

CURRICULUM VITAE

Maureen E. Basha, PhD

Associate Professor-Research
Louisiana State University Health Sciences Center
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EDUCATION:

- Ph.D. 2003, Dept. of Animal Physiology, University of Minnesota, St. Paul, MN, Advisor: Dr. Gary E. Duke. Thesis: The role of small intestinal refluxes in avian digestive physiology.
- B.S. 1990, Dept. of Animal Science, University of Guelph, Guelph, Ontario, Canada.

POSTGRADUATE TRAINING:

- 2004-2007 Postdoctoral fellow, University of Pennsylvania, Dept. of Surgery, Division of Urology, Philadelphia, PA. Mentor: Dr. Samuel K. Chacko. Project: Regional differences in contractile protein expression and smooth muscle function within the vaginal muscularis.

EMPLOYMENT HISTORY:

- 2017- Associate Professor-Research, Dept. of Physiology, Louisiana State University Health Sciences Center (LSU-HS), New Orleans, LA
- 2014- 2017 Assistant Professor, Dept. of Biomedical Sciences, West Virginia School of Osteopathic Medicine (WVSOM) , Lewisburg, WV (tenure and promotion awarded October, 2017)
- 2010-2014 Assistant Professor, Dept. of Human Science, Georgetown University, Washington, DC
- 2007-2010 Assistant Professor, Dept. of Pharmacology and Physiology, Drexel University College of Medicine (DUCOM), Philadelphia, PA
- 2003 Adjunct Instructor, Dept. of Biology, Macalester College, St. Paul, MN
Adjunct Instructor, Dept. of Biology, Metro-State University, St. Paul, MN
Adjunct Instructor, Dept. of Biology, University of St. Thomas, St. Paul, MN
- 1999-2002 Visiting Instructor, Dept. of Biology, Macalester College, St. Paul, MN

1998-1999 Visiting Instructor, Dept. of Biology, University of St. Thomas, St. Paul, MN

1997 Adjunct Instructor, Dept. of Biology, St. Mary's University, Winona, MN

HONORS AND AWARDS:

2010 Nomination: Golden Apple Award, Drexel University College of Medicine
2009 Nomination: Golden Apple Award, Drexel University College of Medicine
2008 American Physiological Society Research Career Enhancement Award
2008 American Urological Association Travel Grant
2004-2007 NIH Postdoctoral Training Grant: T32-DK007708
1995 Graduate Student Research Certificate of Excellence, Poultry Science Association

SUPPORT (DIRECT DOLLARS ONLY):

External

2015-2016 WVCTSI Pilot Grant: "Development of a protocol for vaginal delivery of estrogen in a rodent model of vulvovaginal atrophy with menopause." \$4735

2013- 2014 NIH/ NIDDK, U01, DK10140: "Nociceptive Innervation and Receptors in the Bladder". Role: Co-Investigator, 25 % Effort. PI: Dr. Gerard Ahern, Dept. of Pharmacology, Georgetown University. \$293,895

2008-2013 National Vulvodynia Association Grant: "Afferent Nerve-Ovarian Hormone Interactions in Patients with Provoked Localized Vulvodynia." \$ 25,000

2007-2008 American Urological Association Research Scholar Award: "Molecular Mechanisms Regulating Vaginal Smooth Muscle Contraction." \$30,000

Internal

2017-2018 West Virginia School of Osteopathic Medicine, Intramural Funding. "The effect of vaginal delivery of estrogen on structure and function of the vaginal muscularis in a rodent model of vulvovaginal atrophy with menopause." \$7736.17

2008-2009 Drexel University College of Medicine, Professional Enrichment and Growth Grant: "Validation of Quantitative Sensory Testing as a Tool to Analyze Pain Thresholds in Patients with Vulvodynia." \$10,000

EDUCATIONAL ACTIVITIES:

Academic:

2018- LSU-HS, Department of Physiology, New Orleans, LA

Human Physiology for Nursing Students (HLSC 2410):
Co- Directorship
Lecturer: Cardiovascular Physiology, Reproductive Physiology

Human Physiology for Dental Students (Dent 1115)
Lecturer: Cardiovascular Physiology

2014- **West Virginia School of Osteopathic Medicine (WVSOM), Department of Biomedical Sciences, Lewisburg, WV**

OMI (711), 2nd year

2014: Lecturer, Pregnancy, Parturition, Lactation (2.5 hrs)
2015-: Lecturer- Application Exercise, Cardiovascular Physiology (2 hrs);
Pathophysiology of Heart Failure (1.5 hr); Application Exercise, Heart
Failure (2 hrs)
2016-: Lecturer- Genital and Urinary System Autonomic Physiology

Cardiovascular Module (689), 1st year

2015-: Module Coordinator
2014 -: Lecturer- Cardiac Mechanics (1 hr); Cardiac Mechanics Directed Study
and Application Exercise (2 hrs); Determinants of Cardiac Output (1 hr)
2015-: Lecturer- Autonomics of the Heart (1 hr), Hemodynamics (2 hrs);
Conduction System (1 hr); Special Circulations (1 hr); Systemic Circulation (2
hrs)
2015-: TBL Facilitator, Integrated Cardiovascular Control (2 hrs)
2016-: Lecturer- Smooth Muscle (1 hr); Microcirculation (1 hr); Integrated
Autonomic Control Application Exercise (1hr)
2016-: Co-director EKG laboratory (12 hrs)
2016-: Co-director voluntary simulation laboratory (3hrs)

Gastrointestinal Module (652), 1st year

2014-: Lecturer, Stomach and Small Intestinal Physiology (2 hrs)

Reproductive Module (689), 1st year

2014-: Lecturer, Male Reproductive Physiology (2.5 hrs)

2010-2014 **Georgetown University, School of Nursing and Health Studies, (SNHS)
Washington, DC**

Human Biology 101 (HSCI 101)

2012- 2014: Course Instructor (lecture)
2010-2012: Course Instructor (lecture and laboratory)

Human Biology 102 (HSCI 102)

2012-2013: Course Instructor (lecture)

2010-2012: Course Instructor (lecture and laboratory)

Human Science Independent Research (HSCI 311)

2012 (Fall): David Barton, Dept. of Human Science, Written Project “Traumatic brain injury: targeting blood-brain barrier damage via an apolipoprotein dependent pathway”.

2012 (Fall): Ryan Bellmore, Dept. of Human Science, Written Project “Potential functions of microtubule-associated proteins beyond microtubule stability”.

2012 (Spring): Philip Oladeji, Dept. of Nursing, Project “Development of Online Resources to assist incoming students prepare for Human Biology”

2013 (Spring): Katherine Schmitz, Dept. of Physics, Senior Research Project, Physics 312. “Development of a protocol for electrical field stimulation of rodent vaginal smooth muscle.”

2007- 2010 **Drexel University College of Medicine (DUCOM), Philadelphia, PA**

Medical Physiology, Interdisciplinary Foundations of Medicine Curriculum, 1st year

2007-2010: Course Director

2007-2010: Module Coordinator, Infertility Module

2008-2010: Module Coordinator, Shortness of Breath Module

2007-2010: Conference Facilitator, Cardiovascular Physiology

2007-2010: Lecturer, Reproductive Physiology (6 lectures)

2009-2010: Lecturer, Respiratory Physiology (4 lectures)

2007-2008: Lecturer, Cardiovascular Physiology (5 lectures)

Medical Physiology, Program of Integrated Learning Curriculum, 1st year

2007-2010: Lecturer, Reproductive Physiology Resource Session

Graduate Physiology

2007-2010: Lecturer, Reproductive Physiology (4 lectures)

2009-2010: Lecturer, Renal Physiology (8 lectures)

2007-2008: Lecturer, Cardiovascular Physiology (8 lectures)

Principles of Physiology

2007-2008: Lecturer, Reproductive Physiology (1 lecture)

2003 **Macalester College, St. Paul, MN**
Women’s Health and Reproduction
Course Instructor (lecture)

University of St. Thomas, St. Paul, MN

Introductory Biology

Course Instructor (lecture and laboratory)

Metro-State University, St. Paul, MN

Comparative Physiology

Course Instructor (lecture and laboratory)

1999-2002

Macalester College, St. Paul, MN

Human Physiology

Course Instructor (lecture and laboratory)

Comparative Physiology

Course Instructor (lecture and laboratory)

Adaptations to Extreme Environments:

Seminar Leader

Biology of the Human Body:

Course Instructor (lecture)

Women's Health and Reproduction:

Course Instructor (lecture)

Biotechnology and Society:

Course Instructor (lecture)

Independent Research Mentor

Study Abroad Faculty Leader: Costa Rica

1998-1999

University of St. Thomas, St. Paul, MN

Comparative Physiology

Course Instructor (lecture and laboratory)

Advanced Physiology:

Course Instructor (lecture and laboratory)

Introductory Biology

Laboratory Instructor

Independent Research Mentor

1997

St. Mary's University, Winona, MN

Human Physiology

Course Instructor (lecture and laboratory)

1996 **University of Minnesota, St. Paul, MN**
Animal Physiology
Lecturer, Gastrointestinal Physiology

Other Instructional Activities:

2003 **Planned Parenthood, Minneapolis, MN**
Nurse Practitioner Workshop Instructor

1998-99, 2002 **Surmodics Inc., Eden Prairie, MN**
Cardiovascular Physiology Workshop Instructor

MEMBERSHIPS AND OFFICES IN PROFESSIONAL SOCIETIES:

Current: IAMSE
Team Based Learning Collaborative
Society for Pelvic Research

Past: American Physiological Society
Sexual Medicine Society of North America
International Urogynecological Society

PROFESSIONAL COMMITTEES AND ADMINISTRATIVE SERVICE:

2017- Member (alternate), State Advisory Committee for the faculty, WVSOM

2016- Member, Educational Resources Committee, WVSOM

Member, Educational Development Committee, WVSOM

Member, Team Based Learning Committee, WVSOM

2015- Research Committee, WVSOM

2015-2016 Affirmative Action Committee, WVSOM

2011-2013 Member, Curriculum and Planning Committee, SNHS, Georgetown University

2008 Member, Simulation Education Committee, DUCOM

2007-2010 Member, Interdisciplinary Foundations of Medicine Steering Committee,
DUCOM

2007-2010 Member, Educational Coordinating Committee, DUCOM

2007-2010 Member, Interdisciplinary Foundations of Medicine Student Promotions
Committee, DUCOM

STUDENT MENTORING:

Graduate Students, Postdoctoral Fellows, and Postgraduate Medical Trainees:

- 2016-2017 Nicole Pepe, DO Candidate, WVSOM, Research Mentor, Summer
Lauren Doda, DO Candidate, WVSOM, Research Mentor, Summer
- 2015-2016 Sarah Pyatt, DO Candidate, WVSOM, Research Mentor, Summer
- 2014-2015 Suzan Bilgesu, DO Candidate, WVSOM, Research Mentor Spring Semester
- 2011-2014 Elissa Carney, Ph.D., Department of Oncology, Georgetown University (thesis committee member)
- 2012-2013 Abigail Ruiz, Ph.D. Candidate, Ponce Medical School of Medicine and Health Studies, Experimental Biology 2012 APS Minority Travel Fellow Meeting Mentor
- 2009-2010 Salim Wehbe MD, Urogynecology Fellow, Department of Obstetrics and Gynecology, DUCOM, Philadelphia, PA. (research mentor for Urogynecology fellowship)
- 2009-2010 Arika Zahid, MLAS, Department of Professional Studies in the Health Sciences, DUCOM, Philadelphia, PA. (supervisor for summer research project)
- 2008-2010 Julia D'Ambrosia, Ph.D. Candidate, Department of Pharmacology and Physiology, DUCOM, Philadelphia, PA. (thesis committee member)
- 2008-2009 Monique Ruberu, M.D., Department of Obstetrics and Gynecology, DUCOM, Philadelphia, PA. (research mentor for resident research fellowship)

Undergraduate Students:

Research mentor:

Macarena Basanes: Summer 2013 – Spring 2014. Research mentor for Georgetown Undergraduate Research Opportunity Program (GUROP). Project: Training in techniques of *in vitro* measurements of smooth muscle contractility. Poster presentation at Georgetown University Undergraduate Research Day, Spring 2014.

Katherine Kechijian: Spring 2013- Spring 2014. Research mentor for Georgetown Undergraduate Research Opportunity Program (GUROP). Awarded GUROP summer fellowship, summer 2013. Project: "Calcium sensitization pathways in

the vaginal muscularis”. Poster presentation at Georgetown University Undergraduate Research Day, Spring 2014.

Alexander Adams: Fall 2013-Spring 2014. Research mentor and supervisor for Senior Research Internship. Project: Spatial Mapping of TRPV1 Pain Receptors in the Murine Bladder Suggests Vascular Expression.

Carolyn Williamson: Fall 2013-Spring 2014. Research mentor and supervisor for senior research Internship. Project: Effect of Oral Contraceptive on Ovarian Hormone Levels and Pain Thresholds in Provoked Localized Vulvodynia.

Katherine Schmitz: Spring 2013. Research mentor for senior research project, Dept. of Physics. Project: “Development of a protocol for electrical field stimulation of vaginal smooth muscle.”

Katherine Connors: Fall 2012 and Spring 2013. Research mentor for GUROP. Project: “Effect of estrogen on RhoA/ROK expression in the vaginal muscularis”. Poster Presentation at Georgetown University Undergraduate Research Day, Spring 2013

Spencer Poiset: Fall 2012 and Spring 2013. Research mentor for GUROP. Project: “Effect of estrogen on RhoA/ROK expression in the vaginal muscularis”. Poster Presentation at Georgetown University Undergraduate Research Day, Spring 2013

Andrea Wallach: 1) Spring and Summer 2012 (Awarded GUROP summer fellowship 2012). Research mentor for GUROP. 2) Senior Internship Fall 2012 and Spring 2013. Research mentor for senior internship. Project: Effect of menstrual cycle on vulvar somatosensory processing” Poster Presentation: Georgetown University Undergraduate Research Day, Spring 2013

Faith Svigos: Fall 2011. Research mentor for GUROP. Project: “Changes in contractile protein expression within the bladder of a rodent model of menopause.”

Claudia Nyguen: Summer 2011, Research Mentor. Project: Vulvar somatosensory processing in vulvodynia patients”.

Senior Honor’s Project Committees:

2012-2013 Chair and Internal Mentor: Ryan Bellmore, David Barton
Committee Member: Scott Wisniewski, Petar Georgiev, Danielle LeRoe

2011-2012 Committee Member: Ashley Huber, Melissa Gadson

Student Advisor:

2010-2014: Georgetown University; 17 students/year

PROFESSIONAL SERVICE:

Member: IAMSE Public Affairs Committee (current)

Search Committee, West Virginia School of Osteopathic Medicine:
Microbiology faculty position, 2016-
Virology position, 2016
Physiology position, 2016-

Judge: Student DO of the Year, WVSOM (2016)

NIDDK Short term education program for underrepresented persons (STEP-Up)
Summer Research Symposium (2012, 2013)

Undergraduate Research Day, Georgetown University (2011-2014)

Reviewer: *Grants*
NIH NIDDK “Urologic Chronic Pain Syndrome” RFA-DK-12-025 (2014)

Journals
Journal of Sexual Medicine
Neurourology and Urodynamics
American Physiological Society Archives of Teaching Resources
Autonomic Neuroscience

Panelist: Health Science Week. “Explore Graduate Student Options in Health: It’s More than just Medical School”, Career Center, Georgetown University (2012)

COMMUNITY SERVICE:

2014- 2015 Volunteer Soccer Coach, Greenbrier Valley Youth Soccer League
2004-2006 Big sister, Big Sisters, Philadelphia, PA
2003 Group activity supervisor, Catholic Eldercare, Minneapolis, MN
1999 Group leader of environmental awareness trip to Hells Canyon, Oregon, Vision Program, University of St. Thomas, St. Paul, MN
1998-2001 Meal delivery for people living with AIDS, Open Arms of Minnesota, Minneapolis, MN
1989 Group coordinator, Big Sisters, Guelph, Ontario, Canada

BIBLIOGRAPHY:

Articles

Basha, ME, Kellogg-Spadt, S, Burrows LJ, Ruberu, MS, Wallach, AS, Nazar AS, and KE Whitmore. Thermal and mechanical pain thresholds in women with provoked, localized vulvodynia: a pilot study. under revision, J Am Osteopath Assoc.

Basha, ME., Bauer, LJ, Modrzakowski, MC, and H. H.Baker. Current Status of Women in DO- and MD-granting US medical schools: an analysis of matriculants, enrollment and Chief Academic Officers. In Press: J Am Osteopath Assoc...

Phan TX, Ton HT, Chen Y, Basha ME and GP Ahern. Sex-dependent expression of TRPV1 in bladder arterioles. Am J Physiol- Renal. 311(5): F1063-F1073, 2016.

Marx, J, Basha ME, Mohanan S, Hypolite J, Chang S, Wein A, Laping N., Zderic S and S Chacko. Effects of Rho-kinase inhibition on myosin light chain phosphorylation and obstruction-induced detrusor overactivity. Int J Urol 21(3): 319-324. 2014.

Basha ME, Chang S, Lassmann J, Burrows LJ, Wein A, Moreland RS, and S Chacko. Effect of estrogen on molecular and functional characteristics of the rodent vaginal muscularis. J Sex Med.10 (5): 1219-30. 2013.

Burrow LJ, Basha M, and AT Goldstein. The effects of hormonal contraceptives on female sexuality: a review. J Sex Med 9 (9): 2213-2223, 2012.

Northington GM, Basha M, Arya LA, Wein AJ, and S Chacko. Contractile response of human anterior vaginal muscularis in women with and without pelvic organ prolapse. Reprod Sci. 18 (3): 296-303, 2011.

Basha M, Labelle E, Northington G, Wang, T, Wein A, and S Chacko. Functional significance of muscarinic receptor expression within the proximal and distal rat vagina. Am J Physiol - Regul Comp Integr Physiol 297: R1486-R1493, 2009.

Basha M, Chang S, Smolock E, Moreland RS, Wein A, and S Chacko. Regional differences in myosin heavy chain isoform expression and maximal shortening velocity of the rat vaginal smooth muscle. Am J Physiol 291: R1076-R1084, 2006.

Basha ME and GE Duke. The effect of fasting on small intestinal refluxes in the Nicholas turkey. J Exp Zoolog 284 (4): 469-476, 1999.

Duke GE, Basha ME, and S Noll. Optimum duration of feed and water removal prior to processing in order to reduce the potential for fecal contamination in turkeys. Poult Sci 76: 516-522, 1997.

Book Chapters

Keiter C, Basha M. The Menstrual Cycle, Chapter 31. In: Obstetrics and Gynecology: A Competency-Based Companion, Ed. Belden M, Elsevier, 2010.

Basha ME. Adaptations to extreme environments. In: Macmillan Science Library, Biology. Ed. Richard Robinson, Macmillan Reference, USA, 2001.

Published Abstracts and Presentations

Pepe NL, Doda LB Stewart SS Mattox ML and ME Basha. Effect of vaginal estrogen delivery on the vaginal muscularis in a rodent model of vulvovaginal atrophy with menopause. *Journal of Urol* 197 (4):e1093-e1904, 2017. *Poster and Podium Presentation (Nicole Pepe) and Published Abstract*: American Urological Association Meeting, Boston.

Pepe NL, Doda LB Stewart SS Mattox ML and ME Basha. The effect of local estrogen treatment on the vaginal muscularis in a rodent model of menopause. *Poster Presentation (Pepe NL and Doda LB)*: Greenbrier Student Poster Showcase, West Virginia Osteopathic Medical Association, Lewisburg, WV.

Stewart S, Mattox ML and ME Basha. Vaginal estrogen delivery in a rodent model of vulvovaginal atrophy with menopause. *Poster presentation (Stewart S)*: Osteopathic Medical Conference and Exposition, American Osteopathic Association, Orlando, Florida, 2015.

Stewart S, Mattox ML and ME Basha. Vaginal estrogen delivery in a rodent model of vulvovaginal atrophy with menopause. *Poster presentation (Stewart S)*: WVSOM Research Forum

Basha ME, Chang S, Burrows LJ, Lassmann J, Wein AJ, Moreland RS, and S Chacko. Effect of estrogen on molecular and functional characteristics of the rodent vaginal muscularis. *FASEB J*, 26:1b781, 2012. *Poster Presentation and Published Abstract*: Experimental Biology, San Diego, California.

Basha M, Kellogg Spadt S, Ruberu M, Mosiniak S, Wehbe S, Yonaitis Fariello J, Rebjia Hoffman A, Grothusen J and K Whitmore. Vulvar and extra-vulvar pain thresholds in patients with provoked, localized vulvodynia. *J Urol* 183 (4): 310, 2010. *Poster Presentation and Published Abstract*: American Urology Association, San Francisco, CA.

Ruberu MS, Basha M, Kellogg-Spadt S, Mosiniak S, Grothusen J and K Whitmore. Development of a quantitative sensory testing tool to assess vulvar sensory processing. *J Pelvic Med Surg* 15 (5): 397, 2009. *Poster Presentation and Published Abstract*: American Urogynecology Society, Hollywood, Florida.

Chang S, Basha M, Wein A, and S Chacko. Estrogen depletion down-regulates protein kinase C pathway in female urethral smooth muscle. *J Urol* 181 (Supplement): 549, 2009. *Poster Presentation (Chang S) and Published Abstract*: American Urological Association, Chicago, Illinois.

Basha M, Wang T, Lassmann J, Moreland RS, Wein AJ and S Chacko. Estrogen alters myosin heavy chain isoform expression of rat vaginal smooth muscle. *The Physiol* 50 (6): 21, 2007. *Poster Presentation: Sex Steroids in Cardiovascular-Renal Physiology and Pathophysiology*, Austin, Texas.

Marx JO, Basha M, Mohanan, S, Hypolite JA, Chang, S., Hu E., Sulpizio A, Malkowicz SB, Wein AJ, Lapin J, and S Chacko. Rho-kinase inhibitor decreases spontaneous activity in detrusor smooth muscle with partial bladder outlet obstruction. *J Urol* 177 (Supplement): 985, 2007. *Poster Presentation (Marx JO) and Published Abstract: American Urological Association*, Anaheim, California

Basha M, Wang T, Lassmann J, Moreland RS, Wein AJ and S Chacko. Estrogen upregulates smooth muscle myosin isoform SM2 in the rat vaginal wall. *J Urol* 177 (Supplement): 483, 2007. *Poster Presentation and Published Abstract: American Urology Association*, Anaheim, California.

Basha M, Chang S, Smolock E, Moreland RS, Wein A, and S Chacko. Regional differences in myosin isoform expression and maximum shortening velocity in the vaginal muscularis. *J Urol* 175 (Supplement):389-390, 2006. *Platform Presentation and Published Abstract: American Urology Association*, Atlanta, Georgia

Basha M, Chang S, Smolock E, Moreland RS, Wein A and S Chacko. Regional differences in myosin isoform expression and maximum shortening velocity in the vaginal muscularis. *J Sex Med* 3 (Supplement 1):16, 2006. *Poster Presentation and Published Abstract: Sexual Medicine Society of North America*, New York, New York.

Basha ME, Northington GM, Arya LA, Novi JM, Morgan MA, and S Chacko. Altered contractility of the vaginal muscularis in prolapse. *J Pelvic Surg* 11 (Supplement 1): S31-S32, 2005. *Poster Presentation (Northington GM) and Published Abstract: American Urogynecology Society*, Atlanta, Georgia.