

## ***Tate Curriculum Vitae***

### **Kevin B. Tate, Ph.D.**

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### **Education**

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- 2008-2014    Ph.D. Biology: Department of Life Sciences: Developmental and Integrative Biology Cluster. University of North Texas, Denton, TX, USA.  
The impact of developmental stress on cardiovascular physiology of two archosaur species: American alligator (*Alligator mississippiensis*) and domestic chicken (*Gallus gallus*).  
Supervisor: Dr. Dane A. Crossley II
- 2003-2007    B.S. Organismal Biology: Portland State University, Portland, OR, USA.

### **Professional Experience**

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- 2018-Present    **Assistant Professor of Biology**  
Texas Lutheran University
- Anatomy and Physiology I & II
  - Pathophysiology
  - Directed readings
  - General physiology
- 2016-2018    **Assistant Professor of Biology**  
Truman State University
- Anatomy and Physiology I & II
  - Freshman Biology Seminar
  - Comparative Physiology
- 2014-2016    **Post-doctoral Researcher**  
University of Nebraska/McMaster University  
Supervisors: Dr. Grant McClelland, Dr. Graham Scott, and Dr. Jay Storz
- Carry out experiments delineating cardiorespiratory adaptations in high altitude in Deer mice.
  - Perform surgical procedures on Deer mice.
  - Collect cardiovascular, pulmonary, hematological and metabolic measurements.
  - Mentor undergraduate/graduate students in a research setting.
- 2008-2014    **Graduate Student Teaching Assistant**
- University of North Texas, Dept. of Life Sciences
    - Introduction to Biology Lab for majors.
  - University of North Dakota
    - Physiology of Organs and Systems lab for Biology majors.
    - Introduction to Biology Lab for majors.

## ***Tate Curriculum Vitae***

### **Invited Guest Lectures and Departmental Seminars**

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- 2020 Texas Lutheran University. Impact of increasing environmental temperatures on cardiovascular and metabolic physiology in terrestrial snails.
- 2019 Texas Lutheran University. Impact of environmental conditions on embryonic development in the Texas Spiny Lizard.
- 2016 St. Louis University. St. Louis, MO. Hypoxic incubation: Critical windows during cardiovascular development in embryonic reptiles.
- 2016 McMaster University; Topic: Critical windows of cardiovascular susceptibility to hypoxia in reptile embryos.
- 2015 McMaster University; Topic: Amphibian and reptile cardiovascular physiology.
- 2015 McMaster University; Topic: Reptile cardiovascular physiology.
- 2015 McMaster University; Topic: Critical windows of cardiovascular susceptibility to developmental hypoxia in common Snapping turtle embryos (*Chelydra serpentina*).
- 2009 University of North Dakota; Topic: Vertebrate digestive physiology.

### **Awards & Scholarships**

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- 2020 Academic and Research development grant. Texas Lutheran University
- 2019 Summer research grant with student support. Texas Lutheran University
- 2019 Academic and Research development grant. Texas Lutheran University
- 2017 Truscholar summer research grant. Truman State University
- 2014 Graduate Curriculum Committee Travel Award. University of North Texas
- 2013 Raupe Travel Award. University of North Texas
- 2013 Graduate Student Counsel Travel Award. University of North Texas
- 2012 Raupe Travel Award. University of North Texas
- 2011 Graduate Student Counsel Travel award. University of North Texas
- 2011 Academic Tuition Scholarship. University of North Texas
- 2011 Full tuition scholarship: Graduate Assistant Tuition Scholar. University of North Texas
- 2010 Esther Wadsworth Hall Wheeler Research Award. University of North Dakota
- 2010 Intercollegiate Funding: Travel Award. University of North Dakota
- 2010 Research Development and Compliance. University of North Dakota
- 2009 Research Development and Compliance. University of North Dakota  
Detailed award monetary value can be provided upon request.

### **Professional Development Workshops**

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- 2019 Pedagogy conference; Texas Lutheran University, Seguin, TX
- 2017 NSF grant writing workshop; Washington University; St. Louis, MO
- 2011 Cardiorespiratory and Vertebrate Surgery workshop; Rio Claro, SP, BR
- 2010 American Physiological Society writing workshop; Orlando, FL.

## Tate Curriculum Vitae

### Published Peer-Reviewed Publications

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- (7) Nelson, D, Crossley, DA, Eley, RM, **Tate, KB** (2018). Cardiovascular adjustments with egg temperature at 90% incubation in embryonic American alligators, *Alligator mississippiensis*. *J Comp Physiol B*, 188(3), 471-480.
- (6) **Tate KB**, Ivy CM, Velotta JP, Storz JF, McClelland GB, Cheviron ZA, Scott G R (2017). Circulatory mechanisms underlying adaptive increases in thermogenic capacity in high-altitude deer mice. *J Exp Biol*, doi: 10.1242/jeb.164491
- (5) **Tate KB**, Rhen T, Eme J, Kohl ZF, Crossley J, Eley RM, & Crossley DA (2016). Periods of cardiovascular susceptibility to hypoxia in embryonic American alligators (*Alligator mississippiensis*). *Am J Physiol. Integ Comp Physiol* 310, R1267-R1278.
- (4) **Tate KB**, Kohl ZF, Eme J, Rhen T, Crossley DA (2015). Critical Windows of Cardiovascular Susceptibility to Developmental Hypoxia in Common Snapping Turtle (*Chelydra serpentina*) Embryos. *Physiol Biochem Zool.* 88, 103-115. **Featured cover**
- (3) Swart J, **Tate KB**, Crossley II DA, (2014). Development of adrenergic and cholinergic receptor cardiovascular regulatory capacity in the Canada goose (*Branta canadensis*) and domestic goose (*Anser anser domesticus*). *Comp Biochem Physiol.* 167, A59-A67.
- (2) Eme J, Rhen T, **Tate KB**, Gruchalla K, Kohl ZF, Slay CE, Hicks JW, Crossley II DA, (2013). Plasticity of cardiovascular function in snapping turtle embryos (*Chelydra serpentina*): chronic hypoxia alters autonomic regulation and gene expression. *Am J Physiol. Integ Comp Physiol* 304, R966-R979.
- (1) **Tate KB**, Eme J, Swart J, Conlon JM and DA Crossley II, (2012). The effects of dehydration on cardiovascular development in the American alligator (*Alligator mississippiensis*). *Comp Biochem Physiol*, 162, A252-A258.

### Meeting Abstracts and Presentations

(\* Denotes presenter, # denotes undergraduate presenter)

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- 2020 Porras N#, Culverhouse E, Tate KB. The Metabolic and Cardiovascular Response of Central Texas Pulmonate Snails to Acute and Chronic Warming Events. Society of Integrative and Comparative Biology. Austin, TX.
- 2019 Scott GB, Tate KB, Wearing OH, Ivy CM, Cheviron ZA., Storz JF, and McClelland GB. Evolution of Plasticity of Thermogenic Performance in Deer Mice Native to High Altitudes. International congress of comparative physiology and biochemistry. Ottawa, CA.
- 2018 **Tate KB\***, Eme J, Crossley DA. The impact of hypoxia on the chemoreflex in *Chelydra serpentina*. *APS Intersociety Meeting: Complexity and Integration*, New Orleans, LA. **Poster presentation.**
- 2017 Basuino M#, **Tate KB**. Effects of embryonic exposure to flame retardants on cardiovascular and metabolic physiology in the chicken (*Gallus gallus*). Truscular research symposia. Kirksville, MO.
- 2016 Wearing OH, **Tate KB**, Scott GR. Autonomic Control of Thermogenic Capacity is Optimized in Deer Mice Native to High- and Low-Altitudes Experimental Biology. Chicago, IL.
- 2016 Scott GR, Ivy C, **Tate KB**, Velotta JP, Schweizer RM, Cheviron ZA. High-altitude adaptation and hypoxia signaling in deer mice. Experimental Biology. Chicago, IL.

## **Tate Curriculum Vitae**

### **Meet abstracts and Presentations Continued**

- 2016 Scott GR, **Tate KB**, Mahalingam S, McClelland G, Storz J, Cheviron Z Jay Storz; Zachary Cheviron. Physiological mechanisms of high-altitude adaptation and plasticity of respiratory performance in deer mice. *Evolution*. Austin, TX.
- 2015 Scott GR, **Tate KB**, Guo K, Patel P, Mahalingam S. Cardiac performance in hypoxia in high-altitude deer mice. *Canadian Society of Zoology*. Calgary, Alberta, CA.
- 2014 **Tate KB\***, Eme J, Crossley J, Rhen T, Elsey RM, Kohl ZF, Crossley II DA. Hypoxia during critical windows of ontogeny alters organ mass and cardiovascular function in the American alligator (*Alligator mississippiensis*). *APS Intersociety Meeting: Comparative Approaches to Grand Challenges in Physiology*, San Diego, CA. **Poster presentation.**
- 2014 Nelson D, **Tate KB**, Elsey RM, Crossley II DA. Temperature effects on heart rate and baroreflex function of embryonic American alligator (*Alligator mississippiensis*). *APS Intersociety Meeting: Comparative Approaches to Grand Challenges in Physiology*, San Diego, CA.
- 2014 **Tate KB\***, Crossley II DA. Hypoxic incubation alters cardiovascular response to Ang II in embryonic chickens (*Gallus gallus*). *Experimental Biology*. San Diego, CA. FASEB Journal, Meeting Abstract Supplement 28, 1067.3. **Poster presentation.**
- 2014 Kohl ZF, **Tate KB**, Elsey RM, Crossley II DA. Blood flow distribution following adrenergic blockade and nitric oxide production inhibition in embryonic American alligators, *Alligator mississippiensis*. *Experimental Biology*. San Diego, CA. FASEB Journal, Meeting Abstract Supplement 28, 879.4.
- 2014 **Tate KB\***, Crossley II DA. Chronic hypoxic incubation of embryonic chickens (*Gallus gallus*) alters the cardiovascular response to angiotensin analogues. *Society of Integrative and Comparative Biology*. Austin, TX. *Integr Comp Biol* 53, 54, E206. **Oral presentation.**
- 2013 **Tate KB\***, Elsey R, Crossley II DA. Age dependent cardiovascular response to angiotensin II in the American alligator (*Alligator mississippiensis*). *Society of Experimental Biology*. Valencia, Spain, Meeting Abstract A11.56. **Poster presentation.**
- 2013 **Tate KB\***, Elsey R, Crossley II DA. Dehydration stress during embryonic development alters autonomic regulation of the cardiovascular system in the American alligator (*Alligator mississippiensis*). *Society of Integrative and Comparative Biology*. San Francisco, CA. *Integr Comp Biol*, 53, E379. **Oral presentation.**
- 2012 Eme J, **Tate KB**, Slay CE, Kohl ZF, Hicks JW, Crossley II DA. Cardiovascular plasticity during hypoxic development in reptile embryos. *Experimental Biology*. San Diego, CA.
- 2012 **Tate KB\***, Slay CE, Hicks JW, Crossley II DA. Chronic hypoxic incubation stress and the plasticity of humoral regulation of cardiovascular function in the American alligator (*Alligator mississippiensis*). *Society of Integrative and Comparative Biology*. Charleston, SC. *Integr Comp Biol*, 52, E173. **Oral presentation.**
- 2012 Eme J, **Tate KB**, Slay CE, Kohl ZF, Hicks JW, Crossley II DA. Cardiovascular plasticity during hypoxic development in reptile embryos. *Society of Integrative and Comparative Biology*. Charleston, SC. *Integr Comp Biol*, 52, E54.

## **Tate Curriculum Vitae**

- 2012 Crossley II DA, **Tate KB**, Elfwing M, Eme J. Chronic developmental hypoxia alters the cardiovascular regulatory phenotype of embryonic Common snapping turtles. *Experimental Biology*. San Diego, CA. FASEB Journal, Meeting Abstract Supplement 26, 1071.11.
- 2010 **Tate K\***, Swart J, Eme J, Conlon, JM, Crossley II DA. Effects of Dehydration on Cardiovascular Development in Alligator mississippiensis (*Alligator mississippiensis*). *Society of Integrative and Comparative Biology*. Integr Comp Biol, 50, E173. **Oral presentation.**
- 2010 Swart J, **Tate KB**, Reed W, Crossley II DA, (2010). Cardiovascular Regulation in the Embryonic Canada Goose (*Branta canadensis*). *Society of Integrative and Comparative Biology*. Seattle, WA. Integr Comp Biol, 50, E301.
- 2009 **Tate KB\***, Eme J, Crossley II DA. Assessing the capacity for sympathetic control of cardiovascular physiology in embryonic snapping turtles (*Chelydra serpentina*). *Society of Integrative and Comparative Biology*. Boston, MA. Integr Comp Biol, 49, E313. **Poster presentation.**
- 2009 Crossley II, DA, **Tate KB**, Eme J. The impact of periodic dehydration stress on cardiovascular function in the embryonic American alligator (*Alligator mississippiensis*). *Society of Integrative and Comparative Biology*. Boston, MA. Integr Comp Biol, 49, E218.

### **Organizations and Affiliations**

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- 2009-Present Society of Integrative and Comparative Biology
- 2009-Present American Physiological Society
- 2011-2012 President of the Biology Graduate Student Association University of North Texas

### **University Service**

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#### **Texas Lutheran University**

- 2019-present Information technology committee
- 2019-present Undergraduate research committee
- 2019-present Environmental and Sustainability committee
- 2019 Education hiring committee

#### **Truman State University**

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- 2017-2018 IACUC committee chair
- 2017-2018 Pre-optometry advisor
- 2016-2018 Pre-veterinary co-advisor
- 2016- 2018 BA learning plan committee
- 2016-2017 Physiology curriculum redesign committee
- 2016-2017 Biology hiring committee

### **Journal reviewer**

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- Journal of Experimental Biology
- Comparative Biochemistry and Physiology A: Molecular and Integrative Biology
- Comparative Biochemistry and Physiology C: Toxicology and Pharmacology