

## Curriculum Vita

### Jon J. Andresen

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#### **Education:**

2003 Ph.D. in Neuroscience, University of Iowa, Iowa City, IA.

1996 B.A. in Biology, Grinnell College, Grinnell, IA.

#### **Work Experience:**

2007-Present Assistant Professor, Department of Basic Medical Science, University of Missouri-Kansas City (UMKC) School of Medicine, Kansas City, MO.

Adjunct Professor (Graduate), UMKC School of Nursing.

Charter member, Muscle Biology Group (MUBIG) at UMKC.

2004-07 Postdoctoral Fellow, Department of Anesthesiology, Baylor College of Medicine, Houston, TX.

2000-03 Adjunct Professor, Social Sciences Department, Kirkwood Community College, Cedar Rapids, IA.

1996-98 Research Assistant I, Laboratory of Experimental Neuroanatomy, Department of Neurology, University of Iowa, Iowa City, IA.

#### **Publications:**

##### Peer-Reviewed Journal Articles (Original Research, Reviews, and Correspondence):

1. Parelkar, N.K., Silswal, N., Jansen, K., Vaughn, J., Bryan, R.M., Jr., Andresen, J. 2,2,2-Trichloroethanol activates a non-classical potassium channel in cerebrovascular smooth muscle and dilates the middle cerebral artery. *JPET*. First published online December 2, 2009.
2. Shafi, N., Andresen, J., Marrelli, S., Bryan, R.M. Erythropoietin potentiates EDHF-mediated dilations in rat middle cerebral arteries. *J. Neurotrauma*, Mar.; 25(3):257-6, 2008.

3. Brown, K.A., Didion, S.P., Andresen, J.J., Faraci, F.M. Effect of Aging, MnSOD Deficiency, and Genetic Background on Endothelial Function. Evidence for MnSOD Haploinsufficiency. *Arterioscler., Thromb., and Vasc. Biol.*, Sept.; 27(9): 1941-49, 2007. First published June 7, 2007.
4. Andresen, J. Change Graduate Training Now! *FASEB J.*, Sept.; 20(11): 1761, 2006.
5. Bryan, R.M. Jr., Phillips, S.C., Andresen, J.J., Lloyd, E.E., Rogers, P.A., Dryer, S.E., Marrelli, S.P. Evidence for Two-pore domain potassium channels in rat cerebral arteries. *Am. J. Physiol. Heart Circ. Physiol.*, July; 291; H770-780, 2006. First published Mar. 24, 2006.
6. Andresen, J., Bryan, R.M., Jr. Effects of Carbon Monoxide and Heme Oxygenase Inhibitors in Cerebral Vessels of Rats and Mice. *Am. J. Physiol. Heart Circ. Physiol.*, June; 291: H223-230, 2006. First published Feb. 17, 2006.
7. Andresen, J., Shafi, N., Bryan, R., Jr. Endothelial Influences on Cerebrovascular tone. *J. Appl. Physiol.*, Jan; 100(1):318-27, 2006.
8. Andresen, J., Faraci, F.M., Heistad, D.D. Vasomotor Function in MnSOD-deficient mice. *Am. J. Physiol. Heart Circ. Physiol.*, Sep; 287(3):H1141-8, 2004.
9. Watanabe, Y., Chu, Y., Andresen, J.J., Nakane, H., Faraci, F.M., and Heistad, D.D. Gene Transfer of Extracellular Superoxide Dismutase Reduces Cerebral Vasospasm After Subarachnoid Hemorrhage. *Stroke.*, 34: 434-440, 2003.
10. Toyoda, K., Faraci, F.M., Watanabe, Y., Ueda, T., Andresen, J.J., Chu, Y. Otake, S., and Heistad, D.D. Gene Transfer of Calcitonin Gene-Related Peptide Prevents Vasoconstriction After Subarachnoid Hemorrhage. *Circ. Res.*, 87: 818-824, 2000. [Accompanied by Editorial pp 719: "Adventure in Gene Therapy into the Brain: A New Era for Cardiovascular Gene Therapy."]
11. Toyoda, K., Andresen, J.J., Zabner, J., Faraci, F.M., and Heistad, D.D. Calcium Phosphate Precipitates Augment Adenovirus-Mediated Gene Transfer to Blood Vessels In Vitro and In Vivo. *Gene Therapy.*, 7 (15):1284-1291, 2000.
12. Rockland, K.S., Andresen, J., Cowie, R.J., and Robinson, D.L. Single Axon Analysis of Pulvinocortical Connections to Several Visual Areas in the Macaque. *J. Comp. Neurol.*, 406:221-250, 1999.

#### Submitted manuscripts

1. Neerupma Silswal, Nikhil K. Parelkar, Michael J. Wacker, Marco Brotto, and Jon Andresen. Phosphatidylinositol 3,5-bisphosphate increases intracellular free Ca<sup>2+</sup> in VSMC and elicits vascular contraction. Submitted to *JBC* November 23, 2009.
2. Chad D. Touchberry, Ian K. Bales, Jessica K. Stone, Travis J. Rohrberg, Nikhil K. Parelkar, Jon J. Andresen, Hector H. Valdivia, Marco Brotto, and Michael J. Wacker. Phosphatidylinositol 3,5-bisphosphate (PI(3,5)P<sub>2</sub>) potentiates cardiac contractility via activation of the ryanodine receptor. Submitted to *JBC* November 24, 2009.

#### Manuscripts in preparation:

1. Parelkar, N., Silswal, N., Badr, M., and Andresen, J., Activation of PPAR<sub>α</sub> acutely dilates cerebral arteries: non-genomic effects of PPAR<sub>α</sub> agonists.

### **Oral Presentations:**

- Invited talk, Physiology Seminar at Touro University, December 16, 2009, Mare Island, CA.  
**Presentation title:** Effects of the newly discovered phosphatidylinositol 3,5-bisphosphate on skeletal, cardiac, and vascular smooth muscle: ryanodine receptors, intracellular Ca<sup>2+</sup>, and muscle contraction in young and old mice.
- Featured topic at Experimental Biology meeting 2009, April 19, 2009, New Orleans, LA.  
**Presentation title:** Phosphoinositide-mediated arterial contractions in mice.  
**Session#:** 1198. **Session title:** Lipid Lipid Phosphatidylinositol 3,5-bisphosphate (PI(3,5)P<sub>2</sub>) Signaling in Nerve and Muscle.
- Invited talk, Departments of Neurosurgery and Physiology, LSU Health Sciences Center, Shreveport, LA. February 22, 2007.  
**Presentation title:** Tandem-pore domain potassium channels in cerebral arteries, finding the TRAAK.
- Featured Topic at the Experimental Biology meeting April 2, 2006, San Francisco, CA.  
**Presentation Title:** Mouse cerebral arteries [do not] dilate to carbon monoxide.  
**Session#:** 198. **Session title:** Air Pollutants or Intracellular Messengers? Inorganic Signaling Molecules in Vascular Regulation.
- The Microcirculatory Society Young Investigator Symposium at the Experimental Biology meeting April 2, 2006, San Francisco, CA.  
**Presentation Title:** Heme oxygenase and carbon monoxide in the vasculature: lessons from cerebral vessels of rats and mice.  
**Session#:** 290. **Session title:** Regulation of Cerebrovascular Function in Health and Disease.
- Neuroscience meeting October 27, 1997, New Orleans, LA.  
**Presentation Title:** Pulvinocortical Axons Terminating in Extrastriate Cortex.  
**Session#:** 334. **Session Title:** Visual Cortex: Extrastriate IV.
- University of Iowa, September 2000.  
**Presentation Title:** Effective study habits.

Given to freshman members of the University of Iowa football team.

**Awards and Honors:**

Ongoing Independent Investigator Grants:

1. Project title: The physiological role of TRAAK, a tandem-pore domain potassium channel, in cerebral arteries.  
Role: Principle Investigator  
Agency: American Heart Association, National Affiliate  
Type: Scientist Development Grant (SDG, 0735053N)  
Period: 9/2007-8/2011  
Total Award Amount: \$260,000
2. Project title: The physiological role of TRAAK, a tandem-pore domain potassium channel, in cerebral arteries.  
Role: Principle Investigator  
Agency: American Heart Association, Texas Affiliate  
Type: Beginning Grant-In-Aid (BGIA, 0765011Y)  
Period: 7/2007-6/2009  
Award Amount: \$260,000  
\*\*Not accepted. Accepted instead SDG from the National AHA affiliate.\*\*
3. Project Title: Bi-directional Crosstalk between Bones and Muscles  
Role: Co-Principal Investigator with Marco Brotto, Mark Johnson, and Michael Wacker  
Agency: Missouri Life Sciences Institute/UMKC Center of Musculoskeletal Diseases  
Period: 03/2009-02/2010  
Total Award Amount: \$71,200
4. Project Title: Role of Serotonin in Cardiovascular Calcification  
Role: Co-Principal Investigator with Michael Wacker and Jeff Gorski  
Agency: Missouri Life Sciences Institute/UMKC Center of Musculoskeletal Diseases  
Period: 03/2009-02/2010  
Total Award Amount: \$25,300
5. Project Title: Muscle Bone Endocrine Axis  
Role: Co-investigator with Michael Wacker, Contact PI: Lynda Bonewald  
Co-PIs: Mark Johnson and Marco Brotto  
Agency: NIH-NIAMS  
Type: Grand Opportunities (GO) grant-Trans-NIH Recovery Act Research Support (1 RC2 AR058962-01)  
Period: 9/1/09-8/31/2011  
Total Award Amount: \$1,077,000

### Past Fellowship Grants:

1. Role of CO in Cerebrovascular EDHF-mediated Dilation  
Principal Investigator: Jon Andresen  
Agency: NIH-NHLBI                      Period: 9/6/05-9/5/07  
Type: Individual Postdoctoral NRSA (1 F32 HL080916-01)  
Total award amount: \$92,772
  
2. Basic and Clinical Research Training in Thrombosis  
Principal Investigator: Paul Bray  
Agency NIH-NHLBI                      Period: 9/4/04-9/5/05  
Type: Institutional Postdoctoral NRSA (T32 HL072754)  
Total award amount: \$41,624
  
3. Vascular Function in SOD2-deficient Mice  
Principal Investigator: Jon Andresen  
Agency: NIH-NINDS                      Period: 4/30/02-12/31/03  
Type: Individual Predoctoral NRSA (1 F31 NS42502-01)  
Total award amount: \$47,812
  
4. Vascular Function in SOD2-deficient Mice  
Principal Investigator: Jon Andresen  
Agency: Center on Aging                      Period: 4/30/01-4/29/02  
Type: Individual Predoctoral NRSA (5 T32 AG00214)  
Total award amount: \$21,000
  
5. Neuroscience Training Program  
Principal Investigator: Kathleen Rockland  
Agency: NIH                      Period: 7/9/99-3/30/00  
Type: Institutional Training Grant (T32 NS07421)  
Total award amount: \$21,000

### Teaching Experience:

- 2008-Present    Physiology for Anesthesiologist Assistants 1&2, Anesthesiologist Assistant Graduate Program, University of Missouri-Kansas City.
- 2005-06            Vascular section of Human Physiology 1, Translational Biology and Molecular Medicine Graduate Program, Baylor College of Medicine.
- 2000-03            General Psychology, Kirkwood Community College.
- 2000                Graduate Assistant for Medical Neuroscience, Roy J. and Lucille A. Carver College of Medicine, University of Iowa.

2000 Graduate Assistant for Neurophysiology, Neuroscience Graduate Program, University of Iowa.

1999 Teaching Associate, Simulated Patient Program, Roy J. and Lucille A. Carver College of Medicine, University of Iowa.

**Mentorship Experience:**

Postdoctoral trainees:

Current: Nikhil Parelkar, Ph.D. and Neerupama Silswal, Ph.D.

Graduate students:

Medical Student Research Program, University of Missouri-Kansas City.

Current trainees: Josh Vaughn, Kirsten Jansen, Ben Favier, and Vikas Patel

All trainees were awarded Sarah Morrison Research Awards to conduct research in my laboratory.

High School Students:

University of Missouri-Kansas City.

Summer 2009 trainee: Sean Hurd

Summer 2008 trainee: Kat Songer

BIOS Program, Baylor College of Medicine.

Summer 2007 Trainees: Alexander Fell and Laura (Katie) Gibson

Summer 2005 Trainees: Ashlee Joseph and Smrithi Ann Chakkalakal

Summer 2004 Trainees: John Tobeck and Jermeece N. Augustine

Discovery Lab Summer Science Institute, Baylor College of Medicine.

Summer 2006 Trainees: Fernando Meza and Liana Roberson

**Guest Lectures:**

Human brain anatomy, behavior, and brain-centered teaching.

- Biannual lecture for undergraduates in Educational Psychology at the University of Iowa, 1998-2001.
- Also presented to students in the Masters in Teaching program at Coe College (2002) and Graceland University (2002-03)

**Additional training and development activities:**

2008-09 University of Missouri New Faculty Teaching Scholars (NFTS) Program

**Professional Affiliations:**

American Association for the Advancement of Science-Biological Sciences Section

American Heart Association-Council on Basic Cardiovascular Sciences

American Physiological Society-Cardiovascular Section

**Committee Service:**

2009-Present Basic Medical Science Peer-Review *Ad-hoc* Committee, UMKC School of Medicine.

2009-Present Medical Physiology Instructor Search Committee, UMKC School of Medicine.

2009-Present Basic Medical Science Website Revision Committee (Chair)

2008-Present MUBIG Symposium Planning Committee, UMKC Schools of Medicine and Nursing.

2009 Vision Research Search Committee, UMKC School of Medicine.

2007 Postdoctoral Advisory Committee, Baylor College of Medicine.

1999-03 Alternate Careers in Biosciences Seminar Series planning committee, University of Iowa.

1998-03 Brain Awareness Week planning committee, University of Iowa.

**Other Scholarly Service:**

2009-Present: Secretary, Basic Medical Science Department, UMKC School of Medicine

Reviewer for the journals, *Stroke* and *FASEB Journal*.

Interviewer for Grinnell College.

**Other Activities and Interests:**

SCUBA Diving, PADI certified Rescue Diver

Muso Jikiden Eishin Ryu Iaido: Current rank, yondan. Instructor at Ginga Dojo

Astronomy

**Website:**

[www.gingadojo.org](http://www.gingadojo.org)





## References

### Department Chairman

**Christopher Papasian, Ph.D.**

Professor, Basic Medical Science, University of Missouri-Kansas City  
816-235-2299  
papasianc@umkc.edu

### Principal Graduate School Mentor and Thesis Supervisor:

**Donald D. Heistad, M.D.**

Professor, Internal Medicine, University of Iowa  
319-356-2706  
donald-heistad@uiowa.edu

### Graduate School Mentor and member of Thesis Committee:

**Frank M. Faraci, Ph.D.**

Professor, Internal Medicine, University of Iowa  
319-356-8250  
frank-faraci@uiowa.edu

### Post-doctoral Mentor:

**Robert M. Bryan Jr., Ph.D.**

Professor, Anesthesiology, Baylor College of Medicine  
713-798-7721  
rbryan@bcm.tmc.edu

### University of Iowa and Kirkwood C.C. Teaching Mentor:

**James E. O'Connor, Ph.D.**

Dean and Professor, Touro University-California Mare Island Campus  
707-638-5997  
jim.oconnor@touro.edu

### Colleague at Baylor College of Medicine:

**Sean Marrelli, Ph.D.**

Assistant Professor, Anesthesiology, Baylor College of Medicine  
713-798-7892  
marrelli@bcm.tmc.edu

**References continued:**

Colleague at Baylor College of Medicine in Dr. Bryan's Lab:

**Nadeem Shafi, M.D.**

Assistant Professor, Peds Critical Care Division, University of Florida  
352-265-0462  
nishafi@peds.ufl.edu

**Baylor College of Medicine Summer Programs:**

The Bioscience Inspiration and Opportunities for Students Program (BIOS)

**Sonia Rahmati Clayton, Ph.D.**

Research Associate, Center of Educational Outreach, Baylor College of Medicine  
713-798-8829  
srahmati@bcm.tmc.edu

Discovery Lab Summer Science Institute and Houston A+ Challenge

**Scott F. Basinger, Ph.D.**

Associate Dean for Extramural Affairs, Baylor College of Medicine  
Department of Ophthalmology  
713-798-4100  
scottb@bcm.tmc.edu