

CURRICULUM VITAE

William R. Jeffery

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RESEARCH INTERESTS

Developmental and Evolutionary Biology: Genetic basis of evolutionary change in development, visual system and pigment regression in cave animals, tissue repair and regeneration, development of new experimental model systems.

EDUCATION

B.S. (Biology) University of Illinois (1968)
 Ph.D. (Cell and Developmental Biology) Department of Biological Sciences, University of Iowa (1971)
 Post.Doc. (Oncology) McArdle Laboratory for Cancer Research, University of Wisconsin, Madison (1971-1972)
 Post.Doc. (Molecular Biology) Department of Biochemistry and Pharmacology, Tufts University School of Medicine, Boston (1972-1974)

PROFESSIONAL EXPERIENCE

1999-present Professor, Biology, and Affiliate Professor, Cell Biology and Molecular Genetics, University of Maryland, College Park, MD
 2018 Visiting Scientist, Sorbonne Université, Paris, France (Sabbatical)
 2012-2015 Senior Scientist, Eugene Bell Center for Regenerative Biology and Tissue Engineering, Marine Biological Laboratory, Woods Hole, MA
 2011-2012 Visiting Scientist, Laboratory for Molecular Genetics, Ruđer Bošković Institute, Zagreb, Croatia (Sabbatical)
 2004-2005 Visiting Scientist, CNRS Institut de Neurobiologie Alfred Fessard, Gif-sur-Yvette, France (Sabbatical).
 1999-2004 Chair, Department of Biology, University of Maryland, College Park, MD,
 1996-1999 Head, Department of Biology, The Pennsylvania State University, University Park, PA
 1990-1996 Professor, Molecular and Cellular Biology and Zoology, Division of Biological Sciences, University of California, Davis
 1995 Visiting Professor, Cell Biology, Vanderbilt University, School of Medicine, Nashville, TN (Sabbatical)
 1987-1990 Johann Friedrich Miescher Regent's Professor of Molecular Biology, University of Texas at Austin
 1983-1987 Co-Director, Embryology Course, Marine Biological Laboratory, Woods Hole, MA
 1983 Visiting Professor, Department of Experimental Embryology, University of Utrecht, The Netherlands (Sabbatical)

1980-1982, 1998 Instructor, Embryology Course, Marine Biological Laboratory, Woods Hole, MA
 1977-1989 Assistant, Associate, and Full Professor, Zoology, University of Texas at Austin
 1974-1977 Assistant Professor, Biochemical and Biophysical Sciences, University of Houston, Houston, TX
 1972-1974 Postdoctoral Fellow (National Institutes of Health), Department of Biochemistry and Pharmacology, Tufts University School of Medicine, Boston
 1971-1972 Postdoctoral Fellow (American Cancer Society), McArdle Laboratory for Cancer Research, University of Wisconsin, Madison
 1971 Teacher, Children's School of Science, Woods Hole, MA
 1968-1971 Predoctoral Fellow (National Institutes of Health and National Science Foundation), Department of Zoology, University of Iowa, Iowa City

AWARDS, HONORS AND MEMBERSHIPS

National Speleological Society Science Award (2018)
 Alexander Kovalevsky Medal and International Prize in Comparative Embryology (2012)
 St. Petersburg Society of Naturalists (Elected Honorary Membership, 2012)
 Certificates of Teaching Excellence (2011 and 2012), Marine Biological Laboratory, Woods Hole
 Research Prize of the Karst Waters Institute (2010)
 Fellow of the Linnean Society of London (Elected 2008)
 Distinguished Lecturer, National Science Foundation (2007)
 National Science Foundation, Special Creativity Award (2006)
 Frederick and Betsy Bang Fellow, Marine Biological Laboratory, Woods Hole (2006)
 Laura and Arthur Colwin Fellow, Marine Biological Laboratory, Woods Hole (2005, 2006)
 Alfred Fessard Distinguished Lecturer, CNRS, Gif-sur-Yvette, France (2005)
 Member, Biology Faculty of 1000 (2004)
 President, Society for Developmental Biology (1995-1996)
 Fellow of the American Association for the Advancement of Science (Elected 1992)
 Johann Friedrich Miescher Regent's Professorship in Molecular Biology, University of Texas at Austin (1987-1990)
 Christianna Smith Distinguished Lecturer, Mt. Holyoke College (1995)
 Distinguished Lecturer in Zoology, Duke University (1994)
 Distinguished Lecturer, University of Kyoto, Japan (1992, 1994)
 American Society of Zoologists Outstanding Service Award (1990)
 Outstanding Graduate Teaching Award, University of Texas at Austin (1984)
 E.E. Just Centennial Friday Night Lecturer, Marine Biological Laboratory, Woods Hole, MA (1983)
 Member of the Corporation/Society, Marine Biological Laboratory, Woods Hole, MA (1975-present)
 Steps Toward Independence Fellow, Marine Biological Laboratory, Woods Hole, MA (1975)
 NATO Fellow in Molecular Biology (1972)
 American Cancer Society Post-doctoral Fellow, University of Wisconsin (1971-1972)
 Society for Sigma Xi (Full Member, 1971-present)
 National Institutes of Health Predoctoral Trainee in Fertilization and Gamete Physiology, Marine Biological Laboratory, Woods Hole, MA (1968)
 National Science Foundation Predoctoral Trainee, University of Iowa (1967-1968)

PROFESSIONAL SOCIETY MEMBERSHIPS

European Society for Evolutionary Developmental Biology (2007-present)
 American Research Center in Egypt (2016)

Linnean Society of London (2007-present)
 Society for Developmental Biology (Board of Trustees, 1986-1990, 1994-1997; President, 1995-1996)
 Society for Integrative Biology (2012-present)
 International Society for Subterranean Biology (2005-present)
 American Association for the Advancement of Science (Fellow, 1993-present)
 American Society for Cell Biology (1970-present)
 American Society of Zoologists (Chairman, Cell and Developmental Biology Section, 1988-90)

EDITORSHIPS AND EDITORIAL BOARDS

Developmental Biology, Guest Editor, Special Issue: Cavefish Development, 2017-2018
Research and Reports in Biology, Editorial Board, 2010-present
EvoDevo, Editorial Board, 2009-present
Brain and Eye, 2009-present
Biology Image Library (BioMed Central), Editorial Board, 2008-present
International Review of Molecular and Cellular Biology Editorial Board, 1999-2015
Seminars in Cell and Developmental Biology, 1988-2013
Molecular Biology and Evolution, Associate Editor, 2000-2013
Development, 1986-1998
Molecular Reproduction and Development, 1994-2008
International Journal of Developmental Biology, 1989-present, Editor for North America, 2002-2007.
Zygote: Editor for North America, 1992-1996; Editorial Board, 1997-2006
Acta Embryologia Exp. Morph. 1989-1991
Biological Bulletin, 1985-1989
Cell Motility and the Cytoskeleton, 1985-1986

PROFESSIONAL AND PUBLIC SERVICE

Review Panel, National Institutes of Health Director's Early Independence Award (2016)
 Organizer, Symposium on "Cave Animals at the Frontiers of Modern Biology", 23rd International Subterranean Biology Conference, Fayetteville, AR (2016)
 Co-organizer, 7th International Tunicate Meeting, Naples, Italy (2013)
 Instructor, Frontiers in Stem Cells and Regeneration Course, Marine Biological Laboratory, Woods Hole, MA (2010, 2011, 2012)
 Ad Hoc Member, National Institutes of Health, Developmental Biology Study Section (2010)
 Chair, Committee for Review of Biology Graduate Program, Syracuse University (2010)
 Co-Organizer, AIM 2009 and AIM 2011, Astyanax International Meetings, Ciudad Valles, Mexico
 Search Committee Member, National Science Foundation, Integrative Biology Directorate (2008)
 Member, National Institutes of Health, Anterior Eye Diseases Study Section (2008) (2009)
 Advisor, Grass Fellows Course, MBL. Woods Hole, 2007
 Member, Special Review Panel, Comparative Genetics of Birth Defects, NIH-NICHD (2004)
 Faculty of 1000
 Ad Hoc Member, Council, National Institute of Child Health and Human Development (2001)
 Scientific Advisory Board, University of Florida, School of Medicine, Whitney Marine Laboratory, (1996-2001; Chairman, 2001)
 Finnish Academy of Science, Review Board for Centres of Excellence in Molecular, Cellular and Developmental Biology (2001, 2004)
 Member, National Institutes of Health, Cell Biology Study Section (1999)
 Member, National Science Foundation Developmental Mechanisms Panel (1998)
 Board of Review, Research Fellowships in Evolutionary Developmental Biology, Marine

Biological Laboratory, Woods Hole, MA (1998, 1999, 2000)
 Member, External Review Committee, Developmental Biology Center, University of California, Irvine (1991, 1998)
 Member, National Science Foundation Population Biology Panel (1998)
 Member, National Institutes of Health Comparative Medicine Study Section (1998)
 Reviewer, Fellowships in Evolutionary Developmental Biology, Marine Biological Laboratory, Woods Hole (1998)
 President, Society for Developmental Biology (1995-1996)
 Committee to Advise the President (Biological Sciences), Harvard University, Cambridge, MA (1994)
 Member, National Science Foundation/Sloan Foundation, Molecular Evolution Review Panel (1994-1996)
 Organizer, Society for Developmental Biology Meetings, Vanderbilt University, Nashville, TN (1996)
 Organizer, NSF Conference on Evolution of Development: Molecules, Mechanisms, and Phylogenetics, Bodega Marine Laboratory, University of California, Davis, Bodega Bay, CA (1995)
 Co-organizer, West Coast Developmental Biology Meetings (1994)
 Member, National Science Foundation, Developmental Mechanisms Review Panel (1988-1993)
 Chairman, Section of Cell and Developmental Biology, American Society of Zoologists (1989-1990)
 Member, National Institutes of Health, Molecular Biology Study Section (1982-1986)
 Member, Board of Trustees, Society for Developmental Biology (1986-1989; 1994-1997)
 Member, Nominating Committee, American Society for Cell Biology (1986)
 Member, Special Study Section to Review Distinguished Investigators, National Cancer Institute (1985)
 Member, National Academy of Science Committee on Animal Model Systems in Development (1984)
 Ad Hoc Reviewer, Molecular Biology Study Section, National Institutes of Health (1979) (1980) (1982)
 Selection Committee Chairman, Best Paper Awards, American Society of Zoologists Meeting (1981)

INVITED SEMINAR AND SYMPOSIUM LECTURES

- 2019 Lecture, 6th Astyanax International Meeting, Queretaro, Mexico, Seminar Speaker, University of Hawaii at Manoa, Lecture, 10th International Tunicate Meeting, Villefranche-sur-Mer, France
- 2018 Plenary Lecture, Society of Integrative and Comparative Biology, Symposium on Evolution in the Dark, San Francisco., Hopkins Marine Station, Stanford University (seminar speaker); Lecture, Sorbonne Universite, France; Plenary Lecture, 24th Symposium of the International Society for Subterranean Biology, Aveiro, Portugal, Biodiversity Lecture, Museum of Natural History, University of Barcelona, Spain, Universitie de Lyon and CNRS Institute for Functional Genomics, France (seminar speaker), European Marine Biology Research Consortium Lecture, Roscoff Marine Laboratory, Roscoff, France.
- 2017 Invited Seminar, National Institutes of Health, Bethesda, MD; Keynote Speaker, Joint Meeting of the British Societies for Developmental Biology and Genetics, Warwick, UK; Invited Impact Speaker, E. E. Just Scientific Symposium, Medical University of South Carolina, Charleston; Graduate Student Invited Seminar, Biological Sciences, North Carolina State University. Speaker, International *Astyanax* Meeting (AIM) 2027, Queretaro, Mexico; Invited Speaker, Symposium on Implications of Mechanisms in Invertebrate Organisms for Mammalian Health Span and Longevity, Lecture, 9th International Tunicate Meeting, New York; International Society of Invertebrate Reproduction and Development, Naples and Florence, Italy, Invited Speaker, Symposium on Learning from Nature: Comparative Biology of Tissue Regeneration and Aging, MDI Biological Laboratory, Bar Harbor, MI.
- 2016 Gordon Conference on Visual System Development, West Dover, Vermont (chair and discussion leader, presenter); 23rd Internal Subterranean Biology Conference, Fayetteville, AR (symposium organizer, chair, and presenter), New Jersey Institute of Technology (seminar speaker).
- 2015 Astyanax International Meeting, 2015, Queretaro, Mexico (lecture), Darwin's Birthday Speaker, University of Haifa, Israel (Invited Keynote Lecture); Department of Biology, American University (seminar speaker). 2014 16th Evolutionary Biology Conference, Osaka, Japan; (keynote lecture); Biology-

- Physics Minsymposium, University of Maryland, College Park (lecture); University of Lund, Sweden (seminar speaker); Abraham Spector International Prize Symposium Lecture, Columbia University; University of Miami (seminar speaker); PanAmerican Ithchylogy Symposium, Morelia, Mexico (Speaker).
- 2013 Astyanax International Meeting 2013, Ciudad Valles, Mexico (lecture). European Society for Evolutionary Biology, Invited Symposium Speaker, Lisbon, Portugal; 7th International Tunicate Meeting, Invited Speaker, Naples, Italy; Invited Speaker, Symposium on Model Invertebrate Systems for the Study of Aging, 13th International Congress on Invertebrate Reproduction and Development, Detroit.
- 2012 Saint Petersburg Society of Naturalists/Saint Petersburg State University, Kowalevsky Prize Lecture, St. Petersburg, Russia; EuroEvoDevo Symoisium on Extreme Environments, Lisbon (lecture), Visual Systems Development Gordon Research Conference (lecture), American Society for Aging Meeting, Symposium of New Model Systems, Ft. Worth, TX (lecture), Subterranean Biology Symposium, Košice, Slovakia (key lecture), Frontiers in Stem Cells and Regeneration Course, Marine Biological Laboratory, Woods Hole, MA (lecture).
- 2011 Hopkins Marine Station, Stanford University (seminar), AIM 2011, Ciudad Valles, Mexico (lecture), Department of Molecular and Cellular Biology, Cornell University (seminar), Frontiers in Stem Cells and Regeneration Course, Marine Biological Laboratory, Woods Hole (lecture); Ruđer Bošković Institute, Zagreb, Croatia (seminar), Croatian Biospeleological Society 15th Anniversary Lecture.
- 2010 Frontiers in Stem Cells and Regeneration Course, Marine Biological Laboratory, Woods Hole, 2010 Karst Waters Institute Research Award Lecture, Baltimore; Plenary Lecture, Mid-Atlantic Region Developmental Biology Meeting, Baltimore; Invited Speaker, Patterns of Nervous System Development, Minerve, France, Invited Seminar, Institute of Neuroscience, CNRS, Gif-sur-Yvette, France.
- 2009 Graduate Masters Course, Center for Genes, Development, and Cancer, University of Utrecht, The Netherlands, AIBS/NESCENT Symposium, Denver Colorado (Plenary Speaker), Department of Zoology, University of Oklahoma (Seminar), Experimental Biology 2009, New Orleans (Plenary Speaker), Society for Developmental Biology Meeting, San Francisco (Plenary Speaker, President's Symposium); AIM 2009, Ciudad Vales, Mexico (lecture), Fifth International Tunicate Meeting, Okinawa, Japan (Plenary Lecture).
- 2008 ARVO Symposium (Plenary Lecture), Ft. Lauderdale, FL; Symposium on Cranialfacial Development and the Nervous System, Les Trielles, France; Neuroethology Gordon Conference (Invited speaker), Oxford, UK; EuroEvoDevo Meeting, Symposium on Stem Cells and Development (Invited Lecture), Ghent, Belgium; XXth Congress of the Zoological Society (Plenary Lecture), Paris, France; Ecological Genomic Symposium (Plenary Lecture), Kansas City: International Biospeleology Symposium (Plenary Lecture), Perth , Australia., Department of Molecular and Cellular Biology, University of Arizona (Seminar).
- 2007 National Science Foundation Biology Directorate (Distinguished Lecture), University of Virginia (Seminar), Dartmouth Medical School (Seminar); New Horizons in Evolutionary Biology International Conference (Plenary Lecture), Haifa, Israel; Workshop on "From Sensory Perception to Motor Output: Genetic Basis of Behaviour in the Zebrafish Embryo", Minerve, France (Lecture and Chairship), Fifth European Conference on Comparative Neurology (Evolution and Generation of Novelities in the Nervous System), Paris, France (Plenary Lecture); Workshop on "Future Directions in Karst Research", San Antonio, TX., International Tunicate Meeting, Villefranche-sur-Mer, France (Lecture and Chairship); Symposium on Fish Sensory Systems, Shanghai, China.
- 2006 University of Colorado, Boulder (seminar); Wayne State University, Detroit (seminar); University of Ljubljana, Slovenia; Warrington Science Presentation, Shenandoah University, XVIII International Biospeleology Symposium (Plenary Lecture), Cluj, Romania, EuroEvoDevo Inaugural Meeting, Prague, Czech Republic.

- 2005 Conference in Neurobiology Ladislav Tauc (On the Growth and Forms of Neural Systems), Gif-sur-Yvette, France; Johns Hopkins University School of Medicine, Developmental Basis of Evolutionary Change Conference, University of Chicago; Alfred Fessard Distinguished Lecture, Gif-sur-Yvette, France; University of Paris XI, Orsay, France; University College, London, UK; Institut Jacques Monod, Paris, France; Gordon Conference on Evolutionary and Ecological Functional Genomics, Oxford, UK; Symposium on Visual Function-Insights From the Revolution in Biology at the Molecular Level, Tel Aviv, Israel; 14th International Congress of Speleology, Athens, Greece; Grass Fellow's Lecture, Marine Biological Laboratory, Woods Hole; Fellow's Symposium, Marine Biological Laboratory, Woods Hole
- 2004 XVII International Biospeleology Symposium (Plenary Lecture), Raipur, India; University of Paris VI, Paris, France; Embryology Course, MBL, Woods Hole; Washington University, St. Louis; Cold Spring Harbor Meeting on Evolution of Developmental Diversity; Genomes and Evolution Meeting 2004 at Penn State University; Visual System Development Gordon Conference (Session Chair); Society for Developmental Biology Meeting (Plenary Talk), Calgary.
- 2003 Thomas Jefferson University, University of Kentucky, Society for Integrative and Comparative Biology Symposium on Visual Development and Evolution, Toronto. Symposium on Hypogean Fishes, Manaus, Brazil, First International Urochordate Meeting, Marseilles, France, George Washington University, Howard University.
- 2002 Harvard Medical School; Brigham Young University; Association for Research in Vision and Ophthalmology Symposium on Ocular Morphogenesis, Ft. Lauderdale, FL, Symposium of Biology on Karst Environments, University of Florida, Gainesville, FL., Baylor College of Medicine, University of Cincinnati
- 2001 Sars Institute for Marine Molecular Biology, Bergen, Norway; CNRS, Gif-sur-Yvette, France, National Eye Institute, Bethesda; Center for Marine Biotechnology, University of Maryland, Baltimore; Southeast Louisiana University; NATO Conference on Comparative Developmental Biology, Naples, Italy; University of Iowa; International Symposium of Biospeleology, Ribeira, Brazil.
- 2000 New York University, University of Iowa; Zebrafish Genetics and Development, Cold Spring Harbor Laboratory.
- 1999 Station Zoologique, Villefranche sur Mer, France; Department of Embryology, Carnegie Institution of Washington; University of Maryland, Baltimore Co; Marshall University School of Medicine; ICRO/UNESCO Course on Genes and Development, University of Puerto Rico, San Juan, P.R.
- 1998 National Institutes of Health, Bethesda; University of Pennsylvania; University of Virginia; University of Maryland, College Park; Molecular Evolution Gordon Conference; British Society of Developmental Biology symposium on Development of Sensory Organs, Sussex, England
- 1997 Columbia University; Abo Akademi University, Turku, Finland; Yale University; State University of New York at Stony Brook; University of New Hampshire; Brown University; Developmental Biology Gordon Conference; Embryology Course, MBL, Woods Hole; N.E. Regional Developmental Biology Meeting, Woods Hole; Union of Italian Zoologists, Cattolica, Italy
- 1996 University of Florida; Indiana University; University of California, Berkeley; Arizona State University; Pennsylvania State University; Vanderbilt University, School of Medicine; University of Illinois; University of California, Santa Cruz; EMBO Workshop on Myogenesis and Molecular Genetic Mechanisms of Neuromuscular Diseases, Ein Gedi, Israel; EMBO Workshop on Comparative Developmental Biology, Ischia, Italy; Memorial Symposium honoring Professor Daniel Mazia, Hopkins Marine Station, Stanford University; Symposium on Evolution of Developmental Mechanisms, Society of Comparative and Integrative Biology Meetings, Albuquerque, NM

- 1995 University of Texas at Austin; University of Perugia, Italy; Stazione Zoologica, Naples, Italy; Worcester Foundation, Shrewsbury, MA; Mount Holyoke College; Howard Hughes Foundation Summer Institute, Vanderbilt University; Symposium on Development and Evolution of Animal Body Plans, American Society of Zoologists, St. Louis, MO; Society for Developmental Biology Symposium, San Diego, CA; Biotechnology Symposium, Havana, Cuba; Symposium on Origin of the Craniates, Society for Vertebrate Paleontology, Pittsburgh, PA; American Society of Cell Biology Symposium on Localization of Determination in the Embryo, Washington, D.C.
- 1994 Kyoto University, Japan; Tokyo Institute of Technology, Japan; Duke University
- 1993 University of Texas Southwestern Medical School; University of Texas at Austin; University of California, Irvine; University of Southern California School of Medicine; Specialized Functions of the Cytoskeleton Symposium, American Society for Cell Biology Meetings, Washington, DC; European Cytoskeletal Forum, Assisi, Italy; UNESCO International Training Laboratory Course, Imaging the Cell in Development and Reproduction, Coquimbo, Chile; Developmental Biology of Marine Organisms Symposium, Plymouth, England
- 1992 Kyoto University, Japan; Marquette University; University of Chicago; Stazione Zoologica, Naples, Italy; West Coast Regional Developmental Biology Meeting, Lake Tahoe, CA; Symposium on Conserved Genes and Developmental Mechanisms in Embryos of Divergent Species, Vancouver, Canada; British Society of Developmental Biology Meetings, Sussex, U.K.; Keynote Speaker at Southeast Regional Developmental Biology Meetings, Clemson, SC; UNESCO International Cell Research Organization Training Course, Novel Biological Model Systems for Research in Developmental Biology and Neurobiology, University of Puerto Rico; Workshop on the Cytoskeleton and Embryogenesis, International Cell Biology Meeting, Madrid, Spain
- 1991 Stanford University; University of California, Berkeley; Arizona State University; Carlton University, Canada; US-Japan Symposium on Molecular Biology of Marine Invertebrate Development, Honolulu
- 1990 University of California, San Francisco, School of Medicine; University of Puerto Rico, University College, Cayey; Conference on Gastrulation: Movements, Patterns and Molecules, Bodega Marine Laboratory, University of California, Davis; Plenary Lecture at 23rd Italian Zoological Society Meeting, Palermo, Italy; EMBO Course on *In Situ* Hybridization in the Mouse, Institut Pasteur, Paris, France; Course in Cell and Molecular Biology of Early Development, Hopkins Marine Station, Stanford University; Boston Colloquium for Philosophy of Science: Symposium on Organisms and the Origin of Self, Boston
- 1989 University of Colorado, Boulder; University of Calgary, School of Medicine, Canada; Institut Pasteur, Paris, France; University of Texas Southwestern Medical School; University of Hawaii at Manoa; NATO Advanced Research Workshop on Mechanisms of Fertilization: Plants to Humans, Sorrento, Italy; NATO Course on Experimental Embryology in Aquatic Plant and Animal Organisms, Banyuls, France; Symposium on Pattern Formation in Invertebrates and Lower Eukaryotes, International Congress of Developmental Biologists, Utrecht, The Netherlands; Keynote Speaker, Northwest Regional Developmental Biology Meeting, Friday Harbor Laboratories; Southwest Developmental Biology Meeting, Ft. Worth, TX
- 1988 Vanderbilt University; University of Connecticut School of Medicine; Texas Tech University School of Medicine; University of Calgary, School of Medicine, Canada; Molecular Embryology of the Mouse Course, Cold Spring Harbor Laboratory; NICHD Workshop on The Role of Cytoplasmic Determinants in Development, Leesburg, VA; NSF Course on Microinjection in Biology, Marine Biological Laboratory, Woods Hole, MA; Japan-USA Meeting on Developmental Biology of Ascidians, Aomori, Japan
- 1987 Duke University School of Medicine; University of Washington; University of North Carolina, Chapel Hill; Syracuse University; University of Illinois, Chicago; Worcester Foundation for

- Experimental Biology; University of Massachusetts, Amherst; McGill University, Canada; UCLA-Miami Winter Symposium on Advances in Gene Technology: The Molecular Biology of Development, Miami, FL; UCLA Symposium on the Molecular Biology of Invertebrate Development, Park City, UT; Canadian Society of Developmental Biology Symposium, Winnipeg, Canada; Chile-USA Cooperative Symposium on the Cytoskeleton in Development, Santiago, Chile; Plenary Lecture, Midwest Molecular Biology Meeting, Oklahoma City, OK
- 1986 Harvard University; University of Wisconsin, Madison; Baylor College of Medicine; University of California, Irvine; University of California, San Diego; Whitney Marine Laboratory, University of Florida; Fourth International Symposium on Invertebrate Reproduction, Lille, France; British Society for Developmental Biology Symposium on Analysis of Gene Expression in Development by Transfer of Macromolecules, Norwich, U.K.
- 1985 University of Texas at Austin; University of Utrecht, Utrecht, The Netherlands; Max Planck Institute for Developmental Biology, Tubingen, Germany; University of Texas Marine Science Institute, Port Aransas, TX; University of Pennsylvania; University of Illinois, Urbana; Plenary Lecture at West Coast Society for Developmental Biology Meeting, Asilomar, CA; Session Chairman at General Scientific Meetings, Marine Biological Laboratory, Woods Hole; Gordon Conference on Fertilization and the Activation of Development, Holderness School, Plymouth, NH; Symposium on Patterning in Embryonic Development, Society of Anatomists, Toronto, Canada
- 1984 Hubrecht Laboratory, Utrecht, The Netherlands; Rensselaer Polytechnic University; National Academy of Sciences Committee on Animal Model Systems in Development; EMBO Course on Gene Expression and Microinjection, University of Warwick, Coventry, England; UCLA-Cetus Foundation Symposium on Molecular and Cellular Biology, Molecular Biology of Development, Steamboat Springs, Colorado; Session Chairperson and Speaker at Southwest Regional Developmental Biology Meeting, Texas A&M University; Symposium to Honor the Centennial of E.E. Just, Marine Biological Laboratory, Woods Hole; Belle Baruch Marine Institute, University of South Carolina; Symposium on Cell Asymmetry and Development, European Congress of Developmental Biology, Southampton, England
- 1983 Friday Evening Lecture, Marine Biological Laboratory, Woods Hole; University of California, Irvine, CA; University of California, Berkeley (twice); University of California, Davis; Brandeis University; Stanford University; University of Texas, Southwestern Medical School; Gordon Research Conference on Fertilization and the Activation of Development, Holderness School, Plymouth, NH; Chairperson and Speaker at Southwest Regional Developmental Biology Meeting, University of Texas at Arlington, TX
- 1982 University of Iowa; Texas A&M University; Embryology Course, Marine Biological Laboratory, Woods Hole; University of Calgary, School of Medicine, Canada; Symposium on the Molecular Basis of Early Development, American Society of Zoologists, Louisville, KY; Symposium on Ribosomes and Translational Level Control Mechanisms, Canadian Society of Biochemists, St. Johns, Canada
- 1981 Purdue University; Indiana University; Scripps Institute of Oceanography; Case Western Reserve University, School of Medicine; Rice University; University of Houston Invited Symposium and Meeting Lectures: Symposium on the Developmental Biology of Ascidians, American Society of Zoology, Dallas, TX; Gordon Research Conference on Fertilization and the Activation of Development, Holderness School, NH; Symposium on Cancer and the Control of Early Embryonic Development, Marine Biological Laboratory, Woods Hole; Keynote Lecture at Midwest Regional Developmental Biology Meeting, Ohio State University; Instructor, Embryology Course, Marine Biological Laboratory, Woods Hole
- 1980 University of Texas at Austin (twice); Symposium on Pattern Formation in Development, American Society of Zoologists, Seattle; Instructor, Embryology Course, Marine Biological Laboratory, Woods Hole; Workshop on the Formation of Messenger RNA in Eukaryotic Cells, EMBO/Swiss Academy of Science, Arolla, Switzerland; EMBO Symposium on Messenger RNA and Messenger RNA-Protein complexes, Hapert, The Netherlands

- 1977 Indiana University of School of Medicine; Kansas State University; Iowa State University; University of Texas at Austin
- 1976 Rice University, University of Illinois, School of Medicine, Chicago, University of Texas at Austin
- 1974 University of Kansas, Lawrence; University of Iowa; DePaul University; State University of New York at Albany; University of Houston; Oakland University; Florida International University
- 1973 Harvard Medical School

INSTITUTIONAL TEACHING ACTIVITIES

Undergraduate

- General Biochemistry (UH)
- Developmental Biology (UT) (UM)
- Cell Biology (UT)
- Biology of the Protozoa (with laboratory) (UT)
- Human Physiology (UT)
- Advanced Developmental Biology (UC)
- Developmental Biology of Marine Invertebrates (with laboratory) (UC)
- The Triumph of the Embryo (Honors Seminar) (UM)
- Experimental Developmental Biology (UM)
- Organismal Biology (UM)
- Principles of Evolution (UM)

Graduate

- Biochemistry of Development (UH)
- Advanced Cell Biology (UT)
- Molecular Analysis of Development (UT)
- Graduate Survey of Development (UT)
- Techniques in Developmental Biology (laboratory) (UT)
- Molecular Mechanisms in Animal Development (UC)
- Animal Developmental Biology (UM)

UH = University of Houston (1974-1977)

UT = University of Texas at Austin (1977-1990)

UC = University of California, Davis (1990-1996)

UM = University of Maryland (1999-present)

FORMER AND CURRENT GRADUATE STUDENTS WITH PRESENT POSITIONS

Ph.D. Students

- David S. Adams (1979), Professor of Biological Sciences, Worcester Polytechnic Institute
- David G. Capco (1980), Professor of Life Sciences, Arizona State University
- Daniel Noonan (1980), Professor of Biochemistry, University of Kentucky
- Craig R. Tomlinson (1984) Assistant Professor of Medicine and of Pharmacology and Toxicology, Dartmouth Medical School
- William R. Bates (1985), Professor Emeritus of Zoology, University of British Columbia
- Elisabeth Buchanan (1988), present position unknown
- Mary E. White (1989), Professor of Biological Sciences, Southeast Louisiana University
- Ronald Conlon (1990), Associate Professor of Genetics and Genome Sciences, Case Western Reserve University, School of Medicine

Rebecca Beach (1990), Professor and Dean, Hollins College, Roanoke, VA.
 Catherine Olsen (1998), Research Scientist, Lawrence Berkeley Laboratory, Berkeley, CA.
 Allen Strickler (2006), MD in Research Dermatology
 Bonnie Jacques (Co-chair) (2009), Post-doctoral Student, UC-San Diego

7 MS degrees have also been awarded under my supervision

PREVIOUS AND CURRENT POSTDOCTORAL STUDENTS WITH PRESENT POSITIONS

James A. Uzman (1983-1986), Professor and Dean of Science and Technology, University of Houston-Downtown
 Douglas Drummond (1985-1986), Reader, University of Warwick, UK
 Fred Harrington (1986-1989), Chief Scientist, Helios-NRG, East Amhurst, NY
 Judith Venuti (1986-1989), Professor and Chair of Biomedical Sciences, Oakland University School of Medicine, MI
 Kazuhiro Makabe (1990-1991), Professor of Biology, Tushima University, Japan
 Takato Nishikata (1990-1992), Professor of Biology, Konan University, Japan
 Billie Swalla (1988-1992), Professor of Biology, University of Washington and Director Emeritus, Friday Harbor Laboratories
 Jing Zhou (1992-1993), Research Associate, Vanderbilt University, School of Medicine
 Takehiro Kusakabe (1994-1996), Professor of Biological Sciences, Konan University, Japan
 David McCauley (1997-1999), Associate Professor of Zoology, University of Oklahoma
 Liang Feng (1999-2001), Senior Research Associate, Northwestern University, School of Medicine
 Luis Espinasa (2002-2003), Associate Professor of Biology, Marist University, N. Y.
 Yoshiyuki Yamamoto (1998-2003), Lecturer in Cell and Developmental Biology, University College London, UK
 Daphne Soares (2003-2005), Assistant Professor of Biology, New Jersey Institute of Technology
 Lane Law (2004-2006), Research Scientist, US Department of Defense
 Edmund Rodgers (2007-2008), Research Scientist, Georgia State University
 Spela Goricki (2007-2012), Research Scientist, Slovenian Academy of Science
 Masato Yoshizawa (2005-2013), Assistant Professor of Biology, University of Hawai'i, Manoa
 Kelly O'Quin (2011-2013), Associate Professor of Biology, Centre College
 Mardi Byerly (2013-2014), Instructor, Cape Cod Community College
 Helena Bilandzija (2014-2018), Assistant Professor of Molecular Biology, Ruđer Bošković Institute, Zagreb, Croatia
 Li Ma (2010-2015, 2017-present)
 Corine van der Weele (2016-present)

CURRENT GRANT SUPPORT

National Institutes of Health (2015-2020), **Molecular Genetic Analysis of Sclera Development and Degeneration** \$1,900,000 (Total Funding).
 National Institutes of Health (2018-2022), **The Tunicate *Ciona*: A New Model System for Studying Tissue Regeneration**, \$1,800,000 (Total Funding)

PREVIOUS GRANT SUPPORT SUMMARY

1975-1977, American Cancer Society, \$150,000 (Direct Funding)
 1975-1977, National Institutes of Health, \$213,678 (Direct Funding)
 1976-1978, National Science Foundation, \$110,000 (Total Funding)

1978-1980, American Cancer Society, \$150,000 (Direct Funding)
 1979-1981, National Institutes of Health, \$324,880 (Direct Funding)
 1980-1982, Muscular Dystrophy Association, \$60,000 (Total Funding)
 1982-1987, National Institutes of Health, \$410,000 (Total Funding)
 1981-1983, National Institutes of Health, \$287,560 (Total Funding)
 1982-1984, Muscular Dystrophy Association, \$66,000 (Total Funding)
 1983-1986, National Science Foundation, \$150,000 (Direct Funding)
 1983-1988, National Institutes of Health, \$724,850 (Total Funding)
 1986-1988, National Science Foundation, \$240,000 (Total Funding)
 1988-1991, National Institutes of Health, \$601,545 (Total Funding)
 1990-1992, National Science Foundation, \$250,000 (Total Funding)
 1990-1992, National Science Foundation Facilities Grant, \$325,000 (Total Funding)
 1991-1995, National Science Foundation, \$375,000 (Total Funding)
 1991-1996, National Institutes of Health, \$770,030 (Total Funding)
 1994-1998, National Science Foundation, \$395,000 (Total Funding)
 1997-2001, National Science Foundation, \$330,000 (Total Funding)
 1999-2003, National Institutes of Health, \$1,367,00 (Total Funding)
 2000-2003, National Science Foundation, \$395,000 (Total Funding)
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INSTITUTIONAL GRANTS

2002- 2007, National Institutes of Health, Training Grant in Neuroethology, University of Maryland
 1990-1992, National Science Foundation, A Molecular Biology Facility for the Bodega Marine
 Laboratory, University of California, Davis
 1989, National Institutes of Health Training Grant in Developmental Biology, University of Texas at
 Austin
 1983-1987, Director, National Institutes of Health, Training Grant in Embryology, Marine Biological
 Laboratory, Woods Hole
 1977-1981, National Institutes of Health, Training Grant in Genetics, University of Texas at Austin

PUBLICATIONS

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