Michele Lynn Lemons

Assumption College
Department of Natural Sciences
500 Salisbury Street, Worcester, MA 10609
Email: mlemons@assumption.edu, phone (508) 767-7658

EDUCATION

University of Florida, Gainesville, Florida……..……..….1993-1999
Ph.D. in Neuroscience
Dissertation: Inhibition of regeneration in the injured, adult spinal cord: potential role of chondroitin sulfate proteoglycans, specifically aggrecan
Mentors: Dena Howland, Ph.D. and Douglas Anderson, Ph.D.

College of William and Mary, Williamsburg, Virginia……..…....1989-1993
B.S. in Biology, Minor in Psychology, Education Certification

TEACHING EXPERIENCE

Assumption College, Worcester, MA……..……2007-present
Assistant Professor of Biology 2007-2013, Associate Professor of Biology 2013-present
BIO415: Principles of Neuroscience lecture and laboratory
BIO420: Developmental Biology lecture and lab
BIO370: General Physiology, lecture and laboratory
BIO160L: Concepts in Biology, laboratory
BIO115: Matters and Mysteries of your Brain
BIO102: Human Biology in Health and Disease, lecture and laboratory
BIO490: Independent Study.
INT300: Mentored student internships
Undergraduate summer research: Trained and mentored students to plan, conduct, analyze and present their data generated from neurobiology research

University of Utah, Salt Lake City, UT……..……2001-2006
Postdoctoral fellow in the Department of Neurobiology and Anatomy
Neurobiology Current Topics. Team taught journal-based graduate course
Gross anatomy: served as teaching assistant for medical students in the dry lab
Undergraduate research training. Mentored three undergraduates in neurobiology

Hamilton College, Clinton, NY……..……1999-2000
Full Time Visiting Assistant Professor of Biology
BIO 336: Cell Biology. Independently taught upper level course with lecture and lab
BIO 111: Introductory Biology. Team taught introductory level biology lecture and lab
BIO 348: Molecular Genetics. Team taught upper level course with lecture and lab

University of Florida, Gainesville, FL……..……1993-1999
Ph.D. Candidate.
Medical Neuroanatomy: Teaching Assistant for this required medical student course
Current topics in Neuroscience. Discussion leader for journal-based dialog in Neuroscience for graduate students
Physiological Pyschology. Gave two guest lectures in this undergraduate course

The College of William and Mary, Williamsburg, VA....1993
*Student Teacher***.** Taught 7th grade life science at Yorktown Middle School while a science education undergraduate student

Fairfax County School System, VA.....1992
*Substitute Teacher***.** Taught biology, calculus and chemistry at the high school level

RESEARCH EXPERIENCE

Assumption College, Worcester MA.....2013-present
Associate Professor of Biology
Topic: Genetic investigation of axonal growth and synaptic formation

Assumption College, Worcester MA.....2007-2013
Assistant Professor of Biology
Topic: Molecular mechanisms of neuronal motility and regeneration

University of Massachusetts Medical School, Worcester MA.....2013-14, 16, 2018-present
Visiting Associate Professor in the Department of Neurobiology
Topic: Single-neuron analysis of synapse development and plasticity in *C. elegans*

University of Massachusetts Medical School, Worcester MA.....2007
Research Associate in the Department of Neurobiology
Topic: Genetic approaches to study neuronal behavior in *C. elegans*

University of Utah, Salt Lake City, UT.....2000-2006
Postdoctoral Fellow in the Department of Neurobiology and Anatomy
Topic: Ligand/receptor interactions that impact growth cone motility

Hamilton College, Clinton, NY.....1999-2000
Visiting Assistant Professor of Biology
Topic: Analysis of proteoglycan production by cultured rat neurons and astrocytes

University of Florida, Gainesville, Fl.....1993-1999
Graduate student in the Department of Neuroscience
Topic: Spinal cord injury and regeneration in the adult rat

University of Florida, Gainesville, Fl.....1993
Research technician in the Department of Neuroscience
Topic: Long term potentiation in the adult rat hippocampus

COMPETITIVE GRANT AND FELLOWSHIP FUNDING

National Science Foundation, Full Proposal, Division of Integrative Organismal Systems…..……2017
Title: RUI: Collaborative Research: Molecular mechanisms of dendrite development, maintenance and plasticity: *in vivo* single-neuron analysis in *C. elegans*.
Role: Principle Investigator
Funding: $245,710 total: $184,183 direct costs plus $61,527 indirect costs
research, training Assumption undergraduates, training URM students and training high school biology teacher. Funds are also used to purchase a fluorescent dissecting microscope
for the College that is available to all colleagues and students.
Role: Principle Investigator and mentor to Assumption College students
Status: Awarded. Funding duration: 12/1/2018 -- 12/1/2022

Assumption College Faculty Development Grant ……..…….....…….....2017
Title: Genes that drive formation and modification of communication sites between neurons
Role: Principle Investigator and mentor to Monika Rettler '18 $4,000

National Science Foundation, Preliminary Proposal, Division of Integrative Organismal Systems
……..…..2017
Title: IOS Preliminary Proposal: RUI: Collaborative Research: Molecular mechanisms of dendrite development, maintenance and plasticity: *in vivo* single-neuron analysis in *C. elegans*.
Role: Principle Investigator
Status: Accepted and invited to submit full proposal

National Science Foundation, Full Proposal, Division of Integrative Organismal Systems…..……2016
Title: RUI: Collaborative Research: Molecular mechanisms of dendrite development, maintenance and plasticity: *in vivo* single-neuron analysis in *C. elegans*.
Role: Principle Investigator
Status: Not funded

National Science Foundation, Preliminary Proposal, Division of Integrative Organismal Systems
……..…..2016
Title: IOS Preliminary Proposal: RUI: Collaborative Research: Molecular mechanisms of synapse plasticity: *in vivo* single neuron analysis in *C. elegans*.
Role: Principle Investigator
Status: Accepted and invited to submit full proposal

National Science Foundation, Preliminary Proposal, Division of Integrative Organismal Systems
……..…..2014
Title: IOS Preliminary Proposal: RUI: Collaborative Research: Netrin-integrin signaling pathways in *C. elegans* axon guidance
Role: Principle Investigator
Status: Not invited to submit full proposal

National Institutes of Health (NIH) R15 science research grant ……...…...……...…2011-2015
Title: Molecular mechanisms of axonal guidance
Funding: $150,000 direct costs and $37,709 indirect costs over three years for science research with Assumption undergraduates. Used a portion of these funds to purchase a $75,000 fluorescent microscope for the College that is used by numerous faculty and students.
Role: Principle Investigator and mentor to Assumption College students
Funding rate: 12%

Assumption College Honors Program Research Internship……...……...……..……2015
Title: Conformational state of integrins causes significant axonal patterning defects in GABAergic motor neurons
Role: Principle Investigator and mentor to undergraduate Rachel Avard '17. $7,000

Assumption College Faculty Development Grant ……...……...…….....2015
Title: Molecular mechanisms of neural development
Role: Principle Investigator and mentor to undergraduates Michaela Temple '17 and Monika Rettler '18 $5,000

Assumption College Honors Program Research Internship……...……...……..……2011
Title: Molecules that guide neurons: the surprising role of integrin receptors in netrin-mediated axon guidance
Role: Principle Investigator and mentor to undergraduate Jenna Garozzo '13. $7,000

Assumption College Faculty Development Grant ……...……...…….....2009
Title: How to read a road map for a neuron: molecules that impact neuronal motility
Role: Principle Investigator and mentor to undergraduate Douglas Reilly '10. $5,000

Assumption College Honors Program Research Internship. …...……...……...……2008
Title: Netrin-1, integrins and cAMP direct neural growth cone motility. Assumption College.
Role: Principle Investigator and mentor to undergraduate Victoria Duke. $7,000

Spinal Cord Research Foundation (SCRF) Fellowship Grant……..……...…….2002-2004
Title: Cell Autonomous Factors Influence Regeneration
Funding: $100,000 over two years
Role: Postdoctoral Trainee at the University of Utah

NIH Developmental Biology Training Grant……...2001-2003
Title: Instrinsic factors that impact regeneration
Funding: $35,196 per year plus $1,000 for travel and other expenses. I elected to terminate this grant early in order to accept the grant from SCRF.
Role: Postdoctoral Trainee at the University of Utah

Research Grant from the State of Florida Brain and Spinal Cord Injury Rehabilitation Trust Fund
……...……...……...…1997-1998
Title: The Effect of Aggrecan on Axonal Growth *In Vivo* Following Spinal Cord Injury
Funding: $32,097 for research
Role: Co-principle investigator at the University of Florida Brain Institute

Research Grant from the State of Florida Brain and Spinal Cord Injury Rehabilitation Trust Fund
……...……...……...……1996-1997
Title: Enzymatic Degradation of Neurite Inhibiting Extracellular Matrix Molecule, Chondroitin Sulfate Proteoglycan, *In Vivo*
Funding: $ 40,350.08 for science research
Role: Co-principle investigator at the University of Florida Brain Institute.

PUBLICATIONS IN PEER REVIEWED JOURNALS

undergraduate authors are underlined

A. Philbrook, S. Ramachandron, C.M. Lambert, D. Oliver, J. Florman, M.J. Alkema, **M. Lemons**, M.M. Francis. (2018) Neurexin directs partner-specific synaptic connectivity in *C. elegans*. Elife. Jul 24;7. pii: e35692. doi: 10.7554/eLife.35692.

M.L. Lemons (2017) Referee Report For: A novel educational module to teach neural circuits for college and high school students: NGSS-neurons, genetics, and selective stimulations [version 1; referees: 3 approved with reservations]. *F1000Research* 2017, 6:117 (doi: 10.5256/f1000research.11456.r20684) https://f1000research.com/articles/6-117/v1#referee-response-20684

M.L. Lemons. (2017). Locate the Lesion: A Project-Based Learning Case that Stimulates Comprehension and Application of Neuroanatomy. *Journal of Undergraduate Neuroscience Education*. 15(2) C7-C10.

M.L. Lemons. (2016). An inquiry-based approach to study the synapse: student-driven experiments using *C. elegans*. *Journal of Undergraduate Neuroscience Education*. 15(1). A44-A55.

Powell, S., Vinod, A., **Lemons, M. L**. (2014) Isolation and Culture of Dissociated Sensory Neurons From Chick Embryos. *J. Vis. Exp.* (91), e51991, doi:10.3791/51991.

M.L. Lemons, M.L. Abanto, N. Dambrouskas, C.C. Clements, Z. DeLoughery, J. Garozzo, M.L. Condic. (2013) Integrins and cAMP mediate netrin-induced growth cone collapse. *Brain Research*, (1537) 46-58.

M.L. Lemons (2012) Characterizing Mystery Cell Lines: Student-driven Research Projects in an Undergraduate Neuroscience Laboratory Course. *Journal of Undergraduate Neuroscience Education*. 10(2): A96-A104. This manuscript won the editor's choice award.

M.L. Lemons and M.L. Condic. (2008) Integrin signaling is integral to regeneration. *Experimental Neurology*, 209(2): 343-52.

M.L. Lemons and M.L. Condic. (2006) Combined integrin activation and intracellular cAMP cause Rho GTPase dependent growth cone collapse on laminin-1. *Experimental Neurology*, 202(2): 324-35.

M.L. Lemons, M.L Abanto, S. Barua, W. Halfter and M.L. Condic (2005). Adaptation of sensory neurons to hyalectin and decorin proteoglycans. *Journal of Neuroscience* 25 (20), 4964-73.

M.L. Lemons, J.D. Sandy, D.K. Anderson and D.R. Howland (2003). Intact aggrecan and chondroitin-sulfate depleted aggrecan inhibit axon growth in the adult rat spinal cord. *Experimental Neurology* 184(2):981-90.

M.L. Condic and **M.L. Lemons** (2002). Extracellular matrix in spinal cord regeneration: getting beyond attraction and inhibition. Review paper submitted per request, *Neuroreport* 13 (3), A37-48.

M.L. Lemons, J.D. Sandy, D.K. Anderson and D.R. Howland (2001). Intact Aggrecan and Fragments Generated by Both Aggrecanase and Metalloproteinase-Like Activities Are Present in the Developing and Adult Rat Spinal Cord and Their Relative Abundance is Altered by Injury. *Journal of Neuroscience* 21 (13), 4772-4781.

M.L. Lemons, D.R. Howland, and D.K. Anderson. Chondroitin Sulfate Proteoglycan Immunoreactivity Increases Following Spinal Cord Injury and Transplantation (1999). *Experimental Neurology* 160, 51-65.

POSTER PRESENATIONS AT PROFESSIONAL MEETINGS

Undergraduate authors are underlined

Lemons, M.L., Philbrook, A. Ramachandran, S., Oliver, D., Lambert, C. Francis, M.M. (2017) The synaptic organizer neurexin coordinates cholinergic connectivity with GABAergic neurons. Board B45. #368.20. Society for Neuroscience Meeting.

Avard R.C., Rettler M.M., Temple M.W., **Lemons M.L**. (2015) Conformational state of integrins causes significant axonal patterning defects in GABAergic motor neurons. Poster #30, Society for Neuroscience Convention, Faculty for Undergraduate Research (FUN) symposium.

C.A. Lincoln, D.O. Oliver, M.M. Francis, **M.L. Lemons** (2014) Characterizing the role of integrins in axon pathfinding in *C. elegans*. Poster #24 Society for Neuroscience Convention, Faculty for Undergraduate Research (FUN) symposium.

M.L. Lemons, D. Oliver, M.M. Francis (2014). Investigating the role of integrins in *Caenorhabditis elegans* axon patterning. Society for Neuroscience Abstracts.

D. Oliver, M.M. Francis, **M.L. Lemons** (2014). Genetic analysis of integrin signaling in *C. elegans* axon guidance. Poster presentation at the NorthEast Under/graduate Research Organization for Neuroscience (NEURON). #34.

M.L. Lemons, J. Hauri, S. Cavanagh (2012). Learning through teaching: Undergraduates designing and executing lesson plans for elementary students during Brain Awareness Week. Poster presentation at Society for Neuroscience Meeting in the Teaching and History Session.

Z. DeLoughery, J. Garozzo, S.M. Powell, A. Vinod, M.L. Condic, **M.L. Lemons** (2011). Netrin-1 activates integrins on neural growth cones: evidence for a direct ligand-receptor mechanism of activation. Society for Neuroscience Abstract presented at Faculty for Undergraduate Neuroscience symposium.

M.L. Lemons, M.L. Abanto, N. Dambrauskas, C. Clements, V. Duke and M.L. Condic. (2010) An interaction between netrin-1 and integrin receptors in growth cones. Axon Guidance, Synapse Formation and Regeneration Meeting. Cold Spring Harbor, N.Y.

M.L., **Lemons,** M.L., Abanto, N. Dambrauskas, C. Clements, and V. Duke. (2008) Netrin-1 induced growth cone collapse is mediated by integrin receptors. Society for Neuroscience Abstract. Program number 26.4.

M.L. Lemons and M.L. Condic (2005). Integrins, cAMP, and netrin-1 interact and influence growth cone behavior. Society for Neuroscience Abstract. Program number 146.11.

M.L. Lemons and M.L. Condic (2004). Interactions between cAMP, integrin receptors and Rho GTPases influence growth cone motility. Society for Neuroscience Abstract. Program number 723.14.

M.L. Lemons and M.L. Condic (2002). Effects of cAMP on Neurite Outgrowth and Integrins. Society for Neuroscience Abstract. Session Number 528.3

M.L. Lemons and M.L. Condic (2001). Cytoplasmic cAMP levels influence neurite outgrowth on growth-influential proteins. Society for Neuroscience Abstract 26: 407.

M.L. Lemons, J.D. Sandy, D. K. Anderson, and D.R. Howland (1999) Identification, Characterization and Function of Aggrecan in the Adult Spinal Cord. Society for Neuroscience Abstract. 25: 750.

M.L., **Lemons**, D. K. Anderson, and D.R. Howland (1998) Influences of Aggrecan, a specific Chondroitin Sulfate Proteoglycan, upon axonal growth, *in vivo*. Society for Neuroscience Abstract. 24: 1054.

M.L., **Lemons**, D.R. Howland and D. K. Anderson (1997) Spatial relations between chondroitin sulfate Proteoglycan and axons following spinal cord injury and transplantation. Society for Neuroscience Abstract. 23:1724.

M.L. Lemons, D.R. Howland and D. K. Anderson (1996) Chondroitin sulfate Proteoglycan expression following spinal cord injury. Society for Neuroscience Abstract. 22:1018.

M.L. Lemons, D.R. Howland and D. K. Anderson (1996) Potential therapeutic degradation of the inhibitory extracellular matrix molecule, chondroitin sulfate Proteoglycan. Neurotrauma Society Abstract.

M.L. Lemons, D.R. Howland and D. K. Anderson (1995) Proteoglycan and GFAP expression following spinal cord injury and intraspinal transplantation. Society for Neuroscience Abstract. 21:822

INVITED SEMINARS AND PRESENTATIONS

Inspired by Index Cards: Low-tech Tools for Teaching. Presentation for the Center for Teaching Excellence. Food for thought series. ……...2017

Inviting students to make mistakes, and learn from their mistakes. Presentation for the Center for Teaching Excellence with special focus on work done as active member of the Course Innovation Academy……..2017

A Source of Inspiration: Community Service Learning. Presentation for the Community Service Learning Faculty Workshop at Assumption College……. 2017

Unlocking mysteries of Brain Development. Formal presentation to the Board of Trustees at Assumption College……..……*2017*

Studying worms to unlock mysteries of nervous system development. Formal presentation at the Department of Natural Sciences Research Seminar Series. Assumption College. ...……..2014

Molecular Mechanisms of Axon Guidance. Presentation given to the Francis Lab in the Department of Neurobiology at the University of Massachusetts Medical School……..……2014

How Neurons Know Where to Grow. Research presentation at "Faculty Showcase" in Department of Natural Sciences Seminar Series at Assumption College to recruit students to conduct neuroscience research under my mentorship……..…….2008, 09,11,12, 13, 14

Invited to appear on a TV show, "*Higher Education Today*" which is broadcast in the Washington, D.C. area. Spoke with colleague Professor Cavanagh to host, Steven Goodman, about the study of neuroscience at small liberal arts colleges. ……..……2013

Invited to serve as a panelist at a Worcester Consortium event entitled, "*Planning Successful Scholarship: Obtaining Fellowships and Grants for Sabbaticals and Ongoing Research*". One of four panelists to present and discuss methods for obtaining external research funding. …2014

Neurons on the move: How growth cones find their way. Assumption College Department of Natural Sciences Seminar Series. ……..……..……...2008

Cells are diverse and dynamic. Keene State College……..……..…….....……...……2006

The role of integrins, netrin-1 and cAMP in growth cone motility. Skidmore College...….....….....…...2005

Integrins, cAMP and Rho GTPases: too much of a good thing for neurons. Gettysburg College…….....2005

Netrin-1 mediated growth cone collapse involves integrins and other netrin receptors. Research in Progress Presentation. University of Utah. ……...… 2005

Rho GTPases, cAMP and integrins interact and influence growth cone motility. Research in Progress Presentation. University of Utah……..…..……...2005

Cytoplasmic cAMP Levels Influence Embryonic Regeneration. Developmental Biology Retreat. Park City, Utah……..……...……..…..…….2004

Influence of Extrinsic and Intrinsic Factors on Regeneration. Research in Progress Presentation. University of Utah……..……..…..….2001

The Influence of Chondroitin Sulfate Proteoglycans, Specifically Aggrecan, upon Spinal Cord Regeneration. University of Utah……..……..…..…..2000

Proteoglycans in the Spinal Cord: Implications for Development and Regeneration. Hamilton College……..…….…..……...1999

T*he Role of Chondroitin Sulfate Proteoglycans, Specifically Aggrecan, in Spinal Cord Regeneration.* Rutgers University……..……...…….……..…..1999

Aggrecan's Effects Upon Axonal Growth In Vivo. Selected to give a research presentation at the Southeast Nerve Net Meeting. University of Florida. …..…….....…1999

Identification of Aggrecan in the Spinal Cord and an Examination of its Influences Upon Neurite Growth In Vivo. Graduate Student Research Presentation given at a Graduate Student Forum. University of Florida…….....…….....1999

Aggrecan, a Specific Chondroitin Sulfate Proteoglycan, Appears to Influence Axonal Growth in vivo. Center for Neurobiological Sciences, University of Florida……...…….....1998

The Affect of Aggrecan, A Specific Chondroitin Sulfate Proteoglycan, Upon Neurite Growth In Vivo In the Injured Spinal Cord. An oral Exam/Proposal Presentation, University of Florida……1997

Enzymatic Degradation of Neurite Inhibiting Extracellular Matrix Molecule, Chondroitin Sulfate Proteoglycan, In Vivo. BSCIRTF site visit. University of Florida…...…….…….……1996

Chondroitin Sulfate Proteoglycan Expression Following Spinal Cord Injury. Center for Neurobiological Sciences, University of Florida……...1996

Chondroitin Sulfate Proteoglycan Expression Following Spinal Cord Contusion Injury. Nerve Net, Whitney lab, Crescent Beach, FL……...…….....1996

PROFESSSIONAL MEMBERSHIPS

Faculty for Undergraduate Neuroscience……..…..2008-present
Society for Neuroscience……..……..…..1993-present

GRANT REVIEW

Served as a grant reviewer for the National Science Foundation…….....2005, 2015, 2018
Served as a grant reviewer for the Kentucky Science and Engineering Foundation……...……...….2009

MANUSCRIPT REVIEW

Reviewed manuscript for f100 by invitation……2017
Reviewed manuscript for the Journal of Neuroscience Methods by invitation…….....2005, 2015
Reviewed manuscript for the Journal of Visual Experimentation (JoVE) by invitation……..…2013
Reviewed manuscript for the Experimental Neurology by invitation,....…...……..... 2012, 09, 08, 06

THESIS AND DISSERTATION COMMITTEE MEMBER

Served as external dissertation committee member for Ph.D. candidate Adrianne Kolpak at the University of Massachusetts Medical School, Worcester, MA……....2010

Served on thesis committees for Honors Program Students; Amber Morra, Leslie Lupien, Brittney Carney, Joseph Provost, Rebecca Corridori, Nicole Leo, Lauren O'Connor, Michael Doyle, Emily Hill, ……..…….2017, 2016, 14, 13, 12, 11,10, 09
Served as honors thesis mentor for: Elizabeth DiLoreto, Alexis Levine, Monika Rettler, Jenna Garozzo, Zackary Deloughery, Amrit Vinod, Natalie Schmitt, Victoria Duke…….2018-15, 13, 12, 08

MENTORSHIP OF UNDERGRADUATE RESEARCH PROJECTS AND INTERNSHIPS

Emily Norman'20 Completed neuroscience research internship during the summer of 2018. *Investigation of genes that guide development and formation of neuronal spines in C. elegans***.** Served as research mentor.

Heather Bates'20 Completed research internship during the summer of 2018. *Analysis of dendritic spine development, activity and maintenance in neurons of C. elegans.* Served as research mentor.

William Armstrong'20 Completed research internship during the summer of 2018. *Studying the role of mtUPR in synaptic remodeling of C. elegans.* Served as research mentor.

Monika Rettler '18 Research internship during the summer of 2015, summer of 2017, and spring 2017. *Examination of influence of integrin conformational states (e.g. activation state) on axonal patterning and synapse formation.* Served as mentor and chair of Honors research thesis.

Alexis Levine '18 Completed honors research conducted at Harvard University. *Studying head diameter as a potential indicator of seizure activity in young children with TLS.* Served as on-campus mentor for Honors Program.

Nicholas Villani'18 Conducted research internship during spring of 2018 as BIO490. *Understanding the role of integrin ligands in spine-like projection (SLP) development.* Served as research mentor.

Joselyne Alvarez'19 Conducted research internship during spring of 2018 as BIO490. *Understanding brain development through worms.* Served as research mentor.

Liz Diloreto '17 Conducted research at UMMS in Dr. Zitzewitz's lab at UMMS. *Studying protein folding of matrin-3 and its impact on ALS.* Served as on-campus mentor for Honors Program.

Michaela Temple '17 Research internship during the summer of 2015 and fall of 2015 at Assumption College. *Examination of influence of integrin conformational states on synaptic patterning*. Served as research mentor.

Rachel Avard '17. Research internship during the summer of 2015, fall of 2015 and Spring 2016 at Assumption College. *Examination of affects of integrin conformational states (e.g. integrin inactivation state) on axonal patterning and cell death.* Served as research mentor.

Cassie Lincoln'15. Completed research internship during summer of 2014 and spring of 2015 at the University of Massachusetts Medical School, Department of Neurobiology and Assumption College. *Creating transgenic worms to study integrin expression and activation in vivo.* Served as research mentor.

Mary Gonring '15 Completed research internship during spring of 2015 at Assumption College as BIO490. *Examination of effects of integrin inactivation on axonal patterning.* Served as research mentor.

Priya Ahluwalia '15 Completed research internship during spring of 2015 at Assumption College as BIO490. *Does the ina-1gene work cell autonomously in GABAergic neuronal patterning?* Served as research mentor.

Natalie Schmitt'15 Literature based research for Honors program. *From Lab Benches to Hospitals: Investigating the Causes and Treatment Methods of ALS.* Served as mentor and chair of Honors research thesis.

Devyn Oliver'14. Research internship in summer of 2013 and fall of 2013 at the University of Massachusetts Medical School, Department of Neurobiology. *Impact of integrins on axon guidance in C. elegans.* Served as research mentor.

Chandler Erwin'14 and **Devyn Oliver** '14. Research internship in summer 2012. *An investigation of the effects of netrin upon integrin activation in Neuro2A cells.* Served as research mentor. *Devyn is listed twice because she was involved in two distinct projects.

Jenna Garozzo '13. Research internship in summers of 2011 and 2012 and BIO490 in fall of 2012. *Using RNAi to determine if the netrin receptor DCC is involved in netrin-mediated integrin activation*. Earned authorship on publication in *Brain Research*. Served as research mentor and honors thesis chair.

Zachary DeLoughery '12. Research internship in summer of 2011 and continued research through BIO490 in the Spring of 2012. *Determining an effective protocol for effective use of RNAi to knockdown protein expression in Neuro2A cells.* Earned authorship on publication in *Brain Research*. Served as research mentor and honors thesis chair.

Sarah Powell '12. Research internship in the summer of 2011 and research through BIO490 in the spring of 2012. *Using quantitative immunocytochemistry to determine the effect of netrin upon integrin activation in chick sensory neurons.* Earned authorship on publication in *JoVE*. Served as research mentor.

Amrit Vinod '13. Summer of 2011. Worked with Sarah Powell '12 on the project with the title: *Using quantitative immunocytochemistry to determine the effect of netrin upon integrin activation in chick sensory neurons.* Summer of 2012. Co-mentored Amrit Vinod with Dr. Cobie Davie. Project title: Bioactivity of Moschamine. Honors Thesis Project. Earned authorship on publication in *JoVE*.

Taylor Parent '12. Research through INT306 in the spring of 2011. Served as mentor during student's internship with orthopedic surgeon, Dr. Busconi at the University of Massachusetts Medical School. Met weekly to discuss her interactions with doctors and patients.

Douglas Reilly '11. Science research through BIO490 in spring of 2009 and research internship in summer of 2009. *Comparing protein expression of three cell lines with primary sensory neurons.*

Jaqueline Paisner '10. Internship through INT300 in the spring of 2009. Served as mentor during student internship with Dr. Bissan at Chesire Dental Associates.

Carryne Clements'10. Research internship in summer of 2008. *Using quantitative immunocytochemistry to characterize activated integrin levels in primary sensory neurons*

Victoria Duke '10. Research internship in summer of 2008. *Using co-immunopreciptations to determine cell surface levels of integrins of neurons on various substrates*.

SERVICE TO ASSUMPTION COLLEGE

Director of Center for Neuroscience……..….2018-present

Worked collaboratively across several departments to design an interdisciplinary Neuroscience Major with a Cellular Path. Major was successfully implemented Fall 2018……2018

Member of Advisory Board for Center of Teaching Excellence…….. 2017-present

Member of Augustine Scholarship Selection Committee……..2016-present

Member of Planning Committee for Undergraduate Symposium……2016-present

Member of Course Innovation Academy within the Center of Teaching Excellence……..2016-17

Mission Statement Committee (developed Mission statement for Core Curriculum)……..……2016

Committee for Students with disabilities……..2015-2017

Innovation Team for New Undergraduate Program Development……2014-15

Core Curriculum Committee 1A (learning objectives and mission)…….....……...……..2012-2013

Student Travel Fund Committee. Helped create process for students to apply for travel funds to present at off-campus professional meetings, continue to select students for travel expenses from a pool of applications……..……..…….2008-2013

Institutional Review Board (IRB). Review applications for research projects that involve human subjects. Approve projects that sufficiently protect human subjects..….....….2011-2013, 2014-15

Standing Committee on General Education (SCOGE). Responsible for evaluating the general education curriculum and assess proposals that suggest to change it…..…….....…..2011-2013

Admissions Committee. Attend Open House Events, meet with perspective students and their parents……..…….2009-12, 14-current

Scholarship Committee. Help students to prepare applications for Fulbright Scholarships, Marshall Scholarships and other competitive awards. ……..…2010-2013, 2014-2018

Served on Tagaste Project. Participated in Mind and Matter Tagaste linkage for first year students. Taught Human Biology linked with three other course……...……2010-12

Served on Search Committee for Psychobiologist tenure track faculty position in Psychology Department. This search was successful……...……...……...……...2008-09

Participated in several Open Houses, Scholars Days, Assumption Day, Majors Fair, Admissions Events and the Undergraduate Research Symposiums……..……..…….....……..2008-present

Advise students……...……...2008-present

SERVICE TO DEPARTMENT OF NATURAL SCIENCES

Search Committee Chairperson for a tenure track Assistant Professor of Biology position in the Department of Natural Sciences. Search is active during the 18/19 academic year…….2018-present

Developed novel course with integrated lab for core curriculum, entitled, "Matters and Mysteries of your Brain"……2017

Served on Search Committee for a tenure track bioinformatics faculty position in the Department of Natural Sciences. This search was successful……...….2015-16

Served on Search Committee for a tenure track anatomy faculty position in the Department of Natural Sciences. This search was successful……...….2011-12

Served on Search Committee for a tenure track microbiology faculty position in the Department of Natural Sciences. This search was successful……...……...……..2009-10

Co-organizer of the Department of Natural Sciences Seminar Series. Worked with Dr. Colby Davie to schedule internal and/or external speakers for each week of the academic school year……...……...…..……....2008-10

Attended Council for Undergraduate Research Meeting in Washington, D.C. per recommendation of the Provost. Shared information about external funding opportunities with colleagues……...…..2009

Worked with Dr. Steve Theroux and Dr. Stuart Cromarty to submit a proposal for a Neuroscience and Behavior Concentration for Biology Majors, proposal was successful……..……...……...2009

Served on Search Committee for a tenure track anatomy faculty position in the Department of Natural Sciences……...……....2008-09

Submitted proposal for novel Principles In Neuroscience Course BIO415, course was approved……..……..... Fall 2009

Serve on Recommendation Committee for Health Professions …..……...….....….2008-present

SERVICE TO THE COMMUNITY

Member of the Western Massachusetts Society for Neuroscience Chapter……...2015-present

"Neurocasenet" Fellow. Selected to serve in a pedagogical-focused community of Professors from across the country who teach neuroscience to undergraduates. One of the goals of Neurocasenet is to provide a forum to write, discuss, share and publish case studies that enhance teaching neuroscience. Annual meetings are held at Emory University that are supplemented by monthly google chat meetings. A second goal to recruit additional neuroscience instructors and provide motivation and guidance to develop, implement and publish additional case studies. ……..…….2017-present

Served as representative from Assumption College in New Case Scholar initiative, led by Dr. Frenzel and Dr. Roesch at Emory University … ……2015-16

Participated in Brain Awareness Week activities by preparing Assumption students to design and execute brain-related lesson plans to second graders at Nelson Place Elementary School, Worcester, MA……..…….....2016, 2010-12

Science Fair Judge, 6th grade level, Nelson Place Elementary School, Worcester……2016

Presented lessons to 2cnd, 3rd and 5th graders regarding the nervous system at Glenwood Elementary School, Rutland, MA……2013-15

Presented a brain lesson to second graders at Naquag Elementary School, Rutland, MA……..……2014

Volunteer Rutland Youth Soccer coach for first and second graders……..2012, 13

Volunteer Religious Education (formerly known as CCD) Teacher for first grade students at Saint Patrick's Church, Rutland, MA…….……..……...……..……...….2010-11

Anatomy lesson presenter at Naguag Elementary School in Rutland, MA……..…..…….2011

Science lesson presenter at Salmon Center for Early Education in Worcester, MA…….…..…….....2009

Brain Awareness Week participant. Taught and interacted with students at Bonneville Elementary School, Salt Lake City, Utah……..……...……...……..2006

Brain Awareness Week participant. Taught and interacted with students at North West Middle School in Utah about neuroscience related topics……...……...……...….2005

Science Fair Judge at Cathedral of the Madeleine Choir School in Salt Lake City, Utah……...2005

Brain Awareness Week participant. Taught lessons about electrical signaling in the brain to elementary students at Uinta Elementary School in Salt Lake City, Utah…….....….2003

Visiting science teacher at Montessori School in Gainesville, Florida. Once a week, I taught a wide range of basic science lessons to elementary students……..……...……..1999

HONORS AND AWARDS

Selected to serve as *Guest Coach* for Assumption College football team. All American Football kicker Cole Tracey '18 asked if I could serve as guest coach for last home game. I attended practices, film study sessions and watched the game from the sidelines with the team after walking on field with team captains for coin toss…….2016

Editor's Top Pick of published articles at JUNE (Journal for Undergraduate Neuroscience Education). 2012. The Editor of JUNE selected my article as the best published manuscript in JUNE during 2012.

International Outstanding Young Investigator Award. 2003-2004.
This award is sponsored by the International Campaign for Cures of Spinal Cord Injury and Paralysis (ICCP). The Award enabled me to work in the prestigious laboratory of Dr. Alan Hall at the University College London in the UK. This award was made possible by my initial nomination by the Paralyzed Veterans of America (PVA), who were allowed to nominate only one candidate from their pool of funded fellows.

Nominated for the Burroughs Wellcome Fund for Postdoctoral Travel by the Intermountain Chapter of Society for Neuroscience. 2002. University of Utah.

First Place Award at Graduate Student Forum in Health Science Division. 1999. College-wide student research competition. University of Florida.

Student Representative for the Department of Neuroscience in a Graduate Student Research Competition. 1999. One of two students selected to represent the Department of Neuroscience in a student research competition within the College of Medicine. University of Florida.

Bryan W. Robinson Fellowship. 1998. Competitive fellowship awarded to selected individuals for clinically relevant research in the field of neuroscience. University of Florida.

Medical Guild Minigrants. 1995. Competitive research award based upon dissertation research. University of Florida.

University of Florida College of Medicine Scholarship Award. 1993-1999.

Dean's List. 1993, 1992. College of William and Mary.

Mortar Board Member. 1993. College of William and Mary. Selected for membership based upon scholarship and community service.