
- (4). Dr. [Shiyan Li](#) received the 2007 College of Health Sciences New Investigator Award (\$500). Dr. [Feng Dong](#) was awarded UW Graduate School's outstanding PhD Dissertation Award (\$1000).
- (5). Three faculty candidates (Toxicologist position) presented their work during their interview in April. Three more seminars were conducted by Dr. Martin from Iowa, Dr. Clark from our own department and Dr. Li from Yale to interview for the pathophysiology position.
- (6). NHL's hockey regular season wrapped out in April with Britt Culver (Bruce's son) winning the pool. Bonnie Zhao and Feng Dong are the second and third place finishers. The 2006 – 2007 NHL playoff pool is in the final round (Stanley cup) with Bonnie is the current pool leader with 215 points followed by Jun and Subat.
- (7). Little **SARAH DONG** is exactly one year old this pat weekend – Happy the first birthday!.

Have a nice Memorial Weekend!

Editor: Jun Ren, 766-6131 (May 23, 2007)