

# Expanded CV for Wheaton College

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## Dana K Townsend

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Education	<i>College of William and Mary 1974-76</i>	<i>Williamsburg, VA</i>
	<i>Kansas State University 1976-84, 2001-07</i>	<i>Manhattan, KS</i>
	B.S. in Biology, 1978, <i>cum laude</i>	
	M.S. in Biology, 1984	
	Ph.D. Physiology, 2007	
	Dissertation: Insulin Resistance and Concomitant Macro-and Microvascular Dysfunction in Normoglycemic College-Age Subjects with a Family History of Type 2 Diabetes ( <a href="http://krex.k-state.edu/dspace/handle/2097/445">http://krex.k-state.edu/dspace/handle/2097/445</a> )	
Professional Experience	<u>2012-Present</u>	<i>Wheaton College</i>
	Associate Professor of Applied Health Science	<i>Wheaton, IL</i>
	<u>2017-2018</u>	
	Spring Semesters AHS Departmental Chair	
	<u>2011-2012</u>	<i>Kansas University School of Medicine</i>
	Instructor of Anatomy	<i>Salina, KS</i>
	<u>1997-2012</u>	<i>Kansas State University</i>
	Instructor in the Division of Biology	<i>Manhattan, KS</i>
	Administrated and taught Biol 340—The Structure and Function of the Human Body ( <b>8-credit hour course</b> ), 160-200 students, 2-3 lab instructors, 25-35 practicum students per semester	
	Direct responsibility for the teaching and evaluation of students for the lecture portion of the course. Lecture 5 days a week on the anatomy and physiology of the major organ systems, Taught anatomy and dissection to a subset of students who were chosen for their strong academic aptitudes and desire for a more challenging curriculum	
Academic Experience	<u>2012-Present</u>	
Wheaton College	AHS 351--Human Anatomy	
	<ul style="list-style-type: none"><li>• Administrate, teach lecture and 5 labs for 65-80 students in fall semesters</li><li>• Co-authored a lab manual I customized for Wheaton</li></ul>	

## Expanded CV for Wheaton College

- Administrate 10 teaching assistants for lab and Peer Tutor (PT)
  - PTs meet for 90 min. per week in a designated classroom with 5-8 students.
  - PT practicum are responsible for teaching and reviewing AHS 351 material as well as mentoring the academic disciplines / mindset of what it takes to be an excellent student.
  - Personally meet with PTs in my home for **meals** and to mentor teaching, leadership, and effective communication.
  - Provide feedback to PTs via class evaluations.
  - Maintain a dedicated resource file on Schoology for ideas and tools to support PT teaching

### 2012-2015

AHS 101—Wellness

- General education course for 35 students, 1 teaching assistant

### 2013-Present

AHS 451 and 461--Advanced Anatomy I and II

- Course taught with content and at a level similar to what students will experience in professional school. This material and mode of instruction is based on my one year of teaching at Kansas University School of Medicine prior to coming to Wheaton.

AHS 495--Problems in Applied Health Science

- Human Needs and Global Resources (HNGR mentor and visitor for Kathryn Kaiser for “Filipino Birthing Practice Post MNCHN Strategy”)
- Human Needs and Global Resources (HNGR mentor for Josie Needs for “Quality of Life Variables for Long-Term Care Patients Cured of Leprosy in Thailand”)

### 2016--Present

AHS 470 / CE 459, now Core 329 Neurobiology and Spiritual Formation

- As of two years ago has both AIS and SIP Christ at the Core tags.
- Utilized a Christ at the Core funded “Writing Fellow” in 2018 for 40 hrs./semester to help students with drafts and with the writing a final 10 page+ integration paper
- Revised the Neurobiological content to reflect the science historically and methodologically.
- Co-taught with Dr. Laura Barwegen (Christian Education) to a wide swath of Wheaton majors.
- Evidence of the effectiveness of integrating a rigorous science effectively with spiritual formation again are the student evaluations comments and numerical scores attesting to the course peaking student interest and holding their fascination while merging these two seemingly disparate topics.
- Enrollment has tripled in four years

### 2017--Present

SCI 229

- Advised and supervised five students enrolled in the Health Professions Seminar/Internship course the past two years.

Neurobiology Certificate

- Neurobiology and Spiritual Formation is an optional course for the certificate
- Part of the committee for the certificate

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Professional  
Honors

### 2016-2017

Wheaton College Junior Faculty Award for teaching and scholarship

### 1978-2011

Honors from Kansas State University

- Professor of the Year” awarded from the combined Greek system at Kansas State University (2011)
- Selected as a Wakonse Teaching Fellow. Attended the Wakonse Conference for College Teachers in Michigan (2010)
- Faculty chosen to represent K-State at the Regional Midwest Affiliate of College and University Residence Halls (2010)
- Cadaver Dissection Team accepted into the University Honors Program for Honors credit (2009)
- Nominated for the Presidential Teaching Award (2008)
- Women in Engineering and Science (WESP) “Making a Difference” Award (2008)
- One of six guests at the Greek Awards Banquet nominated for “Faculty of the Year” (2007)
- Jane Westfall Award for Women in Physiology, Department of Anatomy and Physiology (2005)
- Inducted into the National Society of Collegiate Scholars as a distinguished member for teaching contributions to KSU (2005)
- Women in Engineering and Science (WESP) “Making a Difference” Award (2005)
- Department of Housing and Dining Services — nominated for “Professor of the Year” (2004)
- William L. Stamey Award for Excellence in Teaching, College of Arts and Sciences (2001)
- Mortar Board Senior Honor Society — recognized as 1 of 2 outstanding K-State instructors in the College of Arts and Sciences (2000)
- Commended by Dean Nichols — 1 of 47 faculty listed by at least six graduating seniors as “Extraordinary Teachers” (1999)
- Motor Board Senior Honor Society — recognized as an outstanding K-State instructor (1999)
- Department of Housing and Dining Services — nominated for “Professor of the Year” (1999)
- Interfraternity and Panhellenic Councils, Outstanding Faculty Member nominee (1999)
- Recognized by Blue Key Honor Society (1998)
- Motor Board Senior Honor Society—recognized as an outstanding K.S.U. instructor (1998)
- John C. Frazier Award for Botanical Research (1979)
- Most Promising Undergraduate Award, Division of Biology (1978)
- Undergraduate Research Participant, funded by the National Science Foundation, 1978

## Expanded CV for Wheaton College

Publications-Peer  
Reviewed

\* Wheaton student  
co-authors

- Reduced insulin sensitivity in young, normoglycaemic subjects alters microvascular tissue oxygenation during postocclusive reactive hyperaemia. **Townsend DK**, Deysher DM\*, Wu EE\*, Barstow TJ. *Exp Physiol.* **2019** Jun;104(6):967-974. doi: 10.1113/EP087216. Epub **2019** Apr 29.
- Effect of assuming constant tissue scattering on measured tissue oxygenation values during tissue ischemia and vascular reperfusion. Hammer SM, Hueber DM, **Townsend DK**, Huckaby LM, Alexander AM, Didier KD, Barstow TJ. *J Appl Physiol.* **2019** Apr 18. doi: 10.1152/jappphysiol.01138.2018. [Epub ahead of print]
- **Townsend DK**, McGregor K\*, Wu E.\*, Cialkowski K\*, Haub MD, Barstow TJ. Insulin resistance and metabolic syndrome criteria in lean, normoglycemic college-age subjects. *Diabetes Metab Syndr.* **2018** Sep;12(5):609-616.
- Bopp CM, **Townsend DK**, Warren S, Barstow TJ. Relationship between brachial artery blood flow and total [hemoglobin+myoglobin] during post-occlusive reactive hyperemia. *Microvasc Res.* **2014** Jan;91:37-43. Epub 2013 Nov 2.
- Bopp CM, **Townsend DK**, Barstow TJ. Characterizing near-infrared spectroscopy responses to forearm post-occlusive reactive hyperemia in healthy subjects. *Eur J Appl Physiol.* **2011**
- Rosenkranz SK, **Townsend DK**, Steffens SE, Harms CA. Effects of a high-fat meal on pulmonary function in healthy subjects. *Eur J Appl Physiol.* 2010 Jun;109(3):499-506. Epub **2010** Feb 18.
- Lutjemeier BJ, Ferreira LF, Poole DC, **Townsend DK**, Barstow TJ. Muscle microvascular hemoglobin concentration and oxygenation within the contraction- relaxation cycle. *Respir Physiol Neurobiol.* **2008** Feb 1; 160(2): 131-138.
- Harper AJ, Ferreira LF, Lutjemeier BJ, **Townsend DK**, Barstow TJ. Matching of blood flow to metabolic rate during recovery from moderate exercise in humans. *Exp Physiol.* **2008** Oct;93(10):1118-25. Epub 2008 May 30.
- Downey AE, Chenoweth LM, **Townsend DK**, Ranum JD, Ferguson CS, Harms CA. Effects of inspiratory muscle training on exercise response in normoxia and hypoxia. *Respir Physiol Neurobiol.* **2007** May 14;156(2):137-46.
- Harper AJ, Ferreira LF, Lutjemeier BJ, **Townsend DK**, Barstow TJ. Human femoral artery and estimated muscle capillary blood flow kinetics following the onset of exercise. *Exp Physiol.* **2006** Jul;91(4):661-71.
- Ferreira LF, Lutjemeier BJ, **Townsend DK**, Barstow TJ. Effects of pedal frequency on estimated muscle microvascular O<sub>2</sub> extraction. *Eur J Appl Physiol.* **2006** Mar;96(5):558-63.
- Ferreira LF, Harper AJ, **Townsend DK**, Lutjemeier BJ, Barstow TJ. Kinetics of estimated human muscle capillary blood flow during recovery from exercise. *Exp Physiol.* **2005** Sep;90(5):715-26.
- Ferreira LF, Lutjemeier BJ, **Townsend DK**, Barstow TJ. Dynamics of skeletal muscle oxygenation during sequential bouts of moderate exercise. *Exp Physiol.* **2005** May;90(3):393-401.
- Ferreira LF, **Townsend DK**, Lutjemeier BJ, Barstow TJ. Muscle capillary blood flow kinetics estimated from pulmonary O<sub>2</sub> uptake and near-infrared spectroscopy. *J Appl Physiol.* **2005** May;98(5):1820-8.
- Lutjemeier BJ, Miura A, Scheuermann BW, Koga S, **Townsend DK**, Barstow TJ. Muscle contraction-blood flow interactions during upright knee extension exercise in humans. *J Appl Physiol.* **2005** Apr;98(4):1575-83.

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Other Significant  
Professional  
Activities

## Coauthor of lab Manual for use at Wheaton College

- ***Human Anatomy Lab Manual, ISBN 9781256747741*** Dana Townsend and Sally Robinson

## National Meeting Poster Presentations 2005-Present

- Lillie M. Huckaby, Shane M. Hammer, Andrew M. Alexander, Kaylin D. Didier, **Dana K. Townsend**, Dennis M. Hueber and Thomas J. Barstow. Effects of Constant Scattering Integrative. APS ACSM San Diego, CA. **2018**
- Esther E. Wu\*, Thomas J. Barstow, FACSM , **Dana K. Townsend**. Reduced Insulin Sensitivity in Young, Normoglycemic Subjects, Alters Tissue Oxygenation During Post Occlusive Reactive Hyperemia. American Association of Sport's Medicine Minneapolis, Minnesota. **2018**
- Lillie M. Huckaby, Shane M. Hammer, **Dana K. Townsend**, Thomas J. Barstow, FACSM Changes in Scattering, Absorption, and Resulting Differential Pathlength Factor During Arterial Occlusion and Reperfusion. American Association of Sport's Medicine. Minneapolis, Minnesota. **2018**
- Kathryn McGregor\*, Kathryn Cialkowski\*, **Dana Townsend**. The Effects of Sleep Duration on Insulin Resistance—A Longitudinal Study in Healthy, Lean, College-Age Males, Experimental Biology April 24-25, **2017**, Chicago.
- Rachel E. Merrifield\*, Kayla M. Witcik\*, Thomas J. Barstow, FACSM, **Dana K. Townsend**. Skeletal Muscle Microvascular Alterations Concomitant with Insulin Resistance, in Normoglycemic College-age Subjects. ACSM **2014**
- Thomas J. Barstow and **Dana K. Townsend**, Changes in NIRS Scattering During Forearm Ischemia and Reactive Hyperemia. ACSM **2014**
- **Townsend, D.K.**, Haub, M.D., Ferriera, L.F., Lutjemeier, B.J., Barstow, T.J. Insulin sensitivity and endothelial function in college-age subjects with a family history of type 2 diabetes. ACSM **2006**
- **Townsend, D.K.**, Haub, M.D., Ferriera, L.F., Lutjemeier, B.J., Barstow, T.J. Insulin sensitivity and endothelial function in college-age subjects with a family history of type 2 diabetes. ACSM **2006**
- **Townsend, D.K.**, Haub, M.D., Lutjemeier, B.J., Ferreira, L.F., Harper, A.J., Barstow, T.J. Dissociation of glucose homeostasis and insulin sensitivity in college-age subjects at risk for type 2 diabetes. ACSM **2005**
- **Townsend, D.K.**, Ferreira, L.F., Lutjemeier, B.J., Barstow, T.J. The influence of adipose tissue thickness on near-infrared spectrometry during intra-contraction knee extension exercise. ACSM **2004**.
- **Townsend, D.K.**, Lutjemeier, B.J., Miura, A., Scheuermann, B.W., Barstow, T.J. Skeletal muscle vascular conductance during dynamic knee extension exercise. ACSM **2003**.

## Presentations 2005-Present

- **Townsend, D.K.**, and Deysher, D.\* Reduced Insulin Sensitivity in Young, Normoglycemic Subjects Alters Microvascular Tissue Oxygenation During Post Occlusive Reactive Hyperemia. Wheaton College Science Seminar Series **2018**
- **Townsend, D.K.**, Insulin Resistance Prior to "Pre-diabetes": Already on the Road to Cardiovascular Disease. Wheaton College Science Seminar Series **2013**

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- **Townsend, DK.**, Reduced Macrovascular Reactivity and Microvascular Control Abnormalities Relative to Insulin Resistance. Department of Anatomy and Physiology, Kansas State University. **2007**
- **Townsend, D.K.**, “Relationships between Metabolic Abnormalities and Vascular Dysfunction”. Department of Anatomy and Physiology Seminar Series. Kansas State University **2007**
- **Townsend, D.K.**, “Microvascular Responses during Reactive Hyperemia in Early Insulin Resistance”. Department of Anatomy and Physiology Seminar Series. Kansas State University **2006**
- **Townsend, D.K.**, “Endothelial Dysfunction Relative to Insulin Resistance in College-age Individuals”. Department of Anatomy and Physiology Seminar Series. Kansas State University **2005**

### Society Memberships

- **American Physiologic Society**
- **American College of Sports Medicine**
- **Phi Kappa Phi Honor Society**

### Funding

#### 2015, 2016

- G.W Aldeen Memorial Fund--\$10,000, \$3,500, \$1,800
- Junior Faculty Achievement Award-- \$3500 for two years

### Advising Load and Activities

- Formal advised 66 students F16, 63 students Sp 17, 31 students in fall17 and, 50 students in sp18. and over 100 in F18/SP19
- Also advised a number of students interested in switching to AHS or “drop-ins”
- Advised 8-10 prospective students and parents/yr,
- Letters of recommendation 2016-17: 16, 2017-18: 19, 2018-2019: 15

### Institutional Service

- Present – IAC Student Life Subcommittee nominee
- Present – Student Conduct Panel, Justin Heath Resident Life, 2 yr. commitment
- F2019 – Mentoring a student via Skype, who has been academically expelled
- Department Chair in spring 2017, 2018 during times of great departmental transitions
  - Instigated biweekly staff and faculty prayer in the department
  - Major role in the recruitment and vetting of candidates for three recent hires, two full review searches and one current search
- 2014-15, Art Exhibition Guideline Committee
- 2013-present, Institutional Review Board
- 2018-present, Intercollegiate Athletics Committee faculty representative
- 2017-present, Faculty adviser for the Thunderbirds
- Friday Meet-and-Greet, Connections and writing prospective students and their families

## Expanded CV for Wheaton College

- 2013-present, Passage Faculty
- 2013-present, OCO BreakAway leader for Pre-health students
- 2015, 2017, HNGR mentor and advisor
- One of the break-out courses for F2018 Faculty Development Day: Sleep Deprivation Effects on Academic Flourishing
- Have attended all but one Faculty Meeting in 2018-2019
- Have given two undergraduate chapels, 2014 and 2017  
[https://www.youtube.com/watch?v=IBu3ev6gm\\_E](https://www.youtube.com/watch?v=IBu3ev6gm_E)  
<https://www.youtube.com/watch?v=8vMwyKA1OMw>

### Research Projects with Students

#### *Kayla Witcik* (2014) B.S. in AHS

- PA-C graduate from Arcadia University (Philadelphia) school of Physician Assistant. 1 yr. OB/GYN Fellowship in Women's Health in Colton, Ca. Current Position P.A. in OB/Gyn—Boston MA.
- Project—Skeletal Muscle Microvascular Alteration Concomitant with Insulin Resistant, Normoglycemic College-age Subjects
- Presentation—Poster presentation at the American College of Sport's Medicine 2015, Orlando FL

#### *Rachel Merrifield* (2014) B.S. in Biology

- Graduate of the University of Texas-Southwestern School of Medicine
- Project—Skeletal Muscle Microvascular Alteration Concomitant with Insulin Resistance in Normoglycemic College-age Subjects.
- Presentation—Poster presentation at the American College of Sport's Medicine 2015, Orlando FL

#### *Katie Cialkowski* (2015) B.S in AHS

- M.S. in nursing Rush University School of Medicine, Chicago, IL
- Current Position—Rush University
- Project—The Effects of Sleep Duration on Insulin Resistance and Post Occlusive Reactive Hyperemia: A Longitudinal Study in Lean, Healthy College-age Men.
- Presentation—will be a coauthor on a manuscript currently in progress for submission
- Co-author on [Insulin resistance and metabolic syndrome criteria in lean, normoglycemic college-age subjects.](#) Townsend DK, McGregor K, Wu E, Cialkowski K, Haub MD, Barstow TJ. Diabetes Metab Syndr. 2018 Sep;12(5):609-616. doi: 10.1016/j.dsx.2018.03.025. Epub 2018 Mar 31.

#### *Kathryn McGregor* (2016) B.S in AHS

- Current position—M1 at Kansas University School of Medicine
- Project—Metabolic Changes in Insulin Sensitivity, Insulin Resistance, Insulin Secretion and Early Insulin Response to a Glucose Load After 1 Week Augmentation and Attenuation of Sleep Duration: A Longitudinal Study in Lean, College-age Men
- Presentation—Poster Presentation at Experimental Biology 2017, Chicago, IL
- Co-author on [Insulin resistance and metabolic syndrome criteria in lean, normoglycemic college-age subjects.](#) Townsend DK, McGregor K, Wu E, Cialkowski K, Haub MD, Barstow TJ. Diabetes Metab Syndr. 2018 Sep;12(5):609-616. doi:

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10.1016/j.dsx.2018.03.025. Epub 2018 Mar 31.

*Esther Wu* (2017) B.S in AHS

- Current Position – 2nd year in the Doctoral Program of Occupational Therapy at Washington University, St. Louis
- Presentation—Poster Presentation at the American College of Sports Medicine 2018, Minneapolis, MN
- Co-author on [Insulin resistance and metabolic syndrome criteria in lean, normoglycemic college-age subjects.](#) Townsend DK, McGregor K, Wu E, Cialkowski K, Haub MD, Barstow TJ. *Diabetes Metab Syndr.* 2018 Sep;12(5):609-616. doi: 10.1016/j.dsx.2018.03.025. Epub 2018 Mar 31. and Reactive Hyperemia
- Co-author on Reduced insulin sensitivity in young, normoglycaemic subjects alters microvascular tissue oxygenation during postocclusive reactive hyperaemia. Townsend DK, Deysher DM+, Wu EE\*, Barstow TJ. *Exp Physiol.* 2019 Jun; 104(6):967-974. doi: 10.1113/EP087216. Epub 2019 Apr 29.

*Daniel Deysher* (2018) Graduate of AHS

- Co-author on [Insulin resistance and metabolic syndrome criteria in lean, normoglycemic college-age subjects.](#) Townsend DK, McGregor K, Wu E, Cialkowski K, Haub MD, Barstow TJ. *Diabetes Metab Syndr.* 2018 Sep;12(5):609-616. doi: 10.1016/j.dsx.2018.03.025. Epub 2018 Mar 31.
- Co-author on [Reduced insulin sensitivity in young, normoglycaemic subjects alters microvascular tissue oxygenation during postocclusive reactive hyperaemia.](#) Townsend DK, Deysher DM\*, Wu EE\*, Barstow TJ. *Exp Physiol.* 2019 Jun; 104(6):967-974. doi: 10.1113/EP087216. Epub 2019 Apr 29.

*Amadea Margo* (2019) Senior in AHS

- Currently finishing for submission, [Difference in Near Infrared Spectroscopy Derived Oxygen Saturation Repofusion Rates \(StO<sub>2</sub>\) Indicative of microvascular responsiveness—A Case for StO<sub>2</sub> upslope Correction Factor.](#) For publication in *Experimental Physiology*

## Significant Church and Community Service

- *Church Membership 2012-present*  
Regularly attend Wellspring Christian and Missionary Alliance Church since fall 2012, and participate in activities and classes outside of Sunday morning worship.
- Active member of a couples' Small Group from Wellspring Alliance Church that meets monthly to eat a meal together, discuss marriage, to share about our lives and to pray. Twice per year we host and lead the group.
- Part of the Wellspring Alliance Hospitality team that attends to the needs of funerals, special occasions and monthly church meals.
- Wheaton College Student's Home Group--Weekly host 16-20 college students from Wellspring Alliance Church in our home Sunday evenings in both fall and spring semesters. We are currently starting our sixth year of hosting/leading this home group. Each meeting includes a home-cooked, sit-down family meal, worship/discussion/devotional and prayer. <https://youtu.be/uQecUtdDECA>
- Annually host dinners for my TAs (2x/1 semester), Passage students (2x/1 semester), Advanced Anatomy students (2x/1 semester) and Neurobiology and Spiritual Formation students (1x/1semester)



## Expanded CV for Wheaton College

- Many hours in one-on-one mentoring and talking with students.
- Participated in many “Dine-with-a-Mind” this past year
- Encourage and financially support a former student who is now in full-time ministry, reaching out to students as Kansas State University as part of Student Mobilization (StuMo).
- Financially support one child and a teacher in Kenya through Christian Relief Fund, and a children’s school in Kigali, Rwanda.
- Financially support a child in Guatemala through Health Talent International
- Four Wheaton students have lived with us for up to a year without remuneration. We currently have a recent graduate who is in the MA in Marriage and Family Therapy program