John Archie Pollock
Professor

Department of Biological Sciences
Duquesne University
222 Mellon Hall
Pittsburgh, PA 15282
Phone: 412-855-4043
pollock@duq.edu
http://www.duq.edu/academics/faculty/john-archie-pollock
http://www.duq.edu/pain
http://sepa.duq.edu
http://www.sepa.duq.edu/darwin/education.shtml
www.ScientasticTV.com

I. PROFESSIONAL PREPARATION AND EXPERIENCE

A. EDUCATION

Post Doctoral Training, California Institute of Technology 1984 - 1989
Studies of molecular neurogenetics of the developing eye and brain.
Professor Seymour Benzer, mentor.

Ph.D. Biophysics, Syracuse University 1984
Ph.D. Thesis: "Biochemical Analysis of Flavoproteins from *Phycomyces Sporangiophores* as Blue Light Receptors."
Professor Edward Lipson, mentor.

M.S. Physics, Syracuse University 1983

B.S. Physics (honors) and second major in Philosophy, Syracuse University 1978

Advanced Courses:

August 2000	Workshop on Luminx Bead array DNA expression profiling. Luminx Corp. Austin TX.
October 1999	Society for Neuroscience Course in DNA Microarrays: The New Frontier in Gene Discovery and Gene Expression Analysis.
November 1988	Society for Neuroscience Short Course: In Situ Hybridization and Related Techniques to Study Cell-Specific Gene Expression in Nerves.
August 1987	Workshop on High Voltage Electron Microscopy in Neurobiology, NIH National Facility Laboratory for High Voltage Electron Microscopy, University of Colorado at Boulder.
June - July 1984	Neurobiology of Drosophila – Summer Course. Cold Spring Harbor Laboratory, Cold Spring Harbor, New York.

B. WORK HISTORY

Current Academic Appointment

2014-present
Professor
Department of Biological Sciences, Duquesne University
Director of the PARTNERSHIP IN EDUCATION
Co-Director of the Duquesne University CHRONIC PAIN RESEARCH CONSORTIUM

2001-2014
Associate Professor of Biology
Department of Biological Sciences, Duquesne University
Director of the Partnership in Education
Co-Director of the Duquesne University Chronic Pain Research Consortium

Additional Appointments

2009-present
Affiliated Faculty
McGowan Institute for Regenerative Medicine, University of Pittsburgh and University of Pittsburgh Medical Center

2007-present
Visiting professor
Entertainment Technology Center, jointly managed by the College of Fine Arts and School of Computer Science, Carnegie Mellon University

Prior Academic Appointments

2009-2010
Director of graduate programs, Department of Biological Sciences, Duquesne University

2005-2007
Principal Scientist
Pittsburgh Tissue Engineering Initiative, Inc.

2000-2001
Director of graduate programs, Department of Biological Sciences, Carnegie Mellon University

1997 – 2003
Visiting scholar, University of Melbourne, Melbourne Australia

1995-2010
Research fellow of the STUDIO for Creative Inquiry, College of Fine Arts, Carnegie Mellon University (a visiting faculty appointment)

1995-2000
Associate professor, Department of Biological Sciences, Carnegie Mellon University

1991
Visiting scholar, San Diego Microscopy and Imaging Resource, University of San Diego

1989-1995
Assistant professor, Department of Biological Sciences, Carnegie Mellon University

1989-1990	Visiting scholar, High Voltage Electron Microscope, University of Colorado, Boulder
1987-1989	Research faculty – Division of Biology, California Institute of Technology (Nontenure-track funded by Markey Foundation grant. Co-PIs Pollock and Benzer)
1984-1987	Postdoctoral research fellow, Division of Biology, California Institute of Technology; Mentor Seymour Benzer (funded by Proctor and Gamble postdoctoral award and NIH postdoctoral training grant)
1978-1984	Graduate research assistant in biophysics, Physics Department, Syracuse University; Professor Edward Lipson
1978-1984	Teaching assistant, Physics Department, Syracuse University. Lecturer for general physics, astronomy, physics for engineers, optics and light. Private tutor for physics, calculus, analytic geometry, and reading
1977-1978	Undergraduate research, Physics Department, Syracuse University. Authored a seven-week laboratory course in integrated circuits, logic, op-amps and electronics; Professor Henry Levinstein

C. MEMBERSHIP IN PROFESSIONAL ORGANIZATIONS

American Association for the Advancement of Science (AAAS)
American Pain Society
Microscopy Society of America
New York Academy of Sciences
Society for Neuroscience

D. Honors and Awards.

2014	Duquesne University Inaugural Provost's Interdisciplinary Research Consortia Award – John A. Pollock & Jelena Janjic Co-recipients.
2013	Duquesne University President's Award for Excellence in Teaching, in recognition of outstanding instruction provided.
2013	Bayer School of Natural and Environmental Sciences Award for Excellence in Teaching, in recognition of outstanding instruction provided.
2011	National Science Foundation/Science Magazine International Science & Engineering Visualization Challenge. Top Ten Finalist for Informational Poster and Graphics for the Spiral of Life Evolution of Plants & Co-Evolution of Animals. Concept – John A. Pollock & Art – Joana Ricou.
2011	Carnegie Science Award, Special Achievement in Education. Awarded in recognition of work in science education -- which includes several film projects that make science come alive for young people and the general public. Also recognized for leading a yearlong citywide partnership marking Charles Darwin's 200th birthday in 2009 and as creator and co-executive producer of a new family television show, "*Scientastic*!" which aired as a pilot episode on WQED Pittsburgh.

2010	Duquesne University Office of Research Hall of Fame Award for outstanding research endeavors based on consistency in sponsored research funding, research impact and funding amounts with over $2,400,000 raised for projects at Duquesne University from 2004-2010.
2008 - present	Honorary Editor, *Risk Management and Healthcare Policy*, Dove Medical Press
2008	Darwin Evolution/Revolution Award, NIH was provided in recognition of the significant and focused effort of producing and delivering educational resources on the fundamental principles of evolution.
2001	Grass Foundation Traveling Lecturer for the Society for Neuroscience.
1997	Visiting scholar award, University of Melbourne, Melbourne Australia (Awarded by Deputy Vice-Chancellor of Academic Affairs, C.B. Schedvin)
1991-1994	Basil O'Connor Starter Scholar Research Award and Continuation Award, March of Dimes Birth Defects Foundation
1992-1994	National Institutes of Health (National Eye Institute), James A. Shannon Director's Award (EY09093); Principal investigator: John A. Pollock
1991	Visiting scholar fellowship for San Diego Microscopy and Imaging Resource, University of California at San Diego School of Medicine
1990 1998 2008	Samuel and Emma Winters Foundation research award
1988-1989	High Voltage EM scholar fellowship, NIH National Facility Laboratory for HVEM, University of Colorado, Boulder
1984-1987	National Institutes of Health -NEI postdoctoral fellowship (EY05836), Caltech (mentor Seymour Benzer)
1973	Boy Scouts of America Eagle Award

II. TEACHING AT DUQUESNE UNIVERSITY SINCE AUTUMN 2001

A. GRADUATE COURSES TAUGHT (number of times taught)

Course #	Title	
BIOL 513	Developmental Biology	(4)
BIOL 571	Lab II: Cell and Molecular Biology	(1)
BIOL 572	Lab III: Cell & Systems Physiology	(9)
BIOL 575	Neurobiology	(11)
BIOL 576	Lab VI: Microscopy	(2)
BIOL 646	Advanced Topics - Signaling	(1)
BIOL 646	Advanced Topics - Pain	(1)
BIOL 646	Advanced Topics – Central Dogma & Synthetic Genomes	(1)
BIOL 667	Advanced Molecular Biology	(4)
BIOL 674	Bioethics (1 lecture per year)	(6)
BIOL 690	Department Seminar	(1)

B. UNDERGRADUATE COURSES TAUGHT (number of times taught)

Course #	Title	
CORE 171	Core Science: Biology	(2)
BIOL 250	Genetics (Lecturer & Course coordinator after the death of Dr. Weisberg)	(1)
BIOL 313	Developmental Biology	(4)
MATH 320	Topics in Mathematics Course coordinator - Dr. Stacey Levine Lecture & student resources "Gradient Imaging – Biological Image Analysis."	(3)
BIOL 371	Lab II: Cell and Molecular Biology	(1)
BIOL 372	Lab III: Cell & Systems Physiology	(8)
BIOL 376	Lab VI: Microscopy	(3)
BIOL 398	Undergraduate Research	(15)
BIOL 490	Department Seminar	(1)
BIOL 475	Neurobiology	(11)

BlackBoard certified – used in all courses

C. ACADEMIC ADVISEMENT OR SUPERVISION

1. Dissertation committee chair – Students in my laboratory at Duquesne University

Kiran Vasudeva (Ph.D. anticipated graduation 2015) – Mentor John Pollock

Muzamil Saleem (Ph.D. anticipated graduation 2016) – Mentor John Pollock

Andrea Jacobs (Ph.D. anticipated graduation 2017) – Mentor John Pollock

1a. Dissertation committee co-chair – Students in collaborative research between the University of Melbourne and Duquesne University

Nicole Siddall, PhD October 2003 University of Melbourne, Australia
(Co-Chaired with Dr. Phil Batterham, University of Melbourne)
" Identification of genes that interact with *lozenge* in *Drosophila* eye development"

2. Dissertation committees as a member

Walter Rogers, Ph.D. 2002 Chemistry – Mentor Partha Basu (Chemistry)

Okechukwu Ukairo Ph.D. Duquesne Pharmacy 2005 – Mentor Chris Surratt (Pharmacy)

Rajika Thakar Ph.D. CMU Biology 2005 - Mentor Amy Czink (CMU Biology)

Danielle Johnston, Ph.D. – Mentor Nancy Trun

Jennifer Bennett, Ph.D. – Mentor Joseph McCormick

Srikanth Singamsetty, Ph.D. – Mentor Richard Elinson

Shalini Sethi, Ph.D. 2010 Duquesne Pharmacy – Mentor Paula Witt-Enderby (Pharmacy)

Uma Karadge, Ph.D. anticipated 2012 – Mentor Richard Elinson

Suman Chatterjee, Ph.D. anticipated 2013 - Mentor Richard Elinson

Kiran Rafiq, Ph.D. anticipated 2013 – Mentor Charles Ettensohn (CMU Biology)

Sravan Patel, Ph.D. anticipated 2014 – Mentor Jelena Janjic (Pharmacy)

Apurva Kulkarni, Ph.D. anticipated 2015 – Mentor Lauren O'Donnell (Pharmacy)

Dissertation Examiner – for University of Melbourne, Australia.

Shamimul Alam, Ph.D. 2012 "Expression and function of five ligand-gated chloride channel genes of Drosophila melanogaster." – Mentor Phil Batterham, Department of Genetics, University of Melbourne, Australia

3. Thesis committee chair – Students in my laboratory at Duquesne University
Date of graduation and title of thesis in the Duquesne University Gumberg Library Digital Collections.

Julie Myers, MS 2004 – Mentor John Pollock
The Role of LOZENGE in Drosophila melanogaster Photoreceptor Axon Extension and Synaptogenesis
Forensic scientist – Allegheny County Corner

Shalini Singh, MS 2004 – Mentor John Pollock
Identification of protein interaction between the Drosophila Runx1 transcription factor Lozenge and ETS-1 factor Pointed using site directed mutagenesis and yeast two-hybrid analysis
Ph.D. University of Arkansas, Postdoc LSU

Barbara Nightingale, MS 2006 – Mentor John Pollock
The Influence of Lozenge on *protein tyrosine phosphatase 69D* Expression
M.D. Drexell

Lailla Boumaza, MS 2007 – Mentor John Pollock
Site Directed Mutagenesis of Lozenge: A Yeast Two-hybrid Analysis of Transcription Factor Protein Interaction
(Lailla was diagnosed with breast cancer during the autumn 2005. She took a leave spring 2006, graduated July 2007 and died September 2007.)

Bree Zeyzus, MS 2009 – Mentor John Pollock
TRPV1 mRNA is Differentially Expressed in Different Vertebral Levels of Rat Dorsal Root Ganglia Following Sciatic Nerve Injury
Research scientist University of Miami
Medical School • Ross University School of Medicine

Karl Andersen, MS 2010 – Mentor John Pollock
Exploration of TRPV1 Splice Variant Expression in Rat Dorsal Root Ganglia Following Sciatic Nerve Injury
Medical School • University of New England College of Osteopathic Medicine

4. Master thesis committees as a member at Duquesne University

Karen Venti, M.S. 2002 – Mentor O. Adeyeye

Rebecca Waddell, M.S. 2003 – Mentor John Doctor

Seung Yun Lee, M.S. 2005 – Mentor Rick Elinson

Katie Gallagher M.S. 2006 – Mentor John Doctor

Suman Barua, M.S. – Mentor Kyle Selcer

Stephanie Schubert, M.S. 2006 – Mentor Sarah Woodley

Puneet Anand, M.S. – Mentor Jana Patton-Vogt

Srikanth Singamsetty, M.S. – Mentor Richard Elinson

Jonathan Franks, M.S. – John Stolz

Uma Karadge, M.S. 2007 – Mentor Richard Elinson

5. Academic advisement or supervision at Carnegie Mellon University (1989-2001)

Doctoral degrees

1. Jennifer Rae Crew, PhD August 1995
   "A morphological and developmental analysis of the adult compound eye phenotypes caused by mutations in the *lozenge* locus of *Drosophila melanogaster*"
2. Charles Nichols, PhD July 1997
   "Molecular characterization of the *lozenge* locus of *Drosophila melanogaster*"
3. James McKay, PhD August 1997
   "Identification and characterization of *helmsman*, a gene involved in the development of the embryonic tracheal system and the adult visual system in *Drosophila melanogaster*"
4. Kristina J. Behan, PhD June 2001
   "Double Tiered Interactions between *Lozenge* and Ets factors in *Drosophila*"

Masters degrees

1. Mahalaxshimi Vishnawanathan, MS 1991
2. Patricia Maurides, MFA 1995

Postdoctoral fellow

1. Dr. Olushola Adeyeye, Postdoctoral research associate, 1990-1992

6. Undergraduate researchers mentored at both Carnegie Mellon University and Duquesne University.

Number of students personally mentored by John Pollock and status while in the Pollock group.

STUDENTS IN BASIC SCIENCE				
M.S. Biology earned	Ph.D. Biology earned	Post-doctoral scholar	Undergrad Science Scholar	Pre-college Research Scholar
7	6	1	72	4

STUDENTS IN STEM		
MFA (art) MS (media) earned	Undergrad Art & Multimedia Scholar	M.S. Education earned
2	15	6

Tracking on selected students trained in Pollock's groups at Duquesne University (2001 – present). Some of these students were visiting scholars.

Jeff Clawson DUQ BS 2001
Christine Hardtman, CMU BFA 2002 Senior Designer, ABC News, NY
Erin Minich DUQ BS 2003 Osteopathic Medicine
Rachel Klemens DUQ BS 2003
Julie Meyers DUQ M.S. 2004 Forensic Scientist, Allegheny Medical Examiner's Office
Shalini Singh DUQ M.S. 2004 Ph.D. U. of Arkansas Postdoc St. Jude Children's Research Hospital
Jennifer Hughes CMU BS and BA 2004 MD University of Medicine and Dentistry, NJ
Patrick Donnelly CMU BS and BA 2005 MBA George Washington University
Lindsey Aspden DUQ BS 2005 PITT Ph.D
Christopher Graves CMU BS 2001 - 2005 Ph.D. Columbia Univ
Erin Predis DUQ BS 2005
Rohini Sandesara DUQ BS 2005 Albert Einstein Ph.D
Megan Walker DUQ BS 2005 Physician Assistant

John Holleran DUQ BS 2006 Ph.D. CMU Postdoc Children's
Claire Cardone Slippery Rock U. BS 2006 Cleveland Clinic and Case Western Reserve University
Chelsea McKinney Pitt-Johnstown BS 2006
Catherine Prince DUQ BS 2006 PhD. Epidemiology Univ of Pittsburgh
Michael Gorski DUQ BS 2006
Barbara Nightingale DUQ M.S. 2006 Temple M.D.
Yvonne Costabile DUQ BS 2007
Rebecca Sabol DUQ BS 2007
George Lincoln DUQ BS 2007
Lailla Boumaza DUQ M.S. 2007 Deceased
Aaron Butler CCAC BS 2008
Alexander Ruiz DUQ BS 2009
Samuel Valletta DUQ BS 2008
Molly Bugaile DUQ School of Ed BS 2008 Teacher - Anne Arundel County Public Schools

Brianne Miller DUQ School of Ed BS 2008 Teacher, South Carolina
Takkidine Boumaza DUQ McAnulty Liberal Arts
Maria Stankevich DUQ McAnulty Webmaster at Allegheny County Dept of Health & Human Services
Amelia Possanza (Summer Intern 2008/2009) B.A. Swarthmore 2012
Allison Pogue DUQ BS 2009 DUQ MS Ed 2010 Teacher Editor
Brinley Kantorski DUQ BS 2009 DUQ MS Ed 2010 Curriculum Developer, Carnegie Museums
Bree Zeyzus DUQ M.S. 2009 MD Ross University
Karl Andersen DUQ M.S. 2010 MD Maine
Justin Ver Plank DUQ BS 2011 MD/PhD Buffalo NY
Lorren Kezmoh DUQ BS 2012 Note – started in 2003 while in middle school Ph.D Maryland
Amelia Possanza (Pre-college Scholar)

Kylie LaSota DUQ BS 2010 DUQ MS Ed 2011 Teacher Quaker Valley
Candice Kruth Ph.D. PITT
Thomas Anker DUQ Post Bacc NOVA's College of Osteopathic Medicine
Caroline Kramer DUQ B.S. 2012 Physician Assistant
Ashley Santoris Pre-college
Brandi Daugherty DUQ B.S. Anticipated 2014
Marco Acevedo DUQ B.S. Anticipated 2015
Christelle Saint-Fleur DUQ Post-Bac 2013
Zheng Zhang DUQ M.S Biotech 2014
Devan Rogers DUQ B.S. 2014 DUQ M.S. Ed 2015
Jean Jagiello DUQ Post-Bac 2013 DUQ M.S. Health Management 2014
Muzamil Saleem DUQ Ph.D. Candidate Anticipated 2016
Andrea Jacobs DUQ Ph.D. Candidate Anticipated 2017

D. PUBLICATIONS PERTAINING TO TEACHING ACTIVITIES

Listed here are the productions pertaining to public science education that teaches fundamental principles of science. These pieces are produced both for public consumption, but also for research into how people learn from different digital media platforms. The scholarly peer-reviewed papers on how people learn are listed in Section III Scholarship.

Press on these film and media projects is copied at:

http://sepa.duq.edu/press
http://www.sepa.duq.edu/darwin/press.shtml

FILMS

HOW WE GROW released 2013 Buhl Planetarium- Distributed
John Pollock Producer/Director (co-developed concept, co-wrote script, directed animation, voiceover and sound).

How We Grow is 22 minutes long. A 10-year-old boy named Sammy goes on an imaginary adventure to discover how growth and reproduction are a fundamental part of life. Sammy is set on this quest by a homework assignment and is joined by imaginary friends from around his room including the animals in the wallpaper, the fish in his tank, and a stuffed chicken among others. They teach him about their lives and help him explore the human body. He discovers that life takes many shapes, and that reproduction is both more similar and more different across species than he expected. Included in the movie are six separate immersive biological animations. Starting with bacterial colonies inside Sammy's shoe and ultimately going inside the hippocampus region of the human brain.

MY NEW HEART released 2008 via the Hillman Pediatric Heart Transplant Center, Children's Hospital of Pittsburgh - Distributed
John Pollock Producer/Director (developed concept, co-wrote script, directed animation, voiceover and sound).

My New Heart is a 14-minute animated film to help families and patients to better understand heart transplant. This film offers a way to learn about transplant continuing care through colorful animation that is aimed at helping the patient understand why they need to take extra care of their heart. It includes animations of the body's internal processes including what the immune system is doing and what the medicines are doing. It helps to answer the patient's questions about why they must undergo so many tests? This film was used in the study by Lawrence, Stilley, **Pollock**, Webber, Quivers (2011) ***Progress in Transplantation***, vol. 21, 1, pg 61-66. PMID: 21485944.

OSTEOPOROSIS: CAUSE. EFFECTS. TREATMENT OPTIONS released 2007
John Pollock Producer/Director (developed concept, co-wrote script, directed animation, voiceover and sound).

Osteoporosis is a 12-minute animated film to help families and patients to better understand the causes and effects of osteoporosis. It also explores treatment options including healthy diet and exercise.

OUR CELLS, OUR SELVES released 2007 Buhl Planetarium- Distributed
John Pollock Producer/Director (co-developed concept, co-wrote script, directed animation, voice over and sound).

Our Cells, Our Selves is a 22-minute film that looks into the basis of Type I Diabetes (Juvenile Diabetes). It starts with a bedtime story for 7-year old Sylvie who is discovering the wonders of the immune system. Sylvie's mother tells a story that takes us back hundreds of millions of years to explore Life's balance of consuming food for energy while avoiding dangerous pathogens. The show looks at the balance between access to food and the immune protection that we need from pathogens that we might eat. These defenses evolved to become aspects of the complex adaptive immune system that we have in humans. As we explore the human immune system, we learn that under rare circumstances, things can go wrong, leading to auto-immune diseases like Type 1 Juvenile Diabetes. The story closes with a look at the future of regenerative medicine and the potential for cures. The show has been used as a family event for the local chapter of the Juvenile Diabetes Research Foundation, with screenings to over 700 people in a day. Curriculum resources are available at www.sepa.duq.edu/education.

THE LABORATORY ROBOT SCIENCE FAIR – WITH DR. ALLEVABLE released 2005
John Pollock Producer/Director (co-developed concept, co-wrote script, directed animation, voice over and sound).

Laboratory Robot Science Fair is an 18-minute film that starts with the premise that the animated character Regenerbot is preparing a science fair presentation on regenerative medicine. The film explores bone, cardiac and central nervous system function. One aspect of the film delves into Parkinson's Disease and it was used for a premier event for the local Pittsburgh Chapter of the Parkinson Foundation raising a record-breaking amount of contributions. Curriculum resources are available at www.sepa.duq.edu/education.

BONE ENGINEERING WITH DR ALLEVABLE released 2005
John Pollock Producer/Director (co-developed concept, co-wrote script, directed animation, voice over and sound).

Bone Engineering with Dr. Allevable is a 5-minute short film. Here I produced a film in a new format to explore the audience response to short, impact films on single topics. A short film can be utilized in a broader range of venues beyond the science center including classrooms, web casts and other devices. Curriculum resources are available at www.sepa.duq.edu/education.

DR ALLEVABLE'S UNBELIEVABLE LABORATORY released 2005
John Pollock Producer/Director (co-developed concept, co-wrote script, directed animation, voice over and sound).

Dr. Allevable's Unbelievable Laboratory, with a runtime of 25 minutes, is a re-rendering of *Tissue Engineering for Life 2nd edition*. These two films were used in the study Wilson, Gonzalez, **Pollock** (2012) ***Tissue Engineering (Part A),*** vol 18, no. 5 576-586, where I compare two films with the same content and the same basic script but produced with two different styles. "*Dr. Allevable's Unbelievable Laboratory"* uses animated characters Dr. Emily Allevable and her sidekick cartoon robot, Regenerbot to tell the story of bone and heart tissue engineering. The film discussed the concepts of bone and cardiac tissue engineering. Key points included the importance of matrix and the use of 'young cells' to aid in the healing process. The young cells are autologous bone marrow derived stem cells. The formula of describing normal tissue, tissue affected by trauma and disease, normal medical treatments and the potential for tissue engineering are used. Curriculum resources are available at www.sepa.duq.edu/education.

TISSUE ENGINEERING FOR LIFE, 2ND EDITION released 2004
John Pollock Producer/Director (co-developed concept, co-wrote script, directed animation, voice over and sound).

Tissue Engineering for Life, 2nd Edition was designed to follow the first film, *Tissue Engineering for Life 2003*. It discusses the concepts of both bone and cardiac tissue engineering. Key points included the importance of matrix and the use of 'young cells' to aid in the healing process. The young cells are autologous bone marrow derived stem cells. The formula of describing normal tissue, tissue affected by trauma and disease, normal medical treatments and the potential for tissue engineering is used. A supporting web page was also produced. Audience testing with the 1st and 2nd edition films indicated that children could potentially learn more with a modification of the format, which led to the adoption of animated characters. This film was used in the study Wilson, Gonzalez, **Pollock** (2012) ***Tissue Engineering (Part A),*** vol 18, no. 5 576-586. Curriculum resources are available at www.sepa.duq.edu/education.

TISSUE ENGINEERING FOR LIFE released 2003
John Pollock Producer/Director (co-developed concept, co-wrote script, directed animation, voice over and sound).

Tissue Engineering for Life was designed as the first in a series of films on tissue engineering. The 22-minute film introduces the concepts of tissue engineering for broken bone; a topic chosen for its accessibility to children. As with the entire series of five films, four key points are discussed for each tissue, namely; (1) normal biology of the tissue, (2) the consequence of disease or trauma, (3) current conventional medical therapy, and (4) the potential of tissue engineering. Curriculum resources are available at www.sepa.duq.edu/education.

GRAY MATTERS: THE BRAIN MOVIE released 2000, re-released 2003
John Pollock co-Director (co-developed concept, co-wrote script, directed specific animation)
(Preview available at: http://vimeo.com/26578071)

Tracking the Human Brain produced the show titled *Gray Matters: The Brain Movie*. This was an interdisciplinary project utilizing the planetarium for a new approach to science education. A collaborative effort that involved scientists, artists and educators from the Center for the Neural Basis of Cognition (joint between the University of Pittsburgh and Carnegie Melon University) and the STUDIO for Creative Inquiry and Pittsburgh's Henry Buhl, Jr. Planetarium of the Carnegie Science Center, among others. The 40-minute interactive multimedia presentation communicates scientific information about the human brain. Brain functions are emphasized over specific facts or terminology by focusing on a limited but fundamental set of principles: signal transmission by nerve cells, integration and cooperation of processing, and specialization of function. To convey the excitement and importance of brain research the production also utilizes engaging interactive demonstrations of cognitive phenomena such as visual and auditory illusions, captivating displays of functioning neurons, and brain activity of human subjects performing a cognitive task. The Brain Show premiered at Buhl Planetarium during Brain Awareness Week, 2000. Ancillary educational materials, including a planetarium show package and a teacher's resource guide were also developed. I co-developed the show concept, co-wrote the pre-proposal to the NSF, co-wrote the main proposal to the NSF, co-wrote the script, directed the brain scale segment, directed the visual pathway segment and served as editing director for the 2003 re-edit. The re-edit was done at my expense in response to a formative evaluation performed by Inverness Associates and resulted in a substantially shortened, non-interactive film that is currently in distribution. Curriculum resources are available at www.sepa.duq.edu/education.

JOURNEY INTO THE LIVING CELL released 1996
(Reviewed by CNN: http://vimeo.com/6182955)
John Pollock science advisor.

Journey Into the Living Cell, a 25-minute film, was an interdisciplinary project utilizing the planetarium for a new approach to science education. A major collaborative effort, it involved scientists, artists and educators from Carnegie Mellon's Center for Light Microscope Imaging and Biotechnology and STUDIO for Creative Inquiry and Pittsburgh's Henry Buhl, Jr., Planetarium of the Carnegie Science Center. A team of Pittsburgh based artists, scientists and educators collected visual images of cell biological research from many basic scientists across the country. These real science images were used in the production. The multimedia presentation on cell biology incorporated cutting-edge group-interactive technology, which premiered at Buhl Planetarium in December 1995, and continues to run. Ancillary educational materials, including a planetarium show package and a teacher resource guide were also developed. Reviewed by the *Wall Street Journal* and *CNN,* it is not surprising that over 60 copies of the show have been distributed across the USA and to locations as far as Japan, Guam, Denmark and Hawaii. It has been estimated by the Carnegie Science Center that millions of people have seen *Journey into the Living Cell*.

BROADCAST TELEVISION

***SCIENTASTIC!* LAUNCH SPECIAL "ARE YOU SLEEPING, DORMEZ VOUS?"** released 2014 with national distribution on PBS-affiliated stations by American Public Television to over 100 stations (www.ScientasticTV.com).

John Pollock Creator/Co-Executive Producer (co-wrote script).

SCIENTASTIC! "Sleep" is a 60-minute mini-movie for public television/PBS affiliated television stations. Designed for kids, this episode explores the challenges and pitfalls of not getting enough sleep. With a mix of fun, exploration and learning, our characters find real experts to talk with and ask questions of. The show is supported with a video-blog website, with aligned curriculum and other resources. Additional learning Apps and eBooks are also in production.

***SCIENTASTIC!* PILOT EPISODE "STICKS & STONES"** released 2010 WQED•Pittsburgh's PBS station

John Pollock Creator/Co-Executive Producer (co-wrote script).

SCIENTASTIC! "Sticks & Stones" is a 30-minute television show for and about kids in late elementary through middle school. The show is supported with a video-blog website, with aligned curriculum and other resources. The companion learning App *POWERS OF MINUS TEN – BONE* has been downloaded over 600,000 times. The *SCIENTASTIC!* TV show, web resource (www.ScientasticTV.com) and App are components of a current study that is being conceived of and directed by John Pollock, which explores how people learn from multiple media resources. This study is being supported by an NSF SBIR with Planet Earth Television and is being conducted in collaboration with Dr. Saul Rockman and others.

INTERACTIVE MEDIA, VIDEO GAMES, LEARNING RESOURCES

POWERS OF MINUS TEN – BONE (Pollock – Conceptualization and Producer) released January 2013. A companion App for iPhone/iPad/Droid and web at: http://powersofminusten.com/bone.html. The highly successful App has been downloaded over 600,000 times and was recognized as 'New & Noteworthy' by Apple and featured in the Apple iPad television advertisement www.apple.com/ipad/videos/#tv-ads-alive.

***SCIENTASTIC!* web Resource** (Pollock-Creator/Executive Producer) A companion web resources for the television show with video-blog, learning games and teacher curriculum www.ScientasticTV.com.

How Bobby the Rat Catcher Changed the World – Short stories for children – a play (Pollock-Producer/director/writer) premièred 2009 Children's Museum of Pittsburgh, and local schools through 2009/2010. Performed by Gale McNeeley.

Spiral of Life Murals Series (Pollock-Producer/director) released 2009/2010
Installed Carnegie Science Center (still installed), Phipps Conservatory & Botanical Gardens, Pittsburgh Zoo & PPG Aquarium (still installed), National Aviary (still installed), Children's Museum of Pittsburgh. This project was part of a study that was reported in Ricou et al (2011) ***International Journal for Cross-Disciplinary Subjects in Education (IJCDSE)***, Volume 2, Issue 4, 554 - 557. Other aspects of the work were reported by Ricou & Pollock (2012) ***Leonardo*** Volume 45, No. 1, 18-25.

Horse Feet – an example of evolution (Pollock-Producer/director) released 2009
Hands-on exhibit Carnegie Museum of Natural History. Distributed to schools.

Ask Darwin – Synthetic Darwin Interview (Pollock-Producer/Director, Script by Dave Lampe) released 2009
Permanent exhibition at the Carnegie Science Center, Pittsburgh, PA. Temporary exhibition 2009/2010 at the American Philosophical Society Museum, Philadelphia, PA. Installed in the NIH Visitor's Center, Bethesda , MD. Distributed to schools.

Healthy Heart – *A comic-book and DVD animated video to teach pediatric heart transplant patients about their own health care*. (Pollock-Producer/director) released 2008 for Children's Hospital of Pittsburgh, Hillman Center for Pediatric Transplantation.

You Make Me Sick! – The board game (Pollock-Producer/director) released 2007 – Distributed and available at http://sepa.duq.edu/education/modules-immunology.html.

Poor Benny – the immunology game (Pollock-Producer/director) *released* 2007 – Distributed to schools. Distributed and available at http://sepa.duq.edu/games/index.html.

Dr. Allevable's Unbelievable Lab – Video Games (Pollock-Producer/director) released 2007 – Distributed to schools.
Installed in Exhibit – "If a Starfish can grow a new arm, why can't I," 2009 Carnegie Science Center and a traveling exhibit (http://www.ptei.org/interior.php?pageID=252).

Immunologee – the Video Games (Pollock-Producer/director) released 2007 for testing.

Partnership in Education – Web resource, digital library and learning tools and curriculum www.sepa.duq.edu. Released 2006 – updated annually. (note – the web pages still receive over 5,000 new visits every month)

Curriculum Resources (paired with Teacher Professional Development and available from http://sepa.duq.edu/education/index.html)

Heart Module & Webquest (ESL) – Teacher's Guide/Student workbook to PA & National Standards (2007)
Bone Module & Webquest (ESL) – Teacher's Guide/Student workbook to PA & National Standards (2007)
Spinal Cord Module & Webquest (ESL) – Teacher's Guide/Student workbook to PA & National Standards (2007)
Dr. Allevable Movie Guide – Teacher's Guide/Student workbook to PA & National Standards
Heart Outdoors – Teacher's Guide/Student workbook to PA & National Standards (2008)
Extracellular Matrix Extravaganza – Teacher's Guide/Student workbook to PA & National Standards (2008)
Immune Module – Teacher's Guide/Student workbook to PA & National Standards (2008)
Immunology/"Our Cells…" Movie Guide & Webquest – Teacher's Guide/Student workbook to PA & National Standards (2008)
B Cell Matchmaker, Lesson Plan & Board-game– Teacher's Guide/Student workbook to PA & National Standards (2008)
You Make Me Sick, Lesson Plan & Board-game– Teacher's Guide/Student workbook to PA & National Standards (2008)

Darwin2009/A Class System – Teacher's Guide/Student workbook to PA & National Standards (2009)
Darwin2009/What would I do without you – Teacher's Guide/Student workbook to PA & National Standards (2009)
Darwin2009/The Darwin Synthetic Interview & Webquest – Teacher's Guide/Student workbook to PA & National Standards (2009) **– Adopted by Pittsburgh Public School** among others.
Darwin2009/Evolution of Metabolism Puzzle Race – Teacher's Guide/Student workbook to PA & National Standards (2009)
Darwin2009/Feathered Families – Teacher's Guide/Student workbook to PA & National Standards (2009)
Darwin2009/Unique Beak Physique – Teacher's Guide/Student workbook to PA & National Standards (2009)
Darwin2009/Family Trees – Teacher's Guide/Student workbook to PA & National Standards
Darwin2009/Veggie Variation – Teacher's Guide/Student workbook to PA & National Standards (2009)
Darwin2009/Mystery Seed – Teacher's Guide/Student workbook to PA & National Standards
Darwin2009/Horse Evolution – Teacher's Guide/Student workbook to PA & National Standards (2009) **– Adopted by Pittsburgh Public School**
Darwin2009/A Reading List – Developed in partnership with the Carnegie Libraries of Pittsburgh (2009)
Darwin2009/Alignment with Texas Teaching Standards – Teacher's Guide (2009)
DNA Day 2009 – Thymine Dimers
DNA Day 2009 – DNA & Phylogenetic Trees
DNA Day 2009 – Inheritance
DNA Day 2009 – Junk DNA
DNA Day 2009 – DNA Bracelets
Scientastic! 2010 & 2012 – A set of activities exploring bone biology and bone health (www.ScientasticTV.com).
How We Grow 2013 – Lesson on reproduction, bone grown, and brain growth.

E. GRANTS/FUNDING RECEIVED FOR TEACHING ACTIVITIES, EDUCATIONAL OUTREACH AND STUDIES ON HOW PEOPLE LEARN.

Agency	Title	Years	Amount	Role
NIH-NCRR R25	Partnership in Neuroscience Education	2014-2019	$1,277,000	PI Pollock
McCune Foundation	*Scientastic!* Television series and related digital media	2012-2015	$250,000	PI Pollock
The Pittsburgh Foundation	*Scientastic!* A Health Literacy Television Show and Related Education Tools.	2010-2011	$55,000	PI Pollock
Congressional appropriation H.R.1105 earmark – Department of Education	Health and science literacy education film project	2009-2010	$285,000	Pollock
NIH-NCRR R25	Regenerative Medicine Partnership in Education ARRA Award – 2009	2009-2011	$230,738	PI Pollock
UPMC Health Plan (An Insurance Company)	Sponsorship for the Darwin Celebration – 2009	2009	$15,000	Co-PI Pollock and Lampe
John Templeton Award	Darwin 2009: A Pittsburgh Partnership	2009-2010	$35,000	Co-PI Pollock and Lampe
NIH	Darwin Evolution/Revolution Award	2008-2009	$9,000	PI Pollock
Hillman Foundation	Promoting independence and adherence in pediatric heart transplant	2007-2009	$26,600	PI Lawrence and Stilley Co-investigator Pollock
NIH-NCRR R25	Regenerative Medicine Partnership in Education	2005 -2011	$1,541,970	PI Pollock
NSF-DBI	Acquisition of a confocal microscope	2004-2006	$185,890 $80,000 DU Match	PI Pollock
NIH-NCRR R25	Tissue Engineering Show and Educational Partnership	2000 -2005	$1,620,000	PI Pollock (co-PI D. Farkas 2000-2003)

1. FOR TEACHING ACTIVITIES AT DUQUESNE UNIVERSITY.

P.I.: John A. Pollock
Funding Agency: NSF/Multi-User Instrumentation (NSF# 0400776)
Direct Cost: $185,890 with $80,000 matching funds from Duquesne University
Total Amount: $265,890
Project # of Years: 2 years

Start Date: 5/1/2004
End Date: 4/30/2006
Proposal Title: Acquisition of a Confocal Microscope
The proposal funded the acquisition of a confocal microscope that is being used by the faculty of the Department of Biological Sciences, Department of Biological Chemistry of the Bayer School of Science and faculty of the Mylan School of Pharmacy. While the microscope is used about 50% of the time for basic research, it plays an essential role in the education and professional development of students at all levels. Duquesne University, the Bayer School of Natural and Environmental Sciences and the Department of Biological Sciences together provided $80,000 of matching funds adding to the NSF $185,890 award for a total of $265,890.

2. FOR PUBLIC SCIENCE EDUCATION, OUTREACH AND STUDIES ON HOW PEOPLE LEARN.

P.I.: John A. Pollock
Funding Agency: Office of the Director, the NIH, Science Education Partnership Award (SEPA R25 OD 016516-01)
Direct Cost: $1,182,000
Indirect Cost: $94,557
Total Amount: $1,276,557
Project # of Years: 5 years
Start Date: 4/15/2014
End Date: 2/28/2019
Proposal Title: Partnership in Neuroscience Education
The project will developed a broad range of App and eBook educational resources for target audiences including children, the general public and clinical patients. Extensive testing explored how people learn.

P.I.: John A. Pollock
Funding Agency: The McCune Foundation
Direct Cost: $250,000
Total Amount: $250,000
Project # of Years: 3 years
Start Date: 10/1/2012
End Date: 9/30/2015
Proposal Title: *SCIENTASTIC!,* A Television Series and Related Digital Media.
The project is contributing to the development and assessment of new teaching resources for children and teachers that will be used in combination with the broadcast television show, *SCIENTASTIC!*.

P.I.: John A. Pollock
Funding Agency: The Pittsburgh Foundation
Direct Cost: $55,000
Total Amount: $55,000
Project # of Years: 2 years
Start Date: 4/22/2010
End Date: 4/21/2011

Proposal Title: *SCIENTASTIC!* A Health Literacy Television Show and Related Education Tools.

The project is contributing to the development of new teaching resources for children and teachers that will be used in combination with the broadcast television show, *SCIENTASTIC!*.

P.I.: John A. Pollock
Funding Agency: United States Department of Education
Direct Cost: $204,345
Indirect Cost: $80,655
Total Amount: $285,000
Project # of Years: 1 year
Start Date: 9/1/2008
End Date: 8/31/2009
Proposal Title: Health and Science Literacy Education Film Project

This award was provided as Congressionally directed funding supported by Congressman Mike Doyle. The funding contributed to the production of both *Scientastic!* and *How We Grow,* as well as the creation of the teacher resources and teacher professional development.

P.I.: John A. Pollock
Funding Agency: American Recovery and Reinvestment Act of 2009 - A National Center for Research Resources a component of the NIH, Science Education Partnership Award (SEPA R25 RR020403)
Direct Cost: $213,706
Indirect Cost: $17,092
Total Amount: $230,738
Project # of Years: 1 years
Start Date: 9/7/2009
End Date: 9/6/2010
Proposal Title: Regenerative Medicine Partnership in Education

This award from the **American Recovery and Reinvestment Act of 2009** provided added capacity to hire and produce educational materials that relate to the original R25 project.

P.I.: John A. Pollock & Dave Lampe
Funding Agency: UPMC Health Plan
Direct Cost: $15,000
Total Amount: $15,000
Project # of Years: 1 year
Start Date: 3/1/2009
End Date: 2/28/2010
Proposal Title: Sponsorship for the Darwin Celebration – 2009.

This award was provided to help support the development and implementation of the Darwin 2009 Pittsburgh Partnership as part of the citywide exploration of the fundamental principles of evolution and the history of Charles Darwin.

P.I.: John A. Pollock & Dave Lampe
Funding Agency: John Templeton Foundation
Direct Cost: $34,334

Total Amount: $34,334
Project # of Years: 1 year
Start Date: 11/1/2008
End Date: 1/15/2010
Proposal Title: Using Darwin's 200th Birthday to Explore Evolution and Its Broader Consequences.

This award was provided to help support the development and implementation of the Darwin Synthetic Interview for installation at the Carnegie Science Center as part of the citywide exploration of the fundamental principles of evolution and the history of Charles Darwin.

P.I.: John A. Pollock
Funding Agency: A National Center for Research Resources a component of the NIH, Science Education Partnership Award (SEPA R25 RR020403)
Direct Cost: $7,840
Indirect Cost: $627
Total Amount: $8,467
Project # of Years: 1 year
Start Date: 9/1/2008
End Date: 8/31/2009
Proposal Title: Darwin Evolution/Revolution Award – A Regenerative Medicine Partnership in Education

This award was provided in recognition for the significant and focused effort of providing educational resources on the fundamental principles of evolution, adding to the capacity to produce educational materials that relate to the original R25 project.

P.I.: Kathy S. Lawrence, Carol Ann Stilley & co-investigator John A. Pollock
Funding Agency: Hillman Foundation
Direct Cost: $26,600
Total Amount: $26,600 ($10,000 direct to Duquesne University)
Project # of Years: 2 years
Start Date: 9/1/2007
End Date: 8/31/2009
Proposal Title: Promoting independence and adherence in pediatric heart transplant.

Note – This was a collaborative grant with Center for Pediatric Transplantation Children's Hospital of Pittsburgh. The project developed new teaching resources for children with heart transplant through a combination of hands on training, use of comic book and animated training materials.

P.I.: John A. Pollock
Funding Agency: National Center for Research Resources a component of the NIH, Science Education Partnership Award (SEPA R25 RR020403)
Direct Cost: $1,418,612
Indirect Cost: $123,358
Total Amount: $1,541,970
Project # of Years: 6 years (note – received 6th year 'with cost' extension)
Start Date: 9/20/2005 (4/1/2006)

End Date: 8/31/2011
Proposal Title: Regenerative Medicine Partnership in Education

The project was a collaborative activity that I directed with partners that has included; Duquesne University Department of Journalism and Interactive Media, Duquesne University School of Education, Carnegie Science Center, the STUDIO for Creative Inquiry – Carnegie Mellon University, the McGowan Institute for Regenerative Medicine, the General Clinical Research Centers - UPMC, among others.

The project developed a broad range of films for specific target audiences including children, the general public and clinical patients. Extensive testing explored how people learn.

Duquesne University students from several academic disciplines were invited to participate with film and web development as part of service learning styled activities.

P.I.: John Pollock (note – Daniel Farkas was co-PI for the first two years of the project before he moved his lab to California).
Funding Agency: National Center for Research Resources a component of the NIH, Science Education Partnership Award (SEPA R25 RR15619-04)
Total Amount: $1,620,000
Project # of Years: 5 years
Start Date: 9/1/2000
End Date: 8/31/2005
Proposal Title: Tissue Engineering Show and Educational Partnership
NOTE – the hosting institution for this SEPA R25 grant was the Pittsburgh Tissue Engineering Initiative, Inc. A subcontract to Duquesne University was previously used.

This project produced five films and a web page hosted at www.ptei.org/teshow. The films are now being shown at the Carnegie Science Center and continue to be distributed to other science centers nation-wide.

F. PRESENTATIONS ON TEACHING, PUBLIC SCIENCE EDUCATION, AND OUTREACH FOCUSED ON HOW PEOPLE LEARN

J. A. Pollock 2014. "Ouch, Let Me See Where it Hurts" and "So, This is How We Learn". Carnegie Science Center, Café Scientifique. March 10, 2014. **Invited.** Podcast: http://carnegiesciencecenter.podomatic.com/entry/2014-03-19T07_22_17-07_00

J. A. Pollock 2013. Is There an App for That? Designing and Implementing Apps to Improve Patient Outcomes. American Transplant Congress, Seattle WA, May 18-22, 2013 **Invited.**

J. A. Pollock 2011. Communicating Complex Ideas in a General Public Exhibition and Building Strategic SEPA ISE Connections. Science Education Partnership Awards Director's Annual Meeting, Washington DC. **Invited**.

J. Ricou*, D. Commisso, **J A. Pollock.** 2010. The Evolution Of Evolution: The Tree, The Spiral And The Web of Life. Extended abstract published. *Proceedings: London International Education Conference*. *presenter.

J. A. Pollock 2010. From Planetariums, to Kiosks, to the Web: A multi-modal approach to games for health. The 6th Annual Games for Health Conference, Boston, May 2010 **(Invited Talk – Mentioned in *USA Today* May 27, 2010 by Mike Snider)**

J. A. Pollock. 2009. Science education through multimedia: Challenging stories of stem cells and evolution. McGowan Institute for Regenerative Medicine, Annual Meeting 2009. **Invited.**

J. A. Pollock. 2009. Public education and outreach through full-dome video technology. In: Physics Demonstrations and Strategies for Teaching and Public Outreach. American Physical Society Annual Meeting March 2009, Pittsburgh, PA. **Invited**.

J. A. Pollock. 2009. Keynote address: Science education films and games; Exploring human tissues. Dinner with a Scientist – University of the Pacific, March 2009. **Invited.**

J. A. Pollock. 2009. Keynote address: *Tissue Engineering for Life* and the stories of *Regenerative Medicine* – the movies. Dinner with a Scientist – California State University, March 2009. **Invited.**

J. A. Pollock 2008. Art and science in health literacy. Science Education Partnership Awards Director's Annual Meeting, Washington DC. **Invited**.

J. A. Pollock 2008. Regenerative medicine partnership in education-2008. Science Education Partnership Awards Director's Annual Meeting, Washington DC. (Poster).

J. A. Pollock 2008. The making of "*Our Cells…*": A story of evolution, the immune system and Type 1 diabetes. Science Education Partnership Awards Director's Annual Meeting, Washington DC. **Invited**.

J. A. Pollock 2008. Teaching regenerative medicine – Elementary education bioscience. A teacher training workshop for the Summer Institute – University of Texas M. D. Anderson Cancer Center. (**Invited** day-long workshop).

J. A. Pollock 2008. How to develop strong programming using outcomes-based evaluation tools. Association for Science and Technology Centers Annual Meeting, Philadelphia. **Invited**.

J. A. Pollock 2008. Science Education Partnership Awards (SEPA): A grant proposal and funding opportunity. Association for Science and Technology Centers Annual Meeting, Philadelphia. (Session Leader and **Invited** Talk).

J. A. Pollock, L. L. Gonzalez, J. Ricou (2007) Simulation video game based on the immune system, coproduced with immersive planetarium movie. A production of *Regenerative Medicine Partnership in Education. Science + Society: Closing the Gap,* Boston, 2007.

A. Possanza, **J. A. Pollock** (2007) Communicating Science through Language and Imagery Summer Undergraduate Research Symposium, Duquesne University. July 2007.

S. Valletta, **J. A. Pollock** (2007) Art Meets Science as a Promising Tool for Learning. Summer Undergraduate Research Symposium, Duquesne University. July 2007.

T. Boumaza, **J. A. Pollock** (2007) The Art in Science Education Summer Undergraduate Research Symposium, Duquesne University. July 2007.

B. Miller, **J. A. Pollock** (2007) Dr. Allevable and Regenerobot Explore Tissue Engineering. Summer Undergraduate Research Symposium, Duquesne University. July 2007.

M. Bugaile, **J. A. Pollock** (2007) Dr. Allevable and Regenerobot Explore the Heart, Bone and Spine. Summer Undergraduate Research Symposium, Duquesne University. July 2007.

J. A. Pollock (2007) Introduction to "OUR CELLS, OURSELVES" a new digital dome planetarium show. A preview release of the new show at the 2007 Triple Conjunction: Middle Atlantic Planetarium Society, Southeastern Planetarium Association, Great Lakes Planetarium Association. October 2007.

J. A. Pollock 2006. Science education through art and film. Carnegie Mellon University College of Fine Arts, January 2006.

J. A. Pollock 2005. Journey through the human brain: An introduction to the world premier of the film *The Laboratory Robot Science Fair with Dr. Allevable: The story of tissue engineering and healing the spine and brain*. Parkinson Foundation Fundraising "Fantasy Walk" Carnegie Science Center, October 16, 2005. **Invited.**

J. A. Pollock 2005. Tissue engineering: Art, science, and education. ConFluence*: The Seventeenth Annual Literary Science-Fiction and Fantasy Writers Conference. Pittsburgh, PA July 16 , 2005* **Invited.**

J. A. Pollock. 2005. Tissue engineering show and educational partnership: The scholarship of integration for public outreach. Tissue Engineering and the McGowan Institute, Nemacolin Woodlands, Farmington, PA, April 2005. (Poster).

J. A. Pollock 2005. Tissue engineering show and educational partnership. NIH/NCRR Science Education Partnership Award Directors Meeting, February 2005, Tucson, AZ. (Poster).

J. A. Pollock, D. L. Farkas, Alan J. Russell**.** 2004. Tissue engineering show and educational partnership: The scholarship of integration for public outreach. Regenerate – Tissue Engineering the Human Body, Seattle WA, June 9-12, 2004.

J. A. Pollock. 2004. Plenary session panel: Key issues in partnership development – Lessons learned from the field. Evaluating Collaborations. NIH/NCRR Science Education Partnership Award Directors Meeting, February 2004, St. Louis, MO. **Invited**.

J. A. Pollock, D. L. Farkas 2004. Tissue engineering show and educational partnership. NIH/NCRR Science Education Partnership Award Directors Meeting, February 2004, St. Louis, MO. (Poster).

J. A. Pollock. 2004. Presentation of the movie, "Tissue Engineering for Life." NIH/NCRR Science Education Partnership Award Directors Meeting, February 2004, St. Louis, MO. **Invited.**

J. A. Pollock. 2003. Pittsburgh Foundation Lecture – "*Tissue Engineering for Life*" the Henry Buhl, Jr. Planetarium at the Carnegie Science Center, March 2003.

J. A. Pollock. 2003. Keynote presentation for press preview – "*Tissue Engineering for Life*" the Henry Buhl, Jr. Planetarium at the Carnegie Science Center, January 21, 2003.

J. A. Pollock. 2003. Special presentation on "*Tissue Engineering for Life*" for ETG - Japanese delegation at the third annual Engineering Tissue Growth International Conference and Exposition, March 18, 2003. (This was a companion lecture to the Japanese language version of Tissue Engineering for Life.)

R. Fisher (artist), **J. A. Pollock** (biologist), and R. B. Dannenberg (composer/computer scientist). 2001. An audience-interactive multimedia production on the brain. ArtSci2001 Nov. 2-4, 2001CUNY Graduate Center, 365 5th Ave. New York (http://www.asci.org/ArtSci2001/fisher1.html). **Invited.**

J. A. Pollock. 2001 The brain project presents *Gray Matters, the Brain Movie:* An audience-interactive planetarium show. Grass Foundation traveling lecturer for the Society for Neuroscience 2001 Brain Awareness Week, Sam Noble Oklahoma Museum of Natural History. April 7, 2001. **Invited.**

J. A. Pollock, T. Abdulaziz, R.N. Fisher, J.L. McClelland. 1999. Gray Matters: The Tracking The Human Brain interactive multimedia presentation. 29th Annual Meeting Society for Neuroscience, Miami FL, October 1999. *(A refereed and published abstract.)*

J.L. McClelland, **J. A. Pollock**, J.D. Cohen, R.N. Fisher, T. Abdulaziz. 1998. Tracking the Human Brain: An interactive multimedia presentation. 28th Annual Meeting Society for Neuroscience, Los Angles CA, November 1998. *(A refereed and published abstract.)*

G. Outreach Education Programs & Teacher Professional Development on how people learn using the resources that I have produced.

2013	Six week Summer Science Camp for 1st – 8th grades – FUSION Program, Center of Life, Hazelwood – Coordinated by Charelise Davis (Presented by Deavon Rodgers, Brandi Daugherty, Jean Jagiello & John Pollock and others)
2011	Teacher professional development – Evolution – Darwin and the evolution of horse feet, Laredo Independent School, Laredo, TX. Created by John Pollock and Brinley Kantorski, presented by Ms. Brinley Kantorski.
2009	Teacher professional development – Pittsburgh Public Schools 9th grade science teachers. Evolution – Darwin and the evolution of horse feet. Presented by John Pollock.
2008 - 2013	Teacher professional development – Environmental Health Sciences Summer Institute for K-12 Educators. The University of Texas *MD* Anderson Cancer Center Science Park. Stem cells and evolution.
2004-present	Exploring the education of young learners – Volunteer for science and reading pre-kindergarten, kindergarten, and 1st grade. Winchester-Thurston Independent School (contacts – Suzy Flynn, Kitty Worley, Jennifer Krarr, Joan Flechtner, Kelly Vignale, among others).

III. SCHOLARSHIP

A. SCHOLARLY PUBLICATIONS

For the years 2006-present: Faculty Appointment Duquesne University

In Preparation:

K. Vasudeva, J. M. Janjic, S. Patel, M. Saleem, C. Bagia, **J. A. Pollock** (2015) Pain management with low dose celecoxib delivered by targeted nanoemulsion.

In Press:

K. Vasudeva, Y. Vodovotz, N. Azhar, D. Barclay, J. M. Janjic, **J. A. Pollock** (2015) *In Vivo* and Systems Biology Studies Implicate IL-18 as a Central Mediator in Chronic Pain. *Journal of Neuroimmunology*, doi: 10.1016/j.jneuroim.2015.04.012.

Published:

1) K. Vasudeva, K. Andersen, B. Zeyzus-Johns, S. K. Patel, T. K. Hitchens, J. M. Janjic, **J. A. Pollock** (2014) Neuroinflammation *In Vivo* in a Neuropathic Pain Rat Model with Near-Infrared Fluorescence and ^{19}F Magnetic Resonance. PLoS ONE 9(2): e90589.

2) S. K. Patel, M. J. Patrick, **J. A. Pollock,** J. M. Janjic (2013) Two-color fluorescent (near-infrared and visible) triphasic perfluorocarbon nanoemuslions. J. Biomed. Opt. 18 (10), 101312 (August 02, 2013); doi: 10.1117/1.JBO.18.10.101312.

3) J. M. Janjic, S. K. Patela, M. J. Patrick, **J. A. Pollock**, E. DiVito, M. Cascio (2013) Suppressing inflammation from inside out with novel NIR visible perfluorocarbon nanotheranostics. ***Proc. SPIE*** 8596, Reporters, Markers, Dyes, Nanoparticles, and Molecular Probes for Biomedical Applications V, 85960L (February 21, 2013); doi:10.1117/12.2004625.

4) S. K. Patel, Y. Zhang, **J. A. Pollock,** J. M. Janjic (2013) Cyclooxgenase-2 Inhibiting Perfluoropoly (Ethylene Glycol) Ether Theranostic Nanoemulsions—In Vitro Study***. PLoS ONE*** 8(2): e55802. doi:10.1371/journal.pone.0055802

5) A. Wilson, L. Gonzalez, **J. A. Pollock** (2012) Evaluating learning and attitudes on tissue engineering: A study of children viewing animated digital dome shows detailing the biomedicine of tissue engineering. ***Tissue Engineering (Part A),*** vol 18, no. 5 576-586. [Epub ahead of print] PMID: 21943030 http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3286820/pdf/ten.tea.2011.0242.pdf

6) J. Ricou, **J. A. Pollock** (2012) The Tree, The Spiral And The Web of Life: A Visual Exploration. ***Leonardo Journal*** Volume 45, No. 1, 18-25. http://www.mitpressjournals.org/toc/leon/45/1

Supplemental material:
http://www.mitpressjournals.org/doi/suppl/10.1162/LEON_a_00321
(For two years, since its publication, this is one of MIT Press – Leonardo's most downloaded papers: http://www.mitpressjournals.org/action/showMostReadArticles?journalCode=leon)

7) J. Ricou, D. Commisso, L. Gonzalez, **J. A. Pollock** (2011) The Evolution Of Evolution: The Tree, The Spiral And The Web of Life, ***International Journal for Cross-Disciplinary Subjects in Education (IJCDSE)***, Volume 2, Issue 4, 554 - 557.
http://infonomics-society.org/IJCDSE/Evaluation of Mural Series on the Evolution of Life.pdf

8) K. Lawrence, C. Stilley, **J.A. Pollock**, D. Webber, E. Quivers (2011) Promoting Independence and Adherence in Pediatric Heart Transplantation. ***Progress in Transplantation***, vol. 21, 1, March 2011, pg 61-66. PMID: 21485944

9) N. Siddall, G. Hime, **J.A Pollock** P. Batterham. (2009) Ttk69-dependent regulation of *lozenge* expression is necessary for correct R7 differentiation in the developing eye of *Drosophila melanogaster*. ***Biomed Central: Developmental Biology*** Dec 9; 9:64. PMID: 20003234

10) S. Sethi, W. Adams, **J. A. Pollock**, P.A. Witt-Enderby (2008) C-terminal domains within human MT(1) and MT(2) melatonin receptors are involved in internalization processes. ***J Pineal Res.*** 2008 45 (2): 212-8. PMID: 18341518

11) J. P. McKay, B. Nightingale, **J. A. Pollock** (2008) *Helmsman* is expressed in both trachea and Photoreceptor development; partial inactivation alters trachea morphology and visually guided behavior. ***Journal of Neurogenetics***, Apr-Jun;22(2):1. PMID: 18428030

12) J. P. McKay, B. Nightingale, J. P. Vergnes, P.R. Kinchington, **J.A. Pollock** (2006) *Drosophila melanogaster helmsman* (hlm) mRNA, complete cds. GenBank®2006: ACCESSION DQ665308

13) J. P. McKay, B. Nightingale, J. P. Vergnes, P. R. Kinchington **J. A. Pollock** (2006) Lucilia cuprina *helmsman* (hlm) mRNA, complete cds GenBank®2006: ACCESSION DQ665309

For the years 2001-2006: Faculty Appointment Duquesne University leading to tenure

14) K.Jackson-Behan, J. Fair, S. Singh, M. Bogwitz, T. Perry, V. Grubor, F. Cunningham, C. D. Nichols, T. L. Cheung, P Batterham and **J. A. Pollock** 2005. Alternative splicing removes an Ets interaction domain from Lozenge during *Drosophila* eye development. ***Development Genes and Evolution*** 215:423-435. (5 year ISI impact factor 1.85)
Pollock,J.A., Behan,K.J., Nichols,C.D., Fair,J. and Batterham,P. (2006) *Drosophila melanogaster* lozenge (lz) splice variant (Lozenge) mRNA, complete cds, alternatively spliced. GenBank®2006: ACCESSION DQ397338

15) N. Siddall, K. J. Behan, N., J. R. Crew, T. L. Cheung, J. A. Fair, P. Batterham, and **J.A. Pollock**. 2003. Mutations in *lozenge* and *D-Pax2* invoke ectopic patterned cell death in the developing *Drosophila* eye using distinct mechanisms. ***Development Genes and Evolution*** **213**, 107-119.

16) K.J. Behan, C.D. Nichols, T. L. Cheung, A. Farlow, B. M. Hogan P. Batterham and **J.A. Pollock** 2002. Yan regulates Lozenge during Drosophila eye development. ***Development Genes and Evolution*** **212**:267-276.

For the years 1989-2001: Faculty Appointment Carnegie Mellon University

17) J. A. Fair, Nichols, C., Hill Williams, A., Behan, K.J., **J. A. Pollock**, Batterham, P. (1999) *Drosophila melanogaster* c11.1 gene, partial cds; lozenge (lz) and c12.1 genes, complete cds; and c12.2 gene, partial cds. *GenBank/EMBL/DDBJ* 1999.12.19:AF217651.

18) E. L. Loreto, Zaha A, Nichols C, **J. A. Pollock**, Valente VL. 1998 Characterization of a hypermutable strain of *Drosophila simulans*. ***Cellular and Molecular Life Sciences*** ***54***(11):1283-90.

19) M. E. Martone, **J. A. Pollock**, and M. H. Ellisman. 1998. Subcellular localization of mRNA in neuronal cells: contributions of high resolution in situ hybridization techniques. ***Molecular Neurobiology*****, 18**:3, 227-246.

20) J. R. Crew, P. Batterham, and **J. A. Pollock**. 1997. Developing compound eye in *lozenge* mutants of *Drosophila: lozenge* expression in the R7 equivalence group. ***Development Genes and Evolution*** **206**, 481–493.

21) **Invited Book Chapter:** D. L. Taylor, K. Burton, R. DeBiasio, K. Giuliano, A. Gough, T. Leonardo, **J. A. Pollock**, D. Farkas. 1997. Automated light microscopy for the study of the brain: Cellular and molecular dynamics, development and tumorigenesis. In: Imaging Brain Structure and Function. Volume 820 of the ***Annals of the New York Academy of Sciences***, 208-228.

22) P. Batterham, J. R. Crew, A. M. Sokac, J. R. Andrews, G. M. F. Pasquini, A. G. Davies, R. F. Stocker, and **J. A. Pollock**. 1996. Genetic analysis of the *lozenge* gene complex in *Drosophila melanogaster*: adult visual system phenotypes. ***Journal of Neurogenetics*** **10**(4) 193-220.

23) M. E. Martone, **J. A. Pollock**, Y. Yhang, and M. H. Ellisman. 1996. Ultrastructural localization of dendritic messenger RNA in adult rat hippocampus. ***Journal of Neuroscience*** **16** (23), 7437 - 7446.

24) B. Gillo, I. Chorna, H. Cohen, B. Cook, I. Manistersky, 0. Devary, A. Arnon, A. Baumann, U. B. Kaupp, **J. A. Pollock**, Z. Selinger and B. Minke. 1996. Co-expression of *Drosophila* TRP and TRPL in *Xenopus* oocytes reconstitute a capacitative Ca^{2+} entry similar to the light-activated conductance. ***Proceedings of the National Academy of Science USA*** **93**, 14146-14151.

25) **J. A. Pollock**, A. Asaf, A. Peretz, C. Nichols, M. H. Mojet, R. C. Hardie and B. Minke. 1995. TRP, a protein essential for inositide-mediated Ca^{2+} influx is localized adjacent to the calcium stores in *Drosophila* photoreceptors. ***Journal of Neuroscience*** **15**(5), 3747 - 3760.

26) R. C. Hardie, A. Peretz, **J. A. Pollock** and B. Minke. 1993. Ca^{2+} Limits the Development of the Light Response in Drosophila Photoreceptors. ***Proceedings of the Royal Society London* B.252**, 223-229.

27) B. Rudy, C. Kentros, M. Weiser, D. Fruhling, P. Serodio, E. Vega-Saenz de Miera, M. H. Ellisman, **J. A. Pollock**, H. Baker. 1992. Region-Specific Expression of a K^+ channel gene in Brain. ***Proceedings of the National Academy of Science USA* 89**, 4603 - 4607.

28) J. Tseng-Crank, **J. A. Pollock**, I. Hayashi and M. A. Tanouye. 1991. Expression of Ion Channel Genes in Drosophila. ***Journal of Neurogenetics* 7**, 229 - 239.

29) R. Brendza and **J. A. Pollock**. 1991. Molecular Characterization of Eye-Specific Genomic Clones in Drosophila. In: Proceedings of the Fifth National Conference on Undergraduate Research, p. 118 - 122.

For the years 1984-1989: Postdoctoral Studies California Institute of Technology

30) D. R. Hyde, K. L. Mecklenburg, **J. A. Pollock**, T. Vihtelic, Seymour Benzer. 1990. Twenty *Drosophila* Visual System cDNA Clones: One Is A Homologue Of Human *Arrestin*. ***Proceedings of the National Academy of Science USA* 87**, 1008-1012.

31) **J. A. Pollock**, M. H. Ellisman, Seymour Benzer. 1990. Subcellular Localization Of Transcripts In *Drosophila* Photoreceptor Neurons: *chaoptic* Mutants Have An Aberrant Distribution. ***Genes and Development* 4**, 806 -821.

32) **J. A. Pollock** and Seymour Benzer. 1988. Transcript Localization of Four Opsin Genes In the Three Visual Organs in *Drosophila;* RH2 is Ocellus Specific. ***Nature* 333**, 779-782.

33) U. Banerjee, P. J. Renfranz, **J. A. Pollock**, and Seymour Benzer. 1987. Molecular Characterization and Expression of *sevenless,* a Gene Involved in Neural Pattern Formation in the *Drosophila* Eye. ***Cell* 49**, 281-291.

For the years 1978-1984: Graduate Studies Syracuse University

34) **J. A. Pollock**, E. D. Lipson, D. T. Sullivan. 1985. Analysis of Microsomal Flavoproteins from *Phycomyces* Sporangiophores: Candidates for the Blue-Light Photoreceptor. ***Planta* 163**, 506-516.

35) **J. A. Pollock**, E. D. Lipson, D. T. Sullivan. 1985. Electrophoretic Analysis of *Phycomyces* Night-Blind Mutants. ***Biochemical Genetics* 23**, 379-390.

36) **J. A. Pollock** and E. D. Lipson. 1985. A Flavoprotein in *Phycomyces* with Short Fluorescence Lifetime. ***Photochemistry Photobiology* 41**, 351-354.

37) R. Garces, **J. A. Pollock** and E. D. Lipson. 1985. Examination of *Phycomyces blakesleeanus* for Nitrate Reductase as a Possible Blue Light Photoreceptor. ***Plant Science* 40**, 173-177.

38) **Invited Book Chapter:** E. D. Lipson, P. Galland, and **J. A. Pollock**. 1984. Blue Light Receptors in *Phycomyces* Investigated by Action Spectroscopy, Fluorescence Lifetime Spectroscopy, and Two-Dimensional Gel Electrophoresis. In: Blue Light Effects in Biological Systems, ed. by H. Senger, Springer-Verlag, Berlin, Heidelberg.

39) E. D. Lipson, I. Lopez-Diaz, and **J. A. Pollock**. 1983. Mutants of *Phycomyces* With Enhanced Tropisms. ***Experimental Mycology* 7**, 241-252.

E. Other Communications (un-refereed reports)

J. A. Pollock 2009. The Next Page: A Digital Conversation with Darwin. ***Pittsburgh Post-Gazette***, February 8, 2009
http://www.post-gazette.com/stories/opinion/perspectives/the-next-page-a-digital-conversation-with-darwin-329152/

J. A. Pollock, M. H. Ellisman, Seymour Benzer. 1990. Subcellular Localization of Transcripts in *Drosophila* photoreceptor neurons: *chaoptic* mutants have an aberrant distribution. Caltech Biology Annual Report 1990, #304, p. 217.

J. A. Pollock, T. Deerinck, M. H. Ellisman, Seymour Benzer. 1988. Subcellular Localization of mRNAs in *Drosophila* Developing and Adult Compound Eye Revealed by Light and Electron Microscopic *In Situ* Hybridization. Caltech Biology Annual Report 1988, # 315, p. 214.

D. Hyde, K. Mecklenburg, J. A. Pollock, Seymour Benzer. 1989. Characterization of 50 Individual Visual System *Drosophila* cDNA Clones. Caltech Biology Annual Report 1989, #301, p. 207.

J. A. Pollock and Seymour Benzer. 1989. *In Situ* Hybridization of Gene Products Expressed in the *Drosophila* Visual System. Caltech Biology Annual Report 1989, #302, p. 207.

J. A. Pollock, T. Deerinck, M. H. Ellisman, Seymour Benzer. 1989. Electron Microscopic *In Situ* Hybridization. Caltech Biology Annual Report 1989, # 303, p. 208.

P. Batterham, J. A. Pollock, Seymour Benzer. 1989 The Role of the *lozenge* Gene in Eye Development. Caltech Biology Annual Report 1989, #310, p. 211.

J. A. Pollock, L. H. Von Kalm, D. Sullivan. 1989. Developmental Expression of Glycerol Phosphate Dehydrogenase (GPDH) in *Drosophila*. Caltech Biology Annual Report 1989, #314, p. 214.

J. A. Pollock and Seymour Benzer. 1988. Expression of Four Distinct Opsins in the Three Visual Organs of *Drosophila*. Caltech Biology Annual Report, # 310, p. 211.

J. A. Pollock and Seymour Benzer. 1988. Comparison of the Developmental Expression of Three Eye Genes in *Drosophila* Development: *chaoptic, sevenless* and *nina*E opsin Rh1. Caltech Biology Annual Report 1988, #311, p. 211.

D. Hyde, K. Mecklenburg, J. A. Pollock, Seymour Benzer. 1988. The Identification and Characterization of 60 *Drosophila* cDNA Clones Expressed in the Visual System. Caltech Biology Annual Report 1988, #312, p. 212.

J. A. Pollock and Seymour Benzer. 1987. Expression of the *sevenless* Gene. Caltech Biology Annual Report 1987, # 263, p. 183.

J. A. Pollock and Seymour Benzer. 1987. The *sevenless* Gene Transcript is Ectopically Expressed in the Salivary Gland of Certain Alleles. Caltech Biology Annual Report 1987, # 264, p. 184.

J. A. Pollock. 1986. Tissue Localization of Transcription for the 24B10 Gene. Caltech Biology Annual Report 1986, #292, p. 198.

D. Hyde and J. A. Pollock. 1986. A Protein Associated with a Particular *Drosophila* Sensory Organ. Caltech Biology Annual Report 1986, # 294, p. 199.

J. A. Pollock. 1985. Monoclonal Antibody Staining of *Drosophila* Embryos. Caltech Biology Annual Report 1985, #286, p. 203.

J. A. Pollock. 1985. Generating Monoclonal Antibodies to the Developing *Drosophila* Visual System. Caltech Biology Annual Report 1985, #287, p. 204.

J. A. Pollock, W. A. Clark and E. D. Lipson. 1980. Isolation of Bright-Seeing Mutants of *Phycomyces*. *Phycomyces* Newsletter 4:47-48.

J. A. Pollock and E. D. Lipson. 1982. Examination of *Phycomyces* for Nitrate Reductase Activity. *Phycomyces* Newsletter 5:7-10.

B. SUMMARY OF GRANTS AWARDED FOR BASIC SCIENCE RESEARCH

Agency	Title	Dates	Amount	Investigators
NIH•CEBRA (R21) National Institute on Drug Abuse	Theranostic Pain Nanomedicines: imaging inflammation, reducing pain and need for opioids	2015-2017	$330,000	PI Janjic & Co-I Pollock Co-I Kolber
Duquesne University 'Provost's Consortium Award'	Chronic Pain Research Consortium	2014-2016	$50,000	Partnering PIs Janjic & Pollock
Pittsburgh Tissue Engineering Initiative, Inc.	Acute to Chronic Pain Transition in Postsurgical Recovery: Combined input from immune system and peripheral nervous system.	2011-2013	$100,000	Partnering PIs Janjic & Pollock
Samuel and Emma Winters Foundation	New research direction on the molecular basis of vertebrate pain specificity	2008-2010	$9,500	PI Pollock
The Duquesne University Hunkele Dreaded Disease Award	Pain management should be pain specific: Assessing TRP/Ca^{2+}activity associated with chronic pain	2006-2009	$10,000	PI Pollock
Duquesne University Faculty Development Award	Exploring insect pest management, a genomic approach	2004 -2007	$9,900	PI Pollock
Commonwealth Universal Research Enhancement, PA Dept. of Health	Screening human breast cancers for steryl sulfatase status	2003-2004	$37,500	PI Selcer co-investigator Pollock
NSF-INT	US-Australia cooperative research: Molecular genetic analysis with 3-D time lapse microscopy	1998-2004	$44,487	PI Pollock
NSF	Acquisition of a transmission electron microscope	1995	$380,000	Co-PI Ettensohn and Pollock
NSF-STC	Science and Technology Center support	1994-2001	$120,500	Co-PI Taylor et al., Pollock
March of Dimes Birth Defects Foundation	Molecular control of neural induction and cell proliferation during visual system development	1991-1994	$80,000	PI Pollock
NIH-NEI R55	Molecular cell biology and gene expression in the retina	1992-1994	$100,000	PI Pollock

Agency	Title	Dates	Amount	Investigators
San Diego Microscopy and Imaging Resource	Visiting research scholar	1991	$10,000	PI Pollock
NIH Instrumentation Grant	Acquisition of a Cryomicrotome	1990	$50,000	PI Pollock
Samuel and Emma Winters Foundation	Gene specific mutation in *Drosophila*	1990	$12,000	PI Pollock
NIH-NEI R03	Subcellular localization of mRNAs in developing retina	1989-1990	$50,000	PI Pollock
NIH	High Voltage EM scholar fellowship	1989-1990	$10,000	PI Pollock
L. P. Markey	Research grant in developmental biology	1986-1988	$150,000	Pollock and Benzer
NIH-NEI F32	Postdoctoral research fellowship: Analysis of retinal specific proteins	1984-1987	$75,000	Pollock
Procter and Gamble	Postdoctoral research fellowship	1984	$25,000	Pollock
Syracuse University	Competitive research grant	1982	$1,000	Pollock

C. SCHOLARLY PRESENTATIONS ON BASIC SCIENCE.

Invited Lectures at national and international meetings (presented by first author)

J. A. Pollock. 2015. *Ouch, Let Me See Where it Hurts: Visualizing Neuroinflammatory Pain."*American Pain Society Annual Meeting, May 13-16, 2014, Palm Springs, CA.

J. A. Pollock. 2014. *Ouch, Let Me See Where it Hurts: Acute to Chronic Pain Transition in Neuroinflammatory Pain of Chronic Constriction Injury".* McGowan Institute for Regenerative Medicine, March 9-11, 2014, Nemacolin Woodlands, PA.

J. A. Pollock & J. M. Janjic. 2012. Acute to Chronic Pain Transition in Postsurgical Recovery: Combined Input from Immune System and Peripheral Nervous System. Pittsburgh Tissue Engineering Initiative Board Meeting. March 22, 2012, Pittsburgh, PA.

J. A. Pollock. 2005. The Value of International Research: *Molecular Cell Biology & Genetics of Cell Survival & Cell Differentiation in Fly Eye Development*. East Asia and Pacific Summer Institutes Program, Office of International Science and Engineering at the National Science Foundation, April 3-5, 2005 in Arlington, VA.

J. A. Pollock. 2003. 3-D Animation for Illustration and Education; Stories from the Tissue Engineering Show and Educational Partnership. Mid-Atlantic meeting of the Society for Developmental Biology, May 21 – 22, 2004. Duquesne University.

J. A. Pollock. 2003. Ethics in Biological Research; Questions of Stem Cell Science. Keynote address for the Summer Interns Ethics Forum, July 2003. University of Pittsburgh.

J. A. Pollock, N. A. Siddall, K. J. Behan, C. D. Nichols, J. R. Crew, T. L. Cheung, A. Farlow, J. A. Fair, B. M. Hogan, P. Batterham. 2003. The RUNX family transcript factor Lozenge, provides a survival signal for selected cells in the developing Drosophila eye; Lozenge is also an effector of EGFR-RAS. International Congress of Genetics - Great Barrier Reef *Drosophila* Conference Cairns, Queensland.

J. A. Pollock. 2003. Invited co-moderator for the *Regulation of Gene Expression* session of the 44th Annual Drosophila Research Conference, March 2003, Chicago, IL.

J. A. Pollock. 1997. Science and Technology Center Talk: "Automated light microscopy for the study of brain dynamics and development at the cellular level. University of Melbourne Faculty of Science, Melbourne Australia.

J. A. Pollock, B. Maneckshana, T. E. Leonardo. 1997. Three-Dimensional Time-Lapse Digital Movie Analysis Of The Developing Fruit Fly Eye In Organ Culture. ***Microscopy and Microanalysis* 3**, supp. 2 pp. 1129 - 1130.

J. A. Pollock and T. E. Leonardo. 1996. Three-Dimensional Time-Lapse Digital Movie Analysis of the Developing Eye-Imaginal Disc in Organ Culture. Third Visual System Development Workshop, Asilomar, Pacific Grove CA.

J. A. Pollock. 1995. The Developing Eye. Göttingen Brain Workshop, Göttingen Germany, March 26 - 27, 1995.

J. A. Pollock. 1994. Genes, Cells and Networks: Images of the Developing Visual System. Center for the Neural Basis of Cognition, October 16 - 17.

J. A. Pollock. 1992. Gene Expression In Space And Time: A Fly-Eyed View of Developmental Neurobiology. 25th Adirondacks Molecular Biology and Genetics Conference, Syracuse University Minnowbrook Conference, Blue Mountain Lake, NY. October, 1992. pp. 23.

J. A. Pollock. 1991. Molecular Cell Biology and Gene Expression in The Developing Visual System. National Institutes of Health, National Eye Institute, Workshop on Drosophila as a Model for Understanding the Human Visual System. Bethesda, MD, April 1991.

J. A. Pollock, Seymour Benzer, T. Deerinck, M. Martone and M. H. Ellisman. 1991. *In-Situ* Localization of mRNAs and Proteins with both Light and Electron Microscopy. Ed. G. W. Bailey, Proceedings of the **49th** Annual Meeting of the Electron Microscopy Society of America (EMSA), pp. 50 - 51.

J. A. Pollock, M. Martone, T. Deerinck and M. H. Ellisman. 1991. mRNA Localization by Electron Microscopic *In-Situ* Hybridization. Ed. G. W. Bailey, Proceedings of the **49th** Annual Meeting of the Electron Microscopy Society of America (EMSA), pp. 430 - 431.

J. A. Pollock. 1991. Drosophila *trp*-Protein is Subcellularly Localizes to Control Ca^{++} Flux During Production of the Receptor Potential; Does it Also Function at the Synapse? Fourth meeting on Molecular Neurobiology of *Drosophila,* Cold Spring Harbor Laboratory, Cold Spring Harbor Press, pp. 11.

J. A. Pollock. 1990. Molecular Cell Biology and Gene Expression in The Developing Visual System. The 3rd European Symposium on *Drosophila* Neurogenetics. Saint-Rèmy-lès-Chevreuse, France, October 28 - November 1, 1990. ***Journal of Neurogenetics* 7** 140 (1991).

J. A. Pollock. 1990. Molecular Cell Biology of The Developing *Drosophila* Eye. The EMBO Workshop on Molecular and Developmental Biology of *Drosophila,* Kolymbari, Crete, April 29 - May 6, 1990.

J. A. Pollock and Seymour Benzer. 1989. A Photoreceptor Cell Specific Antibody With Unique Subcellular Localization. Third meeting on Molecular Neurobiology of *Drosophila,* Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, October 1989.

J. A. Pollock and Seymour Benzer. 1988. Molecular Expression of Retinal Specific Genes Through Development in *Drosophila*. ***Investigative Ophthalmology Visual Science* 29**, 376. *(A refereed and published abstract of an invited talk presented by Pollock.)*

J. A. Pollock. 1988. Subcellular Localization of mRNAs in the Developing *Drosophila* Eye. The EMBO Workshop on Molecular and Developmental Biology of *Drosophila,* Kolymbari, Crete, August 27 - September 4, 1988.

J. A. Pollock, D. T. Sullivan, and E. D. Lipson. 1982. Characterization of Plasma Membrane Flavoproteins From Stage I Sporangiophores of *Phycomyces* Wild Type and Class 1 Mutants by Two Dimensional Gel Electrophoresis. *Phycomyces* Meeting, Cold Spring Harbor Laboratory, Banbury Center, Cold Spring Harbor, NY, August, 1982.

Meeting Presentations (Since 1979): *(presented by first author unless otherwise noted. Not including invited presentation listed above)*

Faculty Appointment Duquesne University – 2001-present

M. Saleem, Janjic, J.M., Vasudeva K., Hitchens K., Patel S.K., **Pollock J.A.** Nanotheranostics as a tool for search, rescue and discovery: Understanding chronic pain processing in the peripheral nervous system. Neuroscience 2014, 243.02/EE6.

K. Vasudeva, Y Zhang, S Patel, K Andersen, A Balducci, TK Hitchens, JM Janjic, **JA Pollock**. (2012) In-vivo neuroinflammation imaging of cci rats in chronic pain using nanotechnology. Poster session to be presented at: Neuroscience 2012; 2012 October 13-17; New Orleans, Louisiana.

J.M. Janjic, Y Zhang, K Vasudeva, K Andersen , A Balducci, TK Hitchens, **JA Pollock**. (2012) First Perfluorocarbon Nanotheranostic for Neuroinflammation Imaging and Treatment. Poster session presented at: Targeting Pain with Novel Therapeutics. Cambridge Healthtech Institute's 11th annual World Pharma Congress; 2012 June 5-7; Philadelphia, PA.

K. Vasudeva, Y. Zhang, K. Andersen, A. Balducci, T.K. Hitchens, **J. A. Pollock,** JM Janjic 2012. In vivo imaging post surgery in a CCI rat model - can nanotechnology provide new answers in chronic pain? Poster session presented at: 11th Annual McGowan Institute for Regenerative Medicine Scientific Retreat; 2012 March 4-6; Farmington, PA.

J. A. Pollock, D. J. Lampe 2012. Darwin Synthetic Interview and Horse Feet – Teaching Evolution through engagement and interactivity. 53th Annual *Drosophila* Research Conference, Chicago, IL. March 7-11, 2012.

K. Andersen, D. L. Somers, **J. A. Pollock** 2011. Expression of TRPV1 and splice variants in rat dorsal root ganglia following peripheral nerve injury. SOCIETY FOR NEUROSCIENCE Annual Meeting, Pain Transduction: TRP Channels II. 273.12/KK1.

J. A. Pollock, N. Siddall, G. Hime, P. Batterham 2010. Ttk69-dependent repression of lozenge prevents the ectopic development of R7 cells. 51st Annual *Drosophila* Research Conference, Washington, DC.

B. Zeyzus, C. Kruth, D. Somers, **J. A. Pollock** 2008. Differential expression of TRP genes and isoforms and their role in nociception using a rat neuropathic pain model. SOCIETY FOR NEUROSCIENCE Annual Meeting, Pain Molecules & Mechanisms 415.1

J. A. Pollock, J. McKay, B. Nightingale. 2008 *Helmsman* is expressed in trachea and retina: Inactivation alters tracheal morphology and visual guided behavior. 49th Annual *Drosophila* Research Conference, San Diego CA.

B. Nightingale, L. Boumaza, J. Holleran, **J. A. Pollock**. 2006 Lozenge influences genes involved in photoreceptor neuron development. 47th Annual Drosophila Research Conference, Houston TX.

J. A. Pollock 2005. The RUNX family transcript factor *lozenge* is an effector of EGFR-RAS in the developing Drosophila eye and more. Neurobiology of Drosophila, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY.

J. A. Pollock. 2005. The Biological Pathway and Molecular Networks of the RUNX Family Transcript Factor Lozenge: an Effector of EGFReceptor-RAS in Development. Tissue Engineering & the McGowan Institute, Nemacolin Woodlands, Farmington, PA, April 2005. (Poster).

J. A. Pollock, T. L. Cheung, K. J. Behan, S. Singh. 2005. Alternative splicing removes an Ets interaction domain from Lozenge during eye development. 46th Annual Drosophila Conference, San Diego, CA, March 30 – April 3, 2005. 658. (Poster)

J. A. Pollock, N. A. Siddall, K. J. Behan, T. L. Cheung, S. Singh, J. Meyers, P. Batterham. 2004. Lozenge functions under RAS/MAPK; but there is more to the story. 45th Annual Drosophila Conference, Washington, DC, March 24 -- 28, 2004. 673. (Poster)

J. A. Pollock. 2003. The RUNX family transcript factor *lozenge* is an effector of EGFR-RAS in the developing Drosophila eye and more. Cold Spring Harbor Laboratory, Neurobiology of Drosophila Meeting. October 2003.

N. A. Siddall, K. J. Behan, J. R. Crew, T. L. Cheung, J. A. Fair, P. Batterham, **J. A. Pollock**. 2003. Mutations in *lozenge* invoke ectopic patterned cell death in the developing *Drosophila* eye. International Congress of Genetics, Melbourne Australia.

J. A. Pollock, Behan, K.J., Nichols, C.D., Nichols, T.L., Farlow, A., Hogan, B.M., Batterham, P. 2003. Yan regulates *lozenge*. 44th Annual Drosophila Research Conference 2003:339C.

J. A. Pollock, Siddall, N., Behan, K.J., Crew, J.R., Cheung, T.L., Fair, J.A., Batterham, P. 2003. Mutations in *lozenge* and D-Pax2 invoke ectopic pattern cell death in the developing eye using distinct mechanisms. 44th Annual Drosophila Research Conference 2003 :737B.

J. A. Pollock, K. J. Behan, N. A. Siddall, C. D. Nichols, J. R. Crew, T. L. Cheung, A. Farlow, J. A. Fair, B. M. Hogan, P. Batterham. 2003. The RUNX family transcript factor *lozenge* is an effector of EGFR-RAS in the developing Drosophila eye. International Congress of Genetics, Melbourne Australia.

Faculty Appointment Carnegie Mellon University – 1989-2001

K.J. Behan, P.W. Keller, P. Batterham, **J.A. Pollock**. 2001. The identification of genes upstream of lozenge in the developing eye. 42nd Annual Drosophila Research Conference, Washington, DC.

N. Siddall, K. Behan, J. Fair, S. Coutts, **J. A. Pollock**, P. Batterham. 2000. Identification of genes that interact with *lozenge* in Drosophila eye development. 41st Annual Drosophila Research Conference, Pittsburgh, PA.

K. Behan, J.Crew, R. Selvaraju, P. Batterham, **J. A. Pollock**. 1999. Mutations in lozenge and sparkling permit ectopic patterned cell death in the developing Drosophila eye. 40th Annual Drosophila Research Conference, Seattle, Washington.

J. A. Pollock, T. Abdulaziz, R.N. Fisher, J.L. McClelland. 1999. Gray Matters: The Tracking the human brain interactive multimedia presentation. 29th Annual Meeting Society for Neuroscience, Miami FL, October 1999.

J. A. Pollock, Nichols, C., Behan, K., Chen, Z. 1999. Analysis of lozenge-The eye specific enhancer. Neurobiology of *Drosophila,* Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, 1999 :143.

J. A. Pollock, K. Behan, J. Crew, P. Batterham. 1998. Mutations in lozenge and sparkling increase patterned cell death in the developing eye. 39th Annual *Drosophila* Research Conference, Washington, D.C., March 1998. 547.

J. A. Pollock, C. Nichols, K. Behan, Z. Chen, F. Cunningham, J. Andrews, G. Pasquini, P. Batterham. 1998. Complex complementation in lozenge may be influenced by a synapsis dependent, zeste independent mechanism. 39th Annual *Drosophila* Research Conference, Washington, D.C., March 1998. 548.

J. A. Pollock, S. Fox, A. Proekt, J. McKay. 1998. *helmsman* encodes a complement-like protein involved in cell elongation in tracheal and neuronal development. 39th Annual *Drosophila* Research Conference, Washington, D.C., March 1998. 549.

J.L. McClelland, **J. A. Pollock**, J.D. Cohen, R.N. Fisher, T. Abdulaziz. 1998. Tracking the Human Brain: An Interactive Multimedia Presentation. 28th Annual Meeting Society for Neuroscience, Los Angles CA, November 1998.
(A refereed and published abstract presented by Pollock.)

C. D. Nichols, Crew, J.R., T. Hoening, T. Cunningham, F., Batterham, P., **J. A. Pollock** 1997. Physical mapping of mutant alleles and identification of alternative products from the *lozenge* locus. 38th Annual *Drosophila* Research Conference, Chicago.

J. P. McKay, J.P., Fox, S.J., Bianchi, N., Proekt, A., **J. A. Pollock** 1997. N63 is a novel gene involved in the formation of the adult visual system in *Drosophila melanogaster*. 38th Annual *Drosophila* Research Conference, Chicago, April 1997.

S. Fox, McKay, J.P., **J. A. Pollock** 1997. The Identification of Homologues of N63, a Gene Expressed in the Developing Visual System of *Drosophila Melanogaster* National Conference of Undergraduate Research (NCUR), Austin, TX, April 23rd - April 25.

T. Leonardo and **J. A. Pollock.** 1996. Eye development in Drosophila melanogaster: a study with video microscopy. 37th Annual *Drosophila* Research Conference, San Diego, pp. 369.

C. N. Nichols, J.R. Crew, P. Batterham, **J. A. Pollock** 1996. Enhancer trap expression and molecular characterization of the *lozenge* locus. 37th Annual *Drosophila* Research Conference, San Diego, pp. 271.

J. P. McKay, Kinchington, K., Vergnes, J.P., Fox, S.J., Babyack, L.M., **J. A. Pollock**. 1996. Characterization of N63, a novel gene expressed in the visual system of Drosophila. 37th Annual *Drosophila* Research Conference, San Diego, pp. 268

J. A. Pollock, Nichols, C.D., Crew, J.R., Batterham, P. 1996. Products of the *lozenge* locus influence survival of precursor cells in the developing eye as well as the cell fate of photoreceptor, cone and pigments cells. 37th Annual *Drosophila* Research Conference, San Diego, pp. 41.

J. A. Pollock, T. Leonardo, G. LaRocca, R. DeBiasio, M. Mantarro, AIM Development Group 1996. Three-Dimensional Time-Lapse Digital Movie Analysis of the Developing Fruit Fly Eye in Organ Culture. The Second Annual Symposium on Integrated Microscopy, Wisconsin Center, September 1996.

J.R. Crew, P. Batterham, and **J.A. Pollock**. 1995. The choice of cone cell fate in the developing eye may require the expression of the *lozenge* gene product. 36th Annual *Drosophila* Research Conference, Atlanta, pp. 212, April 1995.

C.D. Nichols, J.R. Crew, P. Batterham, A.M. Sokac and **J.A. Pollock**. 1995. Physical mapping and molecular characterization of mutant alleles in the *lozenge* locus. 36th Annual *Drosophila* Research Conference, Atlanta, pp. 215, April 1995.

J.P. McKay and **J.A. Pollock**. 1995. Characterization of two genes expressed in the visual system of Drosophila. 36th Annual *Drosophila* Research Conference, Atlanta, pp. 214, April 1995.

J. A. Pollock, A. Asaf, A. Peretz, C. Nichols, M. H. Mojet, R. C. Hardie and B. Minke. 1995. TRP, a protein essential for inositide-mediated Ca^{2+} influx is localized adjacent to the calcium stores in *Drosophila* photoreceptors. ***Investigative Ophthalmology & Visual Science* 36**(4):S381-S381.
(A refereed and published abstract presented by Dr. Minke.)

J. A. Pollock, P. Batterham, P. Maurides, C. Nichols, A. M. Sokac and J. R. Crew. 1994. Mutations in *lozenge* affect the selection of cell type in the developing *Drosophila* eye.

The 1994 Keystone Symposia on Transmembrane Signal Transduction. Keystone, Colorado. ***Journal of Cellular Biochemistry*** Supplement **18B**, 300.
(A refereed and published abstract presented by Pollock.)

J.R. Crew, C.D. Nichols, A.M. Sokac, P. Batterham, and **J.A. Pollock**. 1994. Mutations in the *lozenge* locus affect the development of several cell types in the adult compound eye of *Drosophila melanogaster*. 35th Annual *Drosophila* Research Conference, Chicago, pp. 231, April 1994.

J.R. Crew, P. Batterham, and **J.A. Pollock**. 1994. The amount of cell death in the eye imaginal disc is dependent upon the genetic background of the strain. 35th Annual *Drosophila* Research Conference, Chicago, pp. 231, April 1994.

J. Crew, A.M. Sokac, C.D. Nichols, P. Batterham and **J. A. Pollock**. 1994. Mutations in the *lozenge* locus of *Drosophila melanogaster* affect the normal interactions between the cells of the developing compound eye and the brain. 53nd Annual Meeting of the Society for Developmental Biology, ***Developmental Biology*** **163**, 548.
(A refereed and published abstract presented by Crew.)

J.R. Crew, C.D. Nichols, A.M. Sokac, P. Batterham, and **J. A. Pollock**. 1994. Mutations in the *lozenge* locus affect the development of several cell types in the adult compound eye of *Drosophila melanogaster*. 35th Annual *Drosophila* Research Conference, Chicago, pp. 231, April 1994.

J.R. Crew, P. Batterham, and **J.A. Pollock**. 1994. The amount of cell death in the eye imaginal disc is dependent upon the genetic background of the strain. 35th Annual *Drosophila* Research Conference, Chicago, pp. 231, April 1994.

J.R. Crew, A.M. Sokac, C.D. Nichols, P. Batterham and **J.A. Pollock**. 1994. Mutations in the *lozenge* locus of *Drosophila melanogaster* affect the normal interactions between the cells of the developing compound eye and the brain. 53rdAnnual Meeting of the Society for Developmental Biology, ***Developmental Biology*** **163**, 548.

J. A. Pollock, P. Batterham, and J. R. Crew. 1993. Mutations in *lozenge* perturb the development of the fruit fly visual system: a model for cellular interaction. The 1993 Keystone Symposia on Molecular Biology of Neuronal Signal Transduction. Taos, New Mexico. ***Journal of Cellular Biochemistry*** Supplement **17D**, pp. 265.
(A refereed and published abstract presented by Pollock.)

J. R. Crew, C. H. Claude, P. Batterham, and **J. A. Pollock**. 1993. A cell biological and molecular analysis of the *lozenge* locus of *Drosophila melanogaster*. 34th Annual *Drosophila* Research Conference, San Diego, pp. 215, March 1993.

S. Melia, C. H. Claude, **J. A. Pollock**. 1993. A molecular characterization of an eye specific gene; a work in progress. 34th Annual *Drosophila* Research Conference, San Diego, pp. 223, March 1993.

J.R. Crew, P. Batterham, A. Sokac and **J.A. Pollock**. 1993. An Analysis of the Cellular Defects Elicited by Mutations in the *lozenge* Locus of Drosophila. 52nd Annual Meeting of the Society for Developmental Biology, Brown University & MBL, Woods Hole MA, no. 82, June 1993.

J.R. Crew, P. Batterham, A. Sokac and **J.A. Pollock**. 1993. Mutations in the *lozenge* locus affect the developing compound eye by perturbing the normal dynamic of cell recruitment and differentiation. Meeting on Neurobiology of *Drosophila,* Cold Spring Harbor Laboratory, Cold Spring Harbor Press, pp. 98.

J. Crew, P. Batterham, and **J. A. Pollock**. 1993. Mutations in the lozenge perturb cell birth, cell death and cell fate in the developing compound eye. ***Journal of Neurogenetics* 8,** 223--224.
(A refereed and published abstract presented by Pollock.)

M. E. Martone, **J. A. Pollock** Y. Zhang and M. H. Ellisman. 1993. Electron microscopic *in situ* hybridization using thick cryosections: ultrastructural distribution of Cam Kinase II isoforms in Rat hippocampus. ***Journal of Neuroscience*** Abstracts **19**, 1113.
(Published abstract presented by Martone & Pollock.)

O. Adeyeye, J. Burkman, E. Chartoff, E. Leers, P. Maurides, **J. A. Pollock**. 1992. Analysis of two genes expressed in the visual system. Genetics Society of America, 33rd Annual *Drosophila* Research Conference, Philadelphia, March 1992.

J. R. Crew, P. Batterham and **J. A. Pollock**. 1992. Morphological and Developmental Consequences of Mutations in the *lozenge* gene on the Compound Eyes of *Drosophila melanogaster*. Genetics Society of America, 33rd Annual *Drosophila* Research Conference, Philadelphia, March 1992.

O. Adeyeye, R. Brendza, J. R. Crew, **J. A. Pollock**. 1991. Gene expression in the developing visual system. Genetics Society of America, 32nd Annual *Drosophila* Research Conference, Chicago, IL, March 20- 24, 1991.

C. Nichols, P. Maurides and **J. A. Pollock**. 1991. A Compound Eye and Ocellus Specific Protein with Unique Subcellular Localization and Developmental Expression. Genetics Society of America, 32nd Annual *Drosophila* Research Conference, Chicago, IL, March 20- 24, 1991.

R. Brendza and **J. A. Pollock**. 1991. Molecular Characterization of Eye-Specific Genomic Clones in Drosophila. In: Proceedings of the Fifth National Conference on Undergraduate Research, p. 118 - 122.
(A refereed and published paper of an invited poster presented by my undergraduate student Robert Brendza. Bob, my first undergrad researcher, worked side by side with me in the analysis of the clones that I had identified as a postdoc.)

Postdoctoral Studies California Institute of Technology – 1984-1989

J. A. Pollock and Seymour Benzer. 1990. A Photoreceptor Cell Specific Antibody With Unique Subcellular Localization. The UCLA Symposia on Molecular and Cellular Biology, Signal Transduction and Gene Activation in Development poster presentation. Abstract published in ***Journal of Cellular Biochemistry***, Supplement 14E, p. 167.

J. A. Pollock, T. Deerinck, M. H. Ellisman, Seymour Benzer. 1989. Subcellularly Localized mRNAs in the Developing Retina: Light and Electron Microscopic *In Situ* Hybridization. Presented at the 30th Annual *Drosophila* Conference, New Orleans, April 1989.

J. A. Pollock and Seymour Benzer. 1988. Transcript Localization of Four Opsin Genes in the Three Visual Organs in *Drosophila*; Rh2 is Ocellus Specific. The 29th Annual *Drosophila* Research Conference, Toronto, Canada, August 17 - 20, 1988.

J. A. Pollock, S. Benzer, T. Deerinck, and M. H. Ellisman. 1988. Subcellular Localization of mRNAs in *Drosophila* Retina Revealed by Light and Electron Microscopy *In Situ* Hybridization. Society for Neuroscience Meeting, Toronto, Canada, November 13 - 18, 1988. ***Journal of Neuroscience*** #219.14, p. 732.

U. Banerjee, P. Renfranz, **J. A. Pollock**, Seymour Benzer. 1987. Molecular Characterization of *sevenless*, a Gene Involved in Neuronal Pattern Formation in the *Drosophila* Eye. 28th Annual *Drosophila* Research Conference, Chicago, IL, May 20-24, 1987.

J. A. Pollock, U. Banerjee, P. Renfranz, and Seymour Benzer. 1987. The Localization of *sevenless* Transcript in the Developing Eye Imaginal Disc. 28th Annual *Drosophila* Research Conference, Chicago, IL, May 20- 24, 1987.

J. A. Pollock and Seymour Benzer. 1987. Developmental Expression of Photoreceptor Specific Genes in *Drosophila*. Poster Presentation. Gordon Conference, Developmental Biology, Proctor Academy, Andover N.H., July 20-24, 1987.

J. A. Pollock and Seymour Benzer. 1987. Expression of the *sevenless* Gene: A Comparison with *chaoptic* and *nina*E. Poster Presentation. Second meeting on Molecular Neurobiology of *Drosophila,* Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, October 1987.

J. A. Pollock and Seymour Benzer. 1986. Temporal Expression of Eye-Specific Transcripts Visualized with *In Situ* Hybridization. Poster Presentation. Molecular Neurobiology of *Drosophila*, Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, October 1986.

J. A. Pollock. 1985. Monoclonal Antibody Staining of *Drosophila* embryos. Poster Presentation. International Congress of Developmental Biology, Satellite Meeting, "Current Issues in *Drosophila* Development," August 1-3, 1985, UCLA, Los Angles, CA.

Graduate Studies Syracuse University – 1978-1984

E. D. Lipson, P. Galland, **J. A. Pollock**, R. Garces and B. Horwitz, 1985. Phototropism in *Phycomyces:* Genetic, Biochemical, and Spectroscopic Analyses. 13th Aharon Katzir-Katchalsky Conference on Sensing and Transduction in Microorganism. Kibbutz Ayelet Hashahar, Israel.

J. A. Pollock, D. T. Sullivan, and E. D. Lipson. 1984. Biochemical Analysis of *Phycomyces* Flavoproteins as Blue Light Receptors. Poster presentation. Gordon Conference, Sensory Transduction. Oxnard CA.

J. A. Pollock, D. T. Sullivan, and E. D. Lipson. 1983. Two Dimensional Gel Electrophoresis of *Phycomyces* Photoreceptor Mutants. ***Biophysical Journal*** **41**:24a.

J. A. Pollock, E. D. Lipson, and D. T. Sullivan. 1983. Electrophoretic Analysis of *Phycomyces* Flavoproteins Associated with Phototropism. Adirondacks Genetics and Molecular Biology Conference, XV.

J. A. Pollock, E. D. Lipson, and D. T. Sullivan. 1982. Two Dimensional Gels of *Phycomyces* Photoreceptor Mutants. Adirondacks Genetics and Molecular Biology Conference, XV. Abstract.

E. D. Lipson, R. C. Poe, and **J. A. Pollock**. 1981. System Identification of *Phycomyces* Light Response Channel. ***Biophysical Journal*** **33:**294a.

E. D. Lipson, I. Lopez-Diaz, **J. A. Pollock**, R. C. Poe, and W. A. Clark. 1981. *Phycomyces* Mutants with Enhanced Tropisms. VII International Biophysics Congress, Mexico City, August 1981, Abstract p. 338.

I. Lopez-Diaz, E. D. Lipson, **J. A. Pollock**. 1981. Genetic Analysis of *Phycomyces* Mutants with Enhanced Tropisms. Adirondacks Genetics and Molecular Biology Conference, XV.

E. D. Lipson, **J. A. Pollock**, and W. A. Clark. 1980. Search for Mutants of *Phycomyces* with Alterations in the Blue-Light Receptor. Annual Meeting of American Society for Photobiology, Colorado Springs, Colorado, February 1980, Program and Abstracts, p. 120.

E. D. Lipson, **J. A. Pollock**, and R. C. Poe. 1980. Genetic Analysis of *Phycomyces* Photoresponse System. VIII International Congress on Photobiology, Strasbourg, France, July 1980, Abstracts p. 61.

J. A. Pollock and E. D. Lipson. 1980. Analysis of Bright-Seeing Mutants of *Phycomyces*. Adirondacks Genetics and Molecular Biology Conference, XIII.

J. A. Pollock and E. D. Lipson. 1979. Isolation of Photoreceptor Mutants of *Phycomyces*. Adirondacks Genetic and Molecular Biology Conference XII.

IV. SERVICE

A. UNIVERSITY, SCHOOL, OR DEPARTMENT SERVICE

1. University

- University Grievance Committee (2012 – present)
- Service-Learning Advisory Committee (2006 – 2011)
- Co-Chairman Service Learning Advisory Committee (2007 – 2010)
- Duquesne University Institutional Biosafety Committee (2004 – 2009)
- Co-Director of Chronic Pain Consortium (2011 – present)
- University Teaching Excellence Award for Teaching Assistants Selection Committee (2009-2010)
- University advancement – presentation and planning for major gifts.
- Special Invited Lecture by John Pollock. Arts & Science for Education: A look into the Biomedical Future of Regenerative Medicine. A lecture for McAnulty College ODYSSEY DAY on April 21, 2007
- Special Invited Lecture by John Pollock. "How can you get the most out of your brain." Organized by Juraj Adamik for students of Towers in the mutli-purpose room on April 18th 2007 at 9 pm
- Special Invited Lecture by John Pollock. "Global Climate Change 101." Organized by Adam Wasilko and Luci-Jo DiMaggio for Assumption Hall/Honors College November 13th 2008 at 4 pm

2. School/Department

- Chair - Departmental Microscopy Resource (2001 to present)
  Instrumentation grant written in 2003. Leica SP2 Confocal installed November 2004 and integrated into Superlab course (BIOL 372) in Spring 2005. I provide individualized training for every user (faculty, graduate student and undergraduate student) for colleagues in Biology, Chemistry and the School of Pharmacy.
- Co-director for Darwin 2009: A Pittsburgh Partnership.
  Together with Dave Lampe, we managed a wide variety of activities, events, exhibits and lectures to explore and celebrate the life and discoveries of Charles Darwin as well as the fundamental principles of evolution that he articulated. (2008-2010)
  http://www.sepa.duq.edu/darwin/pdf/Darwin2009Brochure.pdf
  http://www.sepa.duq.edu/darwin/pdf/322469%20Darwin%20brochure%2011.08.pdf
- Bayer School Promotion and Tenure Committee (2011 to present)
- Bayer School of Natural and Environmental Sciences Strategic Planning Committee (2003 - 2005)

- Strategic Planning Committee – Biology (2008 – present)
- BlackBoard Certification and re-certification
- Managed Departmental Seminar Spring 2005 coordinated with BIOL 490/690
- Lectured in Duquesne University Preview Day (2004, 2005)
- Graduate Admission – recruiting (2005 to present)
- Graduate Committee (2007 to present)
- Director of Graduate Program – Department of Biology (2009/2010)
- Faculty Search Committee (2001, 2002, 2003)
- Aided Chair Search Committee (2004/2005; 2005/2006)
- Mentoring Undergraduates (2001 to present)
- Qualifying Exam Committees (2001 to present)
- Thesis Defense Committees (2001 to present)
- Bayer School of Natural and Environmental Sciences & McAnulty College of Liberal Arts collaborative course in Topics in Math.

Starting in 2003 and continuing until 2005 and then again in 2008, I developed course materials and multiple lectures for MATH 320 Topics in Mathematics. A substantial effort was put in to developing a Fourier Transform and gradient image sum of sinusoid image filtering exercise for use in Dr. Stacy Levin's course. I developed a detailed PowerPoint presentation with examples of different microscope digital image filtering and optical sectioning techniques. The PowerPoint included films and images acquired specifically for the class instruction. I also prepared a handout for the students and specific homework recommendations for further analysis by the students. I personally taught this multi-lecture section to Dr. Levin's students for several semesters. I ultimately gave to her a CD with my lecture notes, PowerPoint presentation, movies and exercises so that she could continue to utilize the materials.

B. COMMUNITY SERVICE

- Creating and directing a six week Science Summer Camp as part of the Center of Life/FUSION Summer Program for 1st – 8th grades, in Hazelwood, Pittsburgh, PA (http://centeroflife.net/2013-summer-camp/). (2013/ 2015 planned)
- Trustee of the Phipps Conservatory and Botanical Gardens and Member of the Board (2012 – present)
- Carnegie Museum of Art – Art & Science Advisor to the Curator of Education – Marilyn Russell (2012)
- Generative Thinking Strategic Planning Committee – Winchester Thurston Independent School. (2011)
- Carnegie Museum of Natural History – Advisor to the Director – Sam Taylor. (2010)

- Advisory Board for dynamic PK-12 STEM curriculum – Winchester Thurston Independent School. (2010)
- Reading tutor – Kindergarten and 1st grade Winchester Thurston School. (2005 – present)
- Guest Lectures – Winchester Thurston School. (2005 – present)
  History of Flight – The Wright Flyer.
  History of the Alphabet – From hieroglyphics to ABC.
  Sight – How the Eye and Brain let us See.
  Hearing – How we can hear more than one thing at a time.
  Human Evolution – the last 4 million years.
  Rockets – to Explore the Sky.
- Celebrate Life-Celebrate Art – Persad Center benefit. (1996 – 2006)
  I have served on the organizing committee, volunteer coordinator and live auction among other duties. The event raises several hundred thousand dollars for Persads counseling efforts every year.
  Persad (www.persadcenter.org) is a Pittsburgh based counseling center, founded in 1972. Through strong commitment by the Board of Directors and from the generosity of the community, Persad Center is able to offer counseling services regardless of the client's ability to pay.

C. PROFESSIONAL SERVICE

- Grant Reviewer for Applied Pain Research Award (APRA) peer review panel of the 2015 Clinical and Rehabilitative Medicine Research Program (CRMRP) for the Department of Defense Congressionally Directed Medical Research Programs (CDMRP)
- NSF reviewer for Advancing Informal STEM Learning Program 2014.
- NIH Study Section MDCN6 (Molecular, Cellular and Developmental Neurosciences 1999 – 2000).
- NIH Study Section ZRG1 CB-J 56 (Special Emphasis Panel/Scientific Review Group for Science Education Partnership Awards, R25, 2014)
- *Ad Hoc* Grant reviewer: National Science Foundation, March of Dimes, and National Institute of Health
- *Ad Hoc* reviews for peer-reviewed journals including among others:
  BIOMED CENTRAL DEVELOPMENTAL BIOLOGY
  DEVELOPMENT
  DEVELOPMENTAL BIOLOGY
  DEVELOPMENTAL NEUROBIOLOGY
  FRONTIERS IN CELLULAR NEUROSCIENCE
  INSECT BIOCHEMISTRY
  JOUNRAL OF RESEARCH IN SCIENCE TEACHING
  LEONARDO (MIT Press)
  NEUROSCIENCE
  PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCE

- Textbook Reviews for John Wiley & Sons including:
  CELL BIOLOGY (review of the prospectus, table of contents, and two chapters)
  INTRODUCTION TO CELL AND MOLECULAR BIOLOGY (review of chapters 2, 4, and 6).

- Organized and co-moderator for the symposium *Regulation of Gene Expression* at the 44th Annual Drosophila Research Conference, March 2003, Chicago, IL.
- Organizer and Session Leader for the symposium *Science Education Partnership Awards (SEPA): A grant proposal and funding opportunity* at the Association for Science and Technology Centers Annual Meeting, October 2008, Philadelphia, PA.
- External Advisory Board for the University of Pittsburgh Clinical Translational Science (CTSI) Education Outreach Program (2011 – 2012)
- Selection Committee for the Carnegie Science Awards