

**SANDRA S. SEIDEL**

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**EDUCATION**

Ph.D. BIOMEDICAL ENGINEERING

University of Virginia, Charlottesville, VA, May 1989.

Dissertation: *Anion Transport Inhibition in the Medullary Chemoreceptors*

M.E. BIOMEDICAL ENGINEERING

University of Virginia, Charlottesville, VA, August 1985.

B.S. BIOLOGY

College of William and Mary, Williamsburg, VA, May 1981.

**PROFESSIONAL EXPERIENCE**

ASSISTANT DEAN and ASSOCIATE PROFESSOR of BIOLOGY

College of Arts and Sciences, University of Virginia, Charlottesville, VA, June 2005 – present

Academic affairs dean responsible for 1200 undergraduate students, faculty advising and administration of the rules of the College. Teaching responsibilities include Human Biology and Disease.

FACULTY-in-RESIDENCE and ASSOCIATE PROFESSOR of BIOLOGY

Department of Biology, Elon University, Elon, NC, August 2000 – June 2005

Resided in the International Studies Pavilion, part of Elon's Academic Village, with 22 student residents as faculty-in-residence.

DEPARTMENT CHAIR and ASSOCIATE PROFESSOR of BIOLOGY

Department of Biology, Carthage College, Kenosha, WI, August 1992 – August 2000

Served as program director for Pre-Health Professions and 3-2 Program in Occupational Therapy.

ASSISTANT PROFESSOR of RADIOLOGY

Department of Radiology, Medical College of Wisconsin, Milwaukee, WI, August 1990 - July 1992

Esophageal motility research. Investigation of the physiological mechanisms of upper and lower esophageal sphincter function. Examination of esophageal peristaltic transport of a liquid bolus in humans, monkeys, cats and opossums.

RESEARCH ASSOCIATE

Dept of Internal Medicine, University of Virginia Health Sciences Center, Charlottesville, VA, July 1989 - July 1990

Postdoctoral research: esophageal motility. Explored the physiological role of longitudinal smooth muscle in the lower esophageal sphincter in the opossum.

SYSTEMS PHYSIOLOGY TRAINEE

Department of Biomedical Engineering, University of Virginia, Charlottesville, VA, September 1985 - May 1989

Dissertation research: central respiratory control. Investigated the central chemoreceptive modulation of the ventilatory response to acute hypercapnia in cats and rabbits.

LABORATORY SPECIALIST

Sleep Disorders Lab, University of Virginia Health Sciences Center, Charlottesville, VA, Sept 1983 - August 1985

POLYSOMNOGRAPHIC TECHNOLOGIST

Sleep Disorders Clinic and Research Center, Stanford University Hospital, Stanford, CA, September 1981 - June 1983

Technical expert in administering clinical tests for the diagnosis of human sleep disorders.

## PROFESSIONAL ACTIVITY

Course Document Reviewer for Texas College Readiness Project, Educational Policy Improvement Center, April-May 2008  
Reviewer for National Research Council proceedings, The Role of Higher Education in Math/Science Partnerships, March 2006  
Instrument Development Panel member, College Board AP Best Practices, Oct 2005- Jan 2006  
Virginia Summit on Interdisciplinary Curriculum Models for Teacher Education Programs, Sept 2005  
**SENCER Summer Institute, Santa Clara University, San Jose, CA, alumni rep , Aug 2005**  
*Elon University's Science Without Borders: SENCER-izing a Multidisciplinary Science Course*  
**Carnegie Academy for the Scholarship of Teaching and Learning, CASTL Institute Scholar, Chicago, IL, June 2005**  
*Science Without Borders: Inquiry-Based Interdisciplinary Sciences for New Civic Engagements and Responsibilities*  
North Carolina Campus Compact 7<sup>th</sup> Annual Service-Learning Conference, Elon, NC, February 2005  
Academic Service Learning Faculty Scholar, Elon University, 2005  
ATACC Software Grant, Elon University, \$1K, 2005  
*Scientific Graphing and Data Analysis for Biology with B Touchette*  
Educating Intentional Learners: New Connections for Academic and Student Affairs, AACU, Philadelphia, PA, Nov 2004  
**SENCER Summer Institute, Santa Clara University, San Jose, CA, team leader \$3.5K, Aug 2004**  
*SENCER-izing SCI 121: Science Without Borders*  
Omicron Delta Kappa National Convention, Norfolk, VA, Feb 2004  
R. Randy Rice Service Award, North Carolina Housing Officers, November 2003  
**SENCER Summer Institute, Santa Clara University, San Jose, CA, advance team rep, \$350, Aug 2003**  
*Elon University and SCI 121: Science Without Borders*  
**Project Interweave, Elon's Carnegie Initiative for the Scholarship of Teaching and Learning, \$10K, 2003-5**  
*Science Without Borders: Inquiry-Based Interdisciplinary Science for Informed Civic Engagement*  
Creative Teaching and the Fourth Hour Conference: Challenging Students, Challenging Ourselves, Elon, NC, April 2003  
*Science Without Borders: What is the Structure of an Atom? with Jimmie Agnew and Lisa Carloye*  
Learning Communities: Research Informing Practice, AACU, Phoenix, AZ, April 2003  
North Carolina Campus Compact Service Learning Institute, Elon, NC, February 2003  
Faculty host to former Prime Minister of Pakistan Benazir Bhutto, September 2002  
Omicron Delta Kappa National Convention, Lexington, KY, Feb/March 2002  
NCCV Coalition's Service Learning Institute, Elon, NC, Feb 2002  
National Academic Advising Assn /NC College Personnel Assn/FYE Consortium Conference, Albemarle, NC, Jan 2002  
*Building Community: The Importance of Interactive Programming*  
Designing Tomorrow's Learning Communities, Spring Technology Forum, Elon, NC, Mar 2001  
National Collegiate Honors Council, Chicago, IL, Nov 1998  
National Association of Advisors for the Health Professions, Crystal City, VA, June 1998  
**Distinguished Teaching Award, Carthage College Board of Trustees, April 1998**  
**Tenure and Promotion, Carthage College, Spring 1998**  
National Collegiate Honors Council, Atlanta, GA, Oct 1997  
Association for Core Texts and Courses, Philadelphia, PA, Apr 1997  
National Collegiate Honors Council, Pittsburgh, PA, Nov 1995  
Expanding the Curriculum: Women and Intersecting Differences, AACU, Washington DC, Apr 1995  
National Collegiate Honors Council, San Antonio, TX, Oct 1994  
Teaching Cultural Difference as General Education, AACU, Philadelphia, PA, Feb 1994  
Labs for Liberal Learning, Conference on the Role of Laboratory Exercises in Genl Ed Science Courses, San Diego, CA, 1992  
Dean's Fellowship, University of Virginia School of Engineering & Applied Science, 1988-89  
National Research Service Award, U.S. Public Health Service, 1985-1988

## COMMITTEE MEMBERSHIPS

### at University of Virginia:

Orientation and New Student Programs Advisory Committee, 2007-8  
Dean's Scholarships and Grants Subcommittee, 2006-7  
University Committee on Fraternities and Sororities, 2005-2007, **Chair 2006-8**  
Medical Issues Subcommittee, 2005-8, **Chair 2007-8**  
Intra-University Transfer Subcommittee, 2005-8  
ODK Shannon Award Committee, 2006-7  
McNamara-MacDonald Award Committee, 2006  
Melissa Holland Memorial Award Committee, 2008

at Elon University:

General Studies Council, 2004-2005  
International Student & Scholar Committee, 2004-2005  
Carnegie Committee for the Scholarship of Teaching and Learning, 2004-2005  
Learning Communities Council, 2003-2005  
Transportation and Traffic Planning Committee, 2003-2005  
Elon 101 Advisory Committee, 2003-2005  
Academic Standing Committee, 2001- 2003, Chair 2002-3  
C.A.M.P.U.S. Coalition for Alcohol Use, 2003-2005  
Academic Appeals Advisory Committee/Board, 2001-2005  
Retention Committee 2002-2003  
Internationalizing the Elon Campus, 2002-2003  
Preparing Future Faculty (in collaboration with Duke University), 2001-2005  
Substance Education Committee, 2001  
Promotion, Tenure & Professional Status (*ad hoc*) Subcommittee, 2001-2002  
Women's Gender Studies Advisory Committee, 2000-2004  
Teacher Education Advisory Council, 2000-2003  
Teacher Education Assessment Committee, 2000-2001  
Teacher Education Development Team, 2000-2001  
Panhellenic Expansion Committee, 2000-2001  
Senior Showcase Committee, 2000-2004  
Search Committees for Biology, 2000-2004

at Carthage College:

Personnel and Tenure Committee, 1999-2000  
Faculty Executive Committee, 1997-1999  
College Representative to the Advisory Council of Indian Trail Academy, 1998-2000  
College Representative to Kenosha Area Business Alliance Academic Skills Challenge, 1996-1999  
Heritage Oversight Committee, 1994-1997, Chair 1996-1997  
Subcommittee for Academic Review & Recommendation, 1993-1998, Chair 1994-1998  
Joint Committee on Honorary Degrees, 1993-1997  
Faculty Representative to the Board of Trustees, 1993-1996

**FACULTY ADVISOR TO STUDENT ORGANIZATIONS**

at UVa:

Arts and Sciences Council  
Daniel Hale Williams Society - diversity health professions club  
faculty mentor, Office of African-American Affairs

at Elon University:

Faculty-in-Residence – reside on campus in International Studies Pavilion with 22 student residents  
Beta Beta Beta/Biology Club – national biological honor society  
Omicron Delta Kappa – national leadership honor society  
Swim Club – club sport  
Catholic Campus Ministry – religious life

at Carthage College:

Honors Council - honors student organization  
Alpha Lambda Delta - national honor society for freshmen  
Sigma Alpha Chi - social sorority  
Club Med - health professions club

**MEMBERSHIPS**

American Association of Colleges and Universities/AAC&U Associate  
National Science Teachers Association/NSTA  
Sigma Xi - Scientific Research Society  
Beta Beta Beta - Biological Honor Society  
Omicron Delta Kappa - Leadership Honor Society – Province V Faculty Director 2003-2005  
Phi Beta Delta – Honor Society for International Scholars

## PUBLICATIONS

### ABSTRACTS

- Vick, R., S. Seidel, H. House. (2003) Multitasking in the Physiology Lab. *Experimental Biology – Translating the Genome*, *Experimental Biology* 35.11.
- Harrington, S.S., R.D. Layman, M.D. Eckert, W.J. Dodds. (1992) The effect of external abdominal compression on intraabdominal pressure measurements. *Gastroenterology*, 102, A456.
- Kern, M.K., R. Shaker, R.D. Layman, S.S. Harrington, W.J. Dodds. (1992) Pharyngeal wall motion in the feline model - evidence of peristalsis. *Gastroenterology*, 102, A467.
- Shaker, R., B. Medda, J. Ren, I. Lang, W.J. Dodds, S. Harrington, S. Jaradeh. (1992) Identification and characterization of esophagoglottal closure reflex in a feline model. *Gastroenterology*, 102, A512.
- Harrington, S.S., W.J. Dodds, E.T. Stewart, J.G. Brasseur. (1991) Mechanism of feline lower esophageal sphincter opening during esophageal bolus transport. *Gastroenterology* 100, 448.
- Harrington, S.S., W.J. Dodds, R.K. Mittal. (1991) Two patterns of longitudinal muscle activity in the opossum lower esophageal sphincter. *Gastroenterology* 100, 448.
- Kern, M.K., W.J. Dodds, R. Shaker, D.J. Curtis, J. Ren, S.S. Harrington, J.G. Brasseur. (1991) Role of thyrohyoid shortening during swallowing in humans. *Gastroenterology* 100, 457.
- Harrington, S.S., W.J. Dodds, R.K. Mittal. (1990) Longitudinal muscle activity during changes in lower esophageal sphincter pressure in the opossum. *Gastroenterology* 99, 1214.
- Harrington, S.S. and R.K. Mittal. (1990) Esophageal longitudinal muscle activity during lower esophageal sphincter relaxation in the opossum. *Gastroenterology* 92, A358.
- Seidel, S.S. and J.M. Adams. (1989) The effect of anion transport inhibition on ventilation and ventral medullary ECF  $[H^+]$  during  $CO_2$  rebreathing in the rabbit. *The FASEB Journal* 3: A1159.

### PAPERS

- Ren, J., W.J. Dodds, C.J. Martin, R.O Dantas, R.K. Mittal, S.S. Harrington, M.K. Kern, J.G. Brasseur. (1993) Effect of increased intra-abdominal pressure on peristalsis in the feline esophagus. *Am. J. Physiol.* 261: G417-G425.
- Ren, J., B.T. Massey, W.J. Dodds, M.K. Kern, J.G. Brasseur, R. Shaker, S.S. Harrington, W.J. Hogan, R.C. Arndorfer. (1993) Determinants of intrabolus pressure during esophageal peristaltic bolus transport. *Am. J. Physiol.* 264: G407-G413.
- Harrington, S.S., W.J. Dodds, R.K. Mittal. (1991) Identification of longitudinal muscle activity in the opossum lower esophageal sphincter. *Am. J. Physiol.* 261: G974-G980.

### TEXTBOOK and LABORATORY MANUAL REVIEWS

- Campbell, Reece, and Simon. *Essential Biology*, 2<sup>nd</sup> ed. San Francisco, Benjamin Cummings, 2004.
- Gallucci, K., Carloye, L., and M. DeVries. *An Inquiry Approach to Biology*. Boston, McGraw Hill Primus, 2001.
- Linzey, Donald. *Vertebrate Biology*. Dubuque, IA, McGraw-Hill. 2001.
- Kent, George and Larry Miller. *Comparative Anatomy of the Vertebrates*, 8th ed. Dubuque, IA, Wm C Brown Publishers, 1997.

## SUMMARY OF TEACHING EXPERIENCE

UNIVERSITY of VIRGINIA, Charlottesville, VA

Fall 2005 - present

Biology courses

Biol 121: Human Biology and Disease (non-majors and nursing students)

ELON UNIVERSITY, Elon, NC

Fall 2000 – Spring 2005

Biology courses

Bio 101: Topics in General Biology (lecture for non-majors)

Bio 102: General Biology Laboratory (lab for non-majors)

Bio 162: Human Physiology (lecture & lab for non-majors)

Bio 261: Introductory Seminar (scientific communication skills)

Bio 370: Cardiovascular Physiology (seminar)

Bio 372: Animal Physiology (lecture & lab)

Bio 481: Internship in Biology

General Education courses

Sci 121: Science Without Borders (integrated non-lab science for non-majors)

Sci 251: Science in London (study abroad course for non-majors)

Elon 101: Advising for the Health Professions

Elon 101: academic advising program and introduction to college life

CARTHAGE COLLEGE, Kenosha, WI

Spring 1992 - Spring 2000

Biology courses

Bio 100: Current Questions in Biology (lecture for non-majors)

Bio 170: Biology I (lab)

Bio 260: Human Anatomy & Physiology (lecture & lab for non-majors)

Bio 370: Human Anatomical Systems (lecture & lab)

Bio 407: Comparative Anatomy of Vertebrates (lecture & lab)

Bio 408: Embryology of Vertebrates (lecture & lab)

Bio 421: Topics in Biology (lecture and often lab)

Bio 450: Independent Study: variable content

Bio 470: Systemic Physiology (lecture & lab)

Bio 490: Research in Biology: independent research

General Education courses

LINC: Learning in New Contexts (introduction to college learning for first year students)

NatS 150: Discovery (lecture: integrated science for non-majors)

Heri 101: Heritage Seminar I (seminar: freshman cultural studies/writing/communications)

Heri 102: Heritage Seminar II (seminar: freshman cultural studies/writing/communications)

UNIVERSITY OF WISCONSIN - PARKSIDE, Kenosha, WI

Fall 1991 - Spring 1992

Bio 105: Human Anatomy & Physiology I (lab)

Bio 106: Human Anatomy & Physiology II (lab)

Bio 210: Quantitative Biology (lab)