

JASON PELLETTIERI, Ph.D.

Professor of Biology
Keene State College, Keene, NH
Office Phone: 603-358-2380
jpellettieri@keene.edu • www.pellettierilab.com

EDUCATION

Doctor of Philosophy
07/1998 - 08/2004

Johns Hopkins University School of Medicine, Baltimore, MD
Biochemistry, Cellular, and Molecular Biology Program

Bachelor of Arts
09/1990 - 05/1994

Middlebury College, Middlebury, VT
Biology

EXPERIENCE

Professor
08/2010 - present

Keene State College, Keene, NH
Department of Biology
06/2020 - present: Full Professor
08/2021 - 07/2025: Department Chair
08/2015 - 06/2020: Associate Professor
08/2010 - 08/2015: Assistant Professor

Adjunct Professor
08/2009 - 12/2009

Westminster College, Salt Lake City, UT
Department of Biology

Postdoctoral Fellow
10/2004 - 06/2010

University of Utah School of Medicine, Salt Lake City, UT
Department of Neurobiology and Anatomy
Mentor: Alejandro Sánchez Alvarado, Ph.D.
National Academy of Sciences
Research focus: Cell death in planarian regeneration

Doctoral Student
06/1998 - 08/2004

Johns Hopkins University School of Medicine, Baltimore, MD
Department of Molecular Biology and Genetics
Mentor: Geraldine Seydoux, Ph.D.
National Academy of Sciences
Dissertation: *minibrain-kinase-2* and coordinate control of protein degradation at the egg-to-embryo transition in *Caenorhabditis elegans*
Recipient of 2004 Hans Joaquim Prochaska Research Award

Laboratory Technician
01/1997 - 05/1998

Johns Hopkins University School of Medicine, Baltimore, MD
Department of Pediatrics

Laboratory Technician
06/1995 - 01/1997

North American Vaccine, Inc., Beltsville, MD
Department of Quality Control

FELLOWSHIPS

Research Associate
07/2008 - 06/2010

Howard Hughes Medical Institute
Postdoctoral research in Sánchez Alvarado Lab

Postdoctoral Fellow
07/2005 - 06/2008

Jane Coffin Childs Memorial Fund for Medical Research
Postdoctoral research in Sánchez Alvarado Lab

PUBLICATIONS

Woodcock, M. R., Powers, K., Snead, K., and **Pellettieri, J.** 2024. Flatworm transcriptomes reveal widespread parasitism by histophagous ciliates. *Genome Biology and Evolution*. 16(2): evae007

Pittendreigh, M., Powers, K., Vimal Cruz, M., and **Pellettieri, J.** 2023. Quantitative analysis of planarian pigmentation. *Methods in Molecular Biology*. 2680: 253-261

Abel, C., Powers, K., Gurung, G., and **Pellettieri, J.** 2022. Defined diets for freshwater planarians. *Developmental Dynamics*. 251(2):390-402

Kimball, C., Powers, K., Dustin, J., Poirier, V., and **Pellettieri, J.** 2020. The exon junction complex is required for stem and progenitor cell maintenance in planarians. *Developmental Biology*. 457(1):119-127

Pellettieri, J. 2019. Regenerative tissue remodeling in planarians – the mysteries of morphallaxis. *Seminars in Cell and Developmental Biology*. 87:13-21

Stubenhaus, B. and **Pellettieri, J.** 2018. Detection of apoptotic cells in planarians by whole-mount TUNEL. *Methods in Molecular Biology*. 1774: 435-444

He, X., Lindsay-Mosher, N., Li, Y., Molinaro, A., **Pellettieri, J.**, and Pearson, B. 2017. FOX and ETS family transcription factors regulate the pigment cell lineage in planarians. *Development*. 144(24): 4540-4551

Stubenhaus, B., Dustin, J., Neverett, E., Beaudry, M., Nadeau, L., Burk-McCoy, E., He, X., Pearson, B., and **Pellettieri, J.** 2016. Light-induced depigmentation in planarians models the pathophysiology of acute porphyrias. *eLife*. 5:e14175

Featured in *Science*, *Science Daily*, *Biomedical Picture of the Day*, *New Hampshire Public Radio*, *The Keene Sentinel*, *The Concord Monitor*, and *El Periódico* (Barcelona, Spain)

Bender, C., Fitzgerald, P., Tait, S., Llambi, F., McStay, G., Tupper, D., **Pellettieri, J.**, Sánchez Alvarado, A., Salvesen, G., and Green, D. 2012. Mitochondrial pathway of apoptosis is ancestral in metazoans. *P.N.A.S. USA*. 109(13): 4904-4909

Pellettieri, J., Fitzgerald, P., Watanabe, S., Mancuso, J., Green, D., and Sánchez Alvarado, A. 2010. Cell death and tissue remodeling in planarian regeneration. *Developmental Biology*. 338(1): 76-85

Recommended in *Faculty Opinions*; over 400 citations

Pellettieri, J. and Sánchez Alvarado, A. 2007. Cell turnover and adult tissue homeostasis – from humans to planarians. *Annual Reviews in Genetics*. 41: 83-105

Stitzel, M., **Pellettieri, J.**, and Seydoux, G. 2006. The *C. elegans* DYRK kinase MBK-2 marks oocyte proteins for degradation in response to meiotic maturation. *Current Biology*. 16(1): 56-62

Pellettieri, J., Reinke, V., Kim, S., and Seydoux, G. 2003. Coordinate activation of maternal protein degradation during the egg-to-embryo transition in *C. elegans*. *Developmental Cell*. 5(3): 451-462

Pellettieri, J. and Seydoux, G. 2002. Anterior-posterior polarity in *C. elegans* and *Drosophila* – PARallels and differences. *Science*. 298(5600): 1946-1950

Blaisdell, C., **Pellettieri, J.**, Loughlin, C., Chu, S., and Zeitlin, P. 1999. Keratinocyte growth factor stimulates CLC-2 expression in primary fetal rat distal lung epithelial cells. *American Journal of Respiratory Cell and Molecular Biology*. 20(4): 842-847

Undergraduate Author

CURRENT RESEARCH FUNDING

NIH NH-INBRE Pending	Neuropeptide control of stem cell division \$370,698 (\$249,924 direct costs)
--------------------------------	---

PREVIOUS RESEARCH FUNDING

NIH NH-INBRE 09/2024 - 06/2025	Cell fate specification by nonsense-mediated mRNA decay \$54,145 (\$38,999 direct costs)
NIH NH-INBRE 09/2024 - 06/2025	Targeted incentive grants \$26,378 (\$19,000 direct costs)
NIH R15/AREA 09/2021 - 08/2024	Metabolic control of porphyrin biosynthesis by mTOR signaling \$412,148 (\$299,573 direct costs)
NIH U24 04/2022 - 04/2024	UPLC analysis of porphyrin biochemistry in planarians \$9,290 (100% direct costs)
NIH NH-INBRE 05/2018 - 01/2019	Targeted incentive grant \$15,000 (100% direct costs)
NIH R15/AREA 02/2018 - 01/2021	Functional analysis of the NMD pathway in regeneration \$416,179 (\$297,501 direct costs)
NSF RUI 08/2017 - 07/2021	Functional analysis of the exon junction complex in planarians \$474,387 (\$339,206 direct costs)
NIH NH-INBRE 08/2017 - 08/2019	Salary support for research/teaching postdoctoral fellow ~\$75,000 (100% direct costs)
NIH NH-INBRE 02/2016 - 08/2016	Pilot screen for small molecule inhibitors of porphyrin biosynthesis \$32,000 (100% direct costs)
NIH R15/AREA 09/2014 - 12/2016	Analysis of phagocyte function in apoptotic cell excretion \$306,802 (\$226,000 direct costs)
NSF EAGER 08/2014 - 07/2017	Cell excretion, a novel mechanism of cell clearance \$152,546 (\$116,175 direct costs)
NIH NH-INBRE 07/2013 - 12/2014	Light-induced pigment cell apoptosis \$120,192 (\$94,823 direct costs)
NIH NH-INBRE 10/2011 - 09/2012	Molecular mechanisms of regenerative tissue remodeling \$14,973 (100% direct costs)

SELECTED PRESENTATIONS

2025 PhD Student Symposium, University of Zagreb, Zagreb, Croatia: *Invited talk*

2025 European Molecular Biology Laboratory, Heidelberg, Germany: *Invited talk*

2024 European Meeting on Planarian Biology, Platja d' Aro, Spain: *Talk*

2024 NIH National IDeA Symposium (NISBRE), Washington, DC: *Plenary talk*

2024 NIH RI-INBRE Winter Retreat, Smithfield, RI: *Keynote talk and panel discussion*

2023 University of Georgia, Athens, GA: *Invited talk*

SELECTED PRESENTATIONS (continued)

- 2023 NIH NH-INBRE Meeting**, Bretton Woods, NH: *Invited talk*
- 2022 NIH National IDeA Symposium (NISBRE)**, Online: *Invited talk*
- 2022 European Meeting on Planarian Biology**, Sant Feliu de Guixols, Spain: *Talk*
- 2022 Mount Desert Island Biological Laboratory**, Bar Harbor, ME: *Invited talk*
- 2021 SpiraliaBase**, Online: *Invited talk*
- 2019 Southern Maine Community College**, South Portland, ME: *Invited talk*
- 2019 NIH Northeast Regional IDeA Conference**, Bretton Woods, NH: *Talk*
- 2019 NIH NH-INBRE Meeting**, Bretton Woods, NH: *Invited talk*
- 2018 International Symposium of Flatworm Biology**, Alghero, Italy: *Talk*
- 2018 International Planarian Meeting**, Madison, WI: *Talk*
- 2016 Harvard University Museum of Comparative Zoology**, Cambridge, MA: *Invited talk*
- 2016 University of Vermont**, Burlington, VT: *Invited talk*
- 2016 European Meeting on Planarian Biology**, Sant Feliu de Guixols, Spain: *Talk*
- 2016 NIH NH-INBRE Meeting**, Bretton Woods, NH: *Led session on mentoring undergraduates*
- 2016 University of Toronto**, Toronto, Canada: *Invited talk*
- 2016 Gordon Research Conference, Chemistry & Biology of Tetrapyrroles**, Newport, RI: *Poster*
- 2016 Wright State University**, Dayton, OH: *Invited talk*
- 2016 UMass Medical School, Worcester Area Worm Meeting**, Worcester, MA: *Invited talk*
- 2016 College of the Holy Cross**, Worcester, MA: *Invited talk*
- 2016 MIT**, Cambridge, MA: *Panel discussion on faculty careers at PUIs*
- 2015 International Symposium of Flatworm Biology**, Oxford, United Kingdom: *Talk*
- 2015 North American Planarian Meeting**, Chicago, IL: *Talk*
- 2014 16th International Congress on Photobiology**, Córdoba, Argentina: *Talk*
- 2014 Colby-Sawyer College**, New London, NH: *Invited talk*
- 2013 North American Planarian Meeting**, Kansas City, MO: *Talk*
- 2013 Plymouth State University**, Plymouth, NH: *Invited talk*
- 2011 NIH NH-INBRE Meeting**, Whitefield, NH: *Invited talk on mentoring undergraduates*
- 2009 Apoptosis and Cancer Meeting**, Hanover, NH: *Talk (rated scientific highlight)*
- 2008 National Planarian Meeting**, Chicago, IL: *Talk and primary meeting organizer*
- 2007 Jane Coffin Childs Memorial Fund Symposium**, Lakeville, CT: *Poster*
- 2007 Cold Spring Harbor Laboratory Meeting on Cell Death**, Cold Spring Harbor, NY: *Talk*
- 2006 Jane Coffin Childs Memorial Fund Symposium**, Lakeville, CT: *Poster*
- 2004 Santa Cruz Conference on Developmental Biology**, Santa Cruz, CA: *Poster (best poster)*

SELECTED MENTEE RESEARCH AWARDS

Best Poster Award 2022	NIH NH-INBRE Meeting <i>Spatiotemporal analysis of the stem cell response to injury in planarians</i> Emily Cornell du Houx, Ashley Seel, Shannon Berry, and Jason Pellettieri
Best Poster Award 2017	Dartmouth College Big Data in the Life Sciences Symposium <i>An animal model of acute porphyrias</i> Haley Zanga, Leanna Landfair, and Jason Pellettieri
Best Poster Award 2017	NIH NH-INBRE Meeting <i>Nonsense-mediated mRNA decay is required for planarian regeneration</i> Sarai Roby, Samantha Boulanger, and Jason Pellettieri
Fellowship Award 2016	Keene State College Summer Undergraduate Research Fellowship <i>Analysis of the exon junction complex in planarian stem cells</i> Simone McEwan and Jason Pellettieri
Best Poster Award 2013	Dartmouth College Integrative Biology Symposium <i>Light-induced depigmentation in <i>Schmidtea mediterranea</i></i> Brad Stubenhaus and Jason Pellettieri
Fellowship Award 2011	Keene State College Summer Undergraduate Research Fellowship <i>Genetic analysis of stem cell-mediated regeneration in planarians</i> Amber Poirier and Jason Pellettieri

SELECTED LAB ALUMNI (over 100 total)

Ryan Woodcock, Ph.D. Postdoc	Trocaire College , Buffalo, NY Assistant Professor of Biology
Emily Cornell du Houx Class of 2023	Dartmouth College , Hanover, NH Ph.D. Student, Walker Lab
Semon Randall, Pharm.D. Class of 2021	MCPHS , Worcester, MA Doctor of Pharmacy
Brian Stevens Class of 2020	Northwestern University , Evanston, IL Ph.D. Student, Petersen Lab
Haley Zanga Class of 2018	Loyola University Chicago , Chicago, IL Medical Student
Casey Machamer, MBA Class of 2017	Viridian Therapeutics , Waltham, MA Associate Director of External Manufacturing
Megan Beaudry, Ph.D. Class of 2016	University of Georgia College of Public Health , Athens, GA Doctor of Philosophy, Environmental Health Science
Maggie Kelly, D.V.M. Class of 2015	Purdue University College of Veterinary Medicine , West Lafayette, IN Doctor of Veterinary Medicine
Brad Stubenhaus, M.S. Class of 2014	Johns Hopkins University School of Medicine , Baltimore, MD Master of Science, Molecular Biology
Brett Murray, M.D. Class of 2013	Boston University , Boston, MA Doctor of Medicine
Sarah Anderson, Ph.D. Class of 2013	UMass Medical School , Worcester, MA Doctor of Philosophy, Biomedical Sciences

CLASSROOM TEACHING EXPERIENCE

Cells and Molecules

INBIO-110

First-year core course

Includes original research project in which students investigate growth of *Tetrahymena* (see Woodcock et al., [Genome Biology & Evolution](#), 2024)

Cell Biology

BIO-312

Second-year core course

Includes original research project in which students screen for effects of small molecules on rates of stem cell division in planarians

Biochemistry

BIO-375

Upper-level elective (team-taught)

Includes original research project in which students investigate effects of dietary or environmental variables on porphyrin biosynthesis in planarians

Developmental Biology

BIO-478

Upper-level elective

Includes semester-long research project in which students use bioinformatics and molecular biology approaches to screen for novel regeneration genes in planarians (see Kimball et al., [Developmental Biology](#), 2020)

Senior Seminar

BIO-495

Capstone course for biology majors

Focus on career planning, networking with recent departmental alumni, and a primary literature review in an area of each student's choosing

Stem Cells

INBIO-301

General education course designed for non-science majors

Focus on medical ethics and societal impacts of biomedical research; includes original student research projects on planarian regeneration (see Stubenhaus et al., [eLife](#), 2016)

SCIENCE COMMUNICATION & OUTREACH

Mentor

2022 - present

Classroom projects for New Hampshire middle and high schools

Provide planarians and technical support for middle and high school teachers developing hands-on activities for their science classes

Instructor

2021 - present

Tech Camp, University of New Hampshire

Teach middle and high school students and teachers about stem cells and regeneration in annual two-week course funded by NIH SEPA grant

Instructor

2013 - present

Science outreach project, Monadnock Regional High School

Lead annual research experience in which honors biology students explore the effects of environmental variables on planarian regeneration

Instructor

2022, 2024, 2026

Short course in planarian regeneration, MDI Biological Laboratory

Teach core concepts in molecular biology, stem cells, and regeneration to students from Southern Maine Community College with NIH Maine-INBRE funding

Writer

2023

[Addgene blog](#)

Guest blog post on course-based undergraduate research experiences

Creator

2017

[Lab website](#)

Overview of grant-funded research projects geared toward undergraduate students and members of the general public

Creator

2012 - 2015

[Online Developmental Biology](#)

Video lectures on selected topics in developmental biology

SELECTED PROFESSIONAL SERVICE

Principal Investigator 2023 - present	NIH NH-INBRE Research Support and Training Grant Manage institutional award supporting Keene State College faculty and students conducting biomedical research
External Consultant 2022 - present	NIH Rhode Island-INBRE External mentoring consultant for RI-INBRE-funded faculty
Reviewer 2020 - present	NIH Rhode Island-INBRE Panel review of grant applications
Reviewer 2012 - present	Over 20 journals, including <i>Cell Reports</i>, <i>Development</i>, <i>Developmental Biology</i>, <i>eLife</i>, and <i>Stem Cell Reports</i> Ad hoc peer review of primary research articles
Reviewer 2012 - present	National Science Foundation, Integrative Organismal Systems Ad hoc peer review of grant applications
External Evaluator 2016	University of Toronto, Department of Molecular Genetics Written review of Ph.D. thesis and oral examiner for thesis defense
Reviewer 2015	National Science Foundation, Integrative Organismal Systems Panel review of grant applications, Developmental Systems Cluster

SELECTED INSTITUTIONAL SERVICE

Mentor 2018 - present	NIH NH-INBRE Provide institutional mentorship for faculty funded by NH-INBRE
Chair 2021 - 2025	Department of Biology Led curriculum reform and assessment, faculty and staff searches, mentoring and evaluation of faculty and staff, course scheduling, and student advising; managed departmental budget and equipment acquisition; advised student honor society group
Faculty Coordinator 2015 - 2017	Center for Creative Inquiry Founding member of center providing internal funding and other support for undergraduate research, scholarship, and creative endeavors
Member 2014 - 2015	Business Liaison Committee Helped to organize scholarship program sponsored by NH businesses and seminar series on careers in regional technology industries
Member 2012 - 2013	Undergraduate Scholarly Activity Committee Recommended institutional measures for expanding faculty and student involvement in research, scholarship, and creative endeavors
Member 2011 - 2013	Program for Undergraduate Research Experiences Committee Organized program devoted to increasing the number of 1 st - and 2 nd -year students participating in research and scholarship experiences