

Curriculum Vitae

Carmen D. Eilertson, Ph.D.

EDUCATION AND TRAINING

1993-1996 Emory University School of Medicine, NIH Postdoctoral Fellow
1991-1993 North Dakota State University, Ph.D. Zoology/Endocrinology
1989-1991 North Dakota State University, M.S. Zoology/Endocrinology
1983-1988 North Dakota State University, B.S. Microbiology

EXPERIENCE AND EMPLOYMENT

2016-current Co-Director Masters in Biology Medical Science Program, GSU
2016-current Member, COAS NTT Review Committee
2016-current Principal Senior Lecturer, GSU
2017-current CASA Faculty Associate of Premed Programs
2009-current Premedical Advisory Committee, College of Arts and Sciences, GSU
2016 Visiting Lecturer, Alverno College, HAPS society online course
2014-current Board Member, Atlanta Medical Center's Research Education Foundation
2011-current Consultant and Member of Scientific Advisory Board, Jeevan Biosciences, Atlanta, Georgia
2011-2012 Adjunct Lecturer, Mercer University Physician's Assistant Program
2005-2016 Senior Lecturer Department of Biology, GSU
2005-current Lab director and instructor for cadaver anatomy, histology and human physiology labs
2002-2008 Director of Operations, Zygogen, LLC, Atlanta, Georgia
2000-2005 Lecturer, Department of Biology, GSU
1998-1999 Part Time Instructor, Department of Biology, GSU
1996-1999 Director of Research, Cell Separation Technologies, LLC, Tucker, Georgia
1996-1999 Chairperson for Institutional Animal Care and Use Committee, MK Industries, LLC, Tucker, Georgia
1993-1996 PHS-NRSA Postdoctoral Fellow, Department of Anatomy and Cell Biology, Emory University School of Medicine, Atlanta, Georgia

COURSES TAUGHT (Current ones' are in bold)

Biol 4980/4930/6930 Orthopedic and Osteopathic Medicine (7 semesters)
Biol 3240/7240 Applied Medical Physiology (50 semesters) with Honors section
Biol 2250/3250/7250 Human Physiology Lab (restructured and implemented) (46 semesters)
Biol 4686/6686 Pathophysiology (developed and implemented) (11 semesters) with Honors section
Biol 4685/6685 Functional Histology (developed and implemented) (12 semesters)
Biol 4687/6687: Surgical Anatomy (developed and implemented-21 semesters) with Honors section
Biol 4916/6916 Clinical Internships at Atlanta Medical Center (developed and implemented - 22 semesters)
Biol 4916/6916 Study Abroad Clinical Internship, Attikon Hospital, Athens Greece, December 2017, May 2018, 2019
Biol 8800 Mentor MBMS capstone project papers/journals
Biol 8800 Master's Non-thesis Research
Biol 3800/7800 Cell and Molecular Biology (26 semesters)
Biol 1120 Anatomy and Physiology II (3 semesters)
Biol 2020/3020 Basic Biology and lab for Education majors. (5 semesters)
Biol 4910 Undergraduate Research, 49 students mentored.
Biol 2240 Human Physiology (5 semesters)
Biol 4905 Lab Techniques Course (developed and implemented)-transformations/transfections/cell culture/cryosectioning (2 semesters)
Biol 4905 Histological Techniques (developed and implemented)-all aspects of tissue processing and photography.
Biol 7802 Graduate Teaching Assistant Training short course (co-developed and implemented)
Biol 4999/6999 Directed Readings 30 credit hours
Biol 1108 Non majors Biology (2 semesters)
Biol 2108 Majors Introductory Biology (8 semesters)

HAPS online course, 2016, *Teaching Central Nervous System Concepts Using Diagnostic Radiology and Case studies*
Developed IHFK course with Dr. Nikolas Papantoniou for 5-day summer course on medical ethics, Kos, Greece

Also mentored two McNair Scholars, 5 Hughes Biotech Scholars, and 9 Presidential Scholars

Served on over 60 Master's Thesis graduate committees

Mentor for Gwinnett School of Science and Technology, Lawrenceville, Georgia, ranked by US News and World report in the top high schools in the nation.

OTHER COURSES I AM QUALIFIED TO TEACH

Endocrinology, Comparative Physiology, Advanced Physiology

GRANTS, AWARDS, HONORS, COMMITTEES

Secured \$5,000 in renewable annual alumni donor funding for Medical Science Study Abroad Program.

Secured \$12,000 in renewable annual alumni donor funding for premed scholarships and Medical Science Lab Tech Fee Award, \$120,000 Revisions to medical science labs into a cadaver lab. 2018

Tech Fee Proposal 2014 Incorporating Exercise Physiology Testing in Physiology Lab Courses Status: Funded \$37,734.

2008 through 2020 Ten consecutive RPG Grants totaling \$270,000. *"Teaching Critical Thinking Skills Important to Mid-level Case Study Biology Courses"*

Digital Champion Fellowship Grant 2016, \$5000, Center for Instructional Innovation. 3-D imaging of cadaveric specimens.

NIH SBIR Phase I 2011-2012, \$386,287, Co-PI, Jeevan Biosciences, *HIV/NeuroAIDS Patient Derived Induced Pluripotent (iPS) Cells*

PRISM Mini Grant, \$15,000/1 yr. *"Case Study and Hands-on Learning Methods Incorporated into three Pre-Medical Courses."*

GEORGIA RESEARCH ALLIANCE GRANT, Innovations in Research Award, 2007-2008 \$200,000/1 yr. *"Drug-Induced Teratogenicity Screening in Zebrafish."*

GEORGIA RESEARCH ALLIANCE GRANT, Innovations in Research Award, 2004-2005 \$250,000/1 yr. *"Zebrafish Alzheimer's Disease Model for Drug Discovery."*

GEORGIA RESEARCH ALLIANCE GRANT, Innovations in Research Award, 2003-2004 \$250,000/1 yr. *"Target Validation with Z-Lipotrack."*

GEORGIA RESEARCH ALLIANCE GRANT 2002-2003 \$100,000/1 yr. *"Identifying New Drugs that Modulate Lipid Absorption and Processing"*

WRITING ACROSS THE CURRICULUM, 2001-2002, *"Learning Histology Through Student-based Teaching and Research Paper Writing."*

NIH-NIDDK STTR 2001-2002 \$100,000 *"Cell Selection on an Electroactive Polymeric Surface"*

GEORGIA RESEARCH ALLIANCE GRANT 2000-2001 \$100,000/1 yr. *"Discovery of Novel Pancreatic Genes"*

GEORGIA RESEARCH ALLIANCE GRANT 1997-1999 Phases I and II \$130,000/2 yrs. *"Polymer Based Assays for Serodiagnosis and Virus Detection"*

NIH-NIDDK NRSA POSTDOCTORAL RESEARCH AWARD 1993-1996 *"Specificity of Peptide Prohormone Processing Enzymes"*

Nominated for COAS Outstanding Undergraduate Mentor Award

COAS Graduate Council Member, 2019-current

Honorary Member of the International Hippocratic Foundation of Kos, Inducted May 2019

Study Abroad Program Director of the Year, 2018

COAS Graduate Faculty Subgroup 2017-current

COAS, Outstanding Teacher Award, 2016

COAS Strategic Planning Committee 2016-current

COAS, Associate Dean's Search Committee, 2017

Nominated for College of Arts and Sciences Mentorship Award 2016

Lecturer and Academic Professional Search Committee, Biology Department, 2016-current

Elected to COAS NTT Promotion Review Committee 2016-2019

Reviewer for the Department of Geosciences NTT Promotion Manual, 2016

Co-Advisor for American Medical Student Association, GSU. 2014-2018

Promoted to Principal Senior Lecturer 2016
Nominated for COAS Innovation in Teaching Award 2015
COAS Premedical Advisory Committee 2009-2019
Department of Biology Curriculum Committee 2001-2016
GSU COEd Professional Education Committee, Biology Representative, 2000-2008.
GSU COEd Professional Education Curriculum Committee 2005-2008
Chair - GSU COEd Professional Education Curriculum Committee, 2007
Nolan Award Committee- Department of Biology
COAS Undergraduate Research Council -2008-2009
COAS Curriculum Committee 2009- 2011
Nominated for College of Arts and Sciences Outstanding Teaching Award 2005, 2008
Golden Key International, Honorary member appointed by students. 2004.

MEDICAL EDUCATION ACHIEVEMENTS

- 1) Developed a hands-on seminar series, Project Open Lab. Guest surgeons use human cadavers to demonstrate surgical procedures to students.
- 2) MBMS enrollment has doubled since 2016. Started with 5 students in 2016 to 15 in 2019.
- 3) Streamlined the 4+1 Dual Enrollment to fasttrack exemplary premed seniors in biology into MBMS. We project this will dramatically increase graduate enrollment in biology.
- 4) Of the MBMS students whom have applied to medical school, 91% have been accepted. The national average is 41%.
- 5) With the generous help from the College, funding enabled a dramatic increase in Study Abroad Clinical Internship capstone enrollment.
- 6) Developed a collaboration with the International Hippocratic Foundation of Kos to provide a certificate of participation for our Study Abroad students. Students took a 3 day intensive shortcourse in Greek medicine, medical history, bioethics, and ethnobotany, taught by world-renowned Greek physicians.

RESEARCH ACTIVITIES

- 1) Developed a stable transgenic zebrafish line containing GFP/insulin promoter.
- 2) Developed a transient zebrafish line containing RFP/tissue transglutaminase promoter for studying apoptosis.
- 3) Developed a fluorescent zebrafish assay for monitoring cholesterol and lipid uptake and processing. This assay was used to screen a combinatorial chemical library for potential drugs useful in the treatment of lipid metabolism disorders-which led to the award of SBIR Phase I and Phase II grants.
- 4) Studying the effects of alcohol on fetal neuronal stem cells in conjunction with Jeevan Biosciences.
- 5) Placing MBMS students into research internships at Omni International, Inc.
- 6) Placing MBMS students into clinical research internships at Atlanta Medical Center

PUBLICATIONS (out of 29 total)

HARMON, J.S., EILERTSON, C.D., PLISETSKAYA, E.M., AND SHERIDAN, M.A. Glucose administration results in hypersomatostatinemia, hypoinsulinemia, and hyperglucagonemia and is associated with enhanced lipid mobilization in rainbow trout. *Am. J. Physiol.* 261, R609-R613 (1991)

EILERTSON, C.D. AND SHERIDAN, M.A. Effects of somatostatin-25 on lipid mobilization from rainbow trout, *Oncorhynchus mykiss*, liver and adipose tissue incubated *in vitro*. Comparison with somatostatin-14. *J. Comp. Physiol. B.*, 164, 256-260 (1994)

EILERTSON, C.D. AND SHERIDAN, M.A. Pancreatic somatostatin-14 and somatostatin-25 release in rainbow trout is stimulated by glucose and arginine., *Am. J. Physiol. Regul. Integ. Comp. Physiol.* , 269, R1017-R1023 (1995)

EILERTSON, C.D., KITTILSON, J.D., AND SHERIDAN, M.A. Effects of insulin, glucagon, and somatostatin on the release of somatostatin-25 and somatostatin-14 from rainbow trout, *Oncorhynchus mykiss*, pancreatic islets *in vitro*. *Gen.Comp. Endocrinol.*, 99, 211-220 (1995)

ROTHENBERG, M.E., EILERTSON, C.D., KLEIN, K., ZHOU, Y., LINDBERG, I., MCDONALD, J.K., AND NOE, B.D. Processing of mouse proglucagon by recombinant PC1 and PC2 *in vitro*. *J. Biol. Chem.*, 270, 10136-10146 (1995)

ROTHENBERG, M.E., EILERTSON, C.D., KLEIN, K., MACKIN, R.B., AND NOE, B.D. Evidence for redundancy in propeptide/prohormone convertase activities in processing proglucagon. *Mol. Endocrinol.*, 10, 331-341 (1996)

EILERTSON, C.D., CARNEIRO, N.M., KITTILSON, J.D., COMLEY, C., AND SHERIDAN, M.A. Cholecystokinin, neuropeptide-Y, and galanin modulate the release of pancreatic somatostatin-25 and somatostatin-14 *in vitro*. *Regul. Pept.*, 63,105-112 (1996).

EHRMAN, M.M., MOORE, C.A., KITTILSON, J.D., EILERTSON, C.D., AND SHERIDAN, M.A. Nutritional regulation of somatostatin expression in rainbow trout, *Oncorhynchus mykiss*. *Fish Physiol. Biochem.* 26: 309-314. (2002)

DOAN, T., EILERTSON, C.D., AND RUBINSTEIN, A. High-throughput target validation in model organisms. *Drug Discovery Today:Targets*. Vol 3, No5. October 2004.

Malini Krishnamoorthy, Brian Gerwe, Jamie Heimburg-Molinaro, Rachel J. Nash, Jagan Arumugham, Carmen D. Eilertson, Steven L. Stice, Rodney J. Nash. Ethanol alters cell cycle gene expression in human embryonic stem cells. *J Pediatr Biochem*, Volume 1, Number 3, Year 2010

Krishnamoorthy M, Gerwe BA, Scharer CD, Heimburg-Molinaro J, Gregory F, Nash RJ, Arumugham J, Usta SN, Eilertson CD, Stice SL, Nash RJ., GABRB3 gene expression increases upon ethanol exposure in human embryonic stem cells., *J Recept Signal Transduct Res*. 2011, Jun;31(3):206-13

Carol Tucker-Burden, Prasanthi Chappa, Malini Krishnamoorthy, Brian A. Gerwe, Christopher D. Scharer, Jamie Heimburg-Molinaro, Wayne Harris, Sümeyra Naz Usta, Carmen D. Eilertson, Constantinos G. Hadjipanayis, Steven L. Stice, Daniel J. Brat, and Rodney J. Nash. Lectins Identify Glycan Biomarkers on Glioblastoma-Derived Cancer Stem Cells. *Stem Cells and Development*. September 1, 2012, 21(13): 2374-2386.

Malini Krishnamoorthy, Brian A. Gerwe, Christopher D. Scharer, Vanita Sahasranaman, Carmen D. Eilertson, Rachel J. Nash, Sümeyra Naz Usta, Shasmine Kelly, Matthew Rose, Rene Peraza, Jagan Arumugham, Bethany Stewart, Steven L. Stice, Rodney J. Nash. Ethanol alters proliferation and differentiation of normal and chromosomally abnormal human embryonic stem cell-derived neurospheres. *Birth Defects Research Part B: Developmental and Reproductive Toxicology*. June 2013, 98(3):283-295.

ABSTRACTS (out of 14 total)

Eilertson, C.D, WHITE, A., DOAN, T., and Rubinstein, A Fluorescent Zebrafish Lipid Assay for Compound Library Screening, , American Heart Society meeting in Washington D.C., May 2003

BLAVO, et.al., Ztag and Z-lipotrack zebrafish technology for compound screening and target validation. Southeastern Bioconference, Georgia World Congress Center, Atlanta, GA , summer 2002

EILERTSON, C.D., KLEIN, K., ROTHENBERG, M.E., AND NOE, B.D. Evidence for glucose dependence and 5'dbcAMP influence on the expression of glucagon, PC1/3, and PC2 in β TC1-6 cells. *10th International Congress of Endocrinology, 1996, San Francisco, CA.*

EILERTSON, C.D. Novel Method of Cell Separation Using an Electroactive Polymeric Membrane. *6th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, 1998, San Diego, CA.*

RUBINSTEIN, A., AKYILDIZ, A., EILERTSON, C.D., AND LIN, S. Use of fluorescent transgenic zebrafish for high throughput screening of novel protein and small molecule drugs. *Functional Genomics Meeting, 2000, Boston, MA.*

EILERTSON, C.D., WHITE, A., DOAN, T., AND RUBINSTEIN, A. Fluorescent Zebrafish Lipid Assay for Compound Library Screening, *AHA: Arteriosclerosis, Thrombosis and Vascular Biology Meeting, 2003, Washington D.C.*

GSU Magazine, Summer 2017, "Resident Recruits" Article published on medical course opportunities for GSU students.

INVITED SPEAKER/GUEST LECTURES

EILERTSON, C.D. Novel Method of Cell Separation Using an Electroactive Polymeric Membrane. *6th International Symposium on Recent Advances in Hematopoietic Stem Cell Transplantation, 1998, San Diego, CA.*

EILERTSON, C.D. Electroactive Polymeric Membrane Uses in the Biomedical Marketplace. *11th Annual Conference for Entrepreneurs, Investors, & Lenders, Southeast Capital Connection, 1998, Charleston, SC.*

Keynote Speaker, GSU COAS Freshmen Pre-med Summit 10/4/19.

Freshman Learning Community lecture, 9/25/17, 11/18

Pre-medical Students Making a Difference meeting 9/15/16.

Biology Career Seminar September 2016. MBMS program

Prehealth Fair, CoA&S March 4, 2016.

Master's Student to Scholar Faculty Panel Member September 21, 2016

Freshman Learning Community lecture, 9/27/16.

Presenter, Human Anatomy and Physiology Society Annual Conference, Atlanta, May 2016.

Tri Beta meeting regarding premed file 10/11/16.

Philadelphia College of Medicine's Career Health Academy and Gwinnett Central High School Medical and Healthcare Science Academy on monthly workshops for high school students <http://www.pcom.edu/campuses/georgia-campus/news-and-events/ga-pcom-news/ga-pcom-students-mentor-high-schoolers.html>