

## CURRICULUM VITAE

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### Education

Ph.D., Zoology, University of California, Berkeley, 1985  
 B.A., Anthropology, University of Oregon, 1976

### Professional Experience

- 2003-present: Professor, Department of Biology, Coordinator of Environmental Science and Policy Program (2003-2009), Hartwick College, Oneonta, NY 13820
- 1995-2003: Associate Professor, Department of Biology, Hartwick College, Oneonta, NY 13820.
- 1989-1995: Assistant Professor, Department of Biology, Hartwick College; Chair of Science Division (1994-1996); Coordinator of Environmental Science and Policy Program (1994-1996).
- 1985-1989: Research Associate, Developmental Biology Center, University of California, Irvine.
- 1984-1985: Research Associate, Department of Zoology, University of Leicester, U.K.
- 1978-1984: Research Assistant, Museum of Vertebrate Zoology, University of California, Berkeley.
- 1973-1978: Research Assistant, Department of Biology, University of Oregon.

### Honors, Awards, and Grants

- NSF S-STEM grant: “Biotechnology in Practice Scholarship Program at Hartwick College” (\$552,000; 2010-2015); PI: S.K. Sessions.
- NSF Planning grant: “Expanding Collaborative Research and Education Opportunities to Protect Biological Diversity on Public Lands in Upstate New York” (\$25,000; 2010-2011); PI: Brian Hagenbuch.
- Cargill Foundation Grant for Environmental Science, Environmental Science and Policy program, Hartwick College, 2009-2014.
- Freedman Award in Science Division (with Jesse Werner, '09), Hartwick College: Pattern Formation in Regenerating Tails and Spinal Cords in Salamanders.
- Freedman Award in Theatre (with Yuri Mataev, '09, and Marc Shaw): Bridging the Ivory Towers, a conceptual performance art project attempting to build a bridge between the Biological Sciences and Theatre Arts.
- Winifred D. Wandersee Scholar-in-Residence Award, Hartwick College, 2008-2009.
- Freedman Award in Science (with Dustin Jones, '09), Hartwick College: Heart bioengineering in red-spotted newts, *Notophthalmus viridescens*, 2008-09.
- Freedman Award in Cognitive Science (with Yuri Mataev, '09), Hartwick College: Brain regeneration in the red-spotted newt, *Notophthalmus viridescens*.
- Corning foundation Grant, Biotechnology program, Hartwick College, 2008.
- NSF RUI research grant: “Collaborative Research: Community ecology as a framework for understanding disease dynamics” (\$86,527; Jan 2006 – Jan 2009); PI: S.K. Sessions.
- Hartwick College Board of Trustees Research Grants and Student Research Fellowships (1990-present).
- Rockefeller Foundation Fellowship, Institute for Electronic Arts, Alfred University (2001-2002)
- Margaret B. Bunn Award for Outstanding Teaching, Hartwick College, 2001
- Winifred D. Wandersee Scholar-in-Residence Award, Hartwick College, 1998-1999.
- Oregon Community Foundation Grant to support research on deformed amphibians (1998).
- Hartwick College Teacher/Scholar Award, Teacher Excellence Program of the Independent College Fund of New York, 1996
- Culpeper Grant for use of computer-assisted micro-image analysis in the classroom (1996)

- Project Kaleidoscope *Faculty for the 21st Century*
- Highlands Foundation Research Grant, 1994
- Bowerman Foundation Grant, 1986 and 1989.
- Highlands Foundation Grant-in-Aid, 1987.
- Nuffield Foundation Grant, U.K., 1985.
- Annie M. Alexander Fellowship, U.C. Berkeley, 1983.
- Distinguished Teaching Assistant Award, U.C. Berkeley, 1983.
- Kellogg Grant-in-Aid, U.C. Berkeley, 1982.
- Stoye Award for best presented paper, 61st Annual meeting of the American Society of Ichthyologists and Herpetologists, 1981.
- Tinker Grant-in-Aid for Latin American Studies, U.C. Berkeley, 1981.

### Professional Memberships

American Association for the Advancement of Science  
 American Society of Ichthyologists and Herpetologists  
 Beta Beta Beta National Biology Honors Society (Advisor, 1990-93)  
 Herpetologists' League  
 Society for the Study of Reptiles and Amphibians

### Other

Doctoral Committee, Brandon Ballengée, University of Plymouth/ University of the Arts, Zürich  
 Masters committee, Eric Dieffenbacher, Marshall University  
 Doctoral committee, Dr. Geoffrey Stopper, Yale University  
 Doctoral committee, Dr. Sarah Turtle, University of New Hampshire

### Publications (\* = Hartwick undergraduates or alumni)

#### *Books and Book Chapters:*

- Sessions, S.K. (in press). What Would Darwin Think? In: *The Philosophy of Evolution* (A.K. Purohit, ed.), Yash Publishing House, Bikaner ISBN: 818688235-9.
- Ballengée, B. and S.K. Sessions. 2010. The Case of the Deviant Toad: An Introduction to the proximate causes for limb deformities in amphibians. Pp. 40-43 In: *Malamp, the Occurrence of Deformities in Amphibians* (B. Ballengée) the Arts Catalyst & Yorkshire Sculpture Park, London and West Yorkshire.
- Sessions, S.K. and B. Ballengée. 2010. Developmental Deformities in Amphibians. Pp. 62-71 In: *Malamp, the Occurrence of Deformities in Amphibians* (B. Ballengée) the Arts Catalyst & Yorkshire Sculpture Park, London and West Yorkshire.
- Rohr, J.R., T. Raffel, and S.K. Sessions. (2009). Parasites and Amphibians. Chapter 4, pp. 3067-3088 In: *Amphibian Biology, Conservation and Decline of Amphibians* (H. Heatwole, ed.) Chipping Norton, Australia: Surrey Beatty & Sons.
- Green, D.M. and S.K. Sessions. 2007. Karyology and cytogenetics. In: *Amphibian Biology*, Vol. 7 (H. Heatwole and M. Tyler, eds.). Chipping Norton, Australia: Surrey Beatty & Sons.
- Sessions, S.K. (2003). The Proteidae. In: *Grzimek's Animal Life Encyclopedia*. Gale Group.
- Sessions, S.K. (2003). What is Causing Deformed Amphibians? In: *Amphibian Conservation* (R. D. Semlitsch, ed.), Smithsonian Press, Washington, D.C.
- Sessions, S.K., Adam Franssen\*, Vanessa Horner\*, Louise Hecker\*, and Geoffrey Stopper\* (2001). Update On Deformed Amphibian Research at Hartwick College. In: *Catsill Ecosystem Health* (M. S. Adams, ed.), Purple Mountain Press.
- Sessions, S.K. and J.L. Wiktorowski\*. (2000). Population cytogenetics of the plethodontid salamander *Eurycea wilderae*. In: *The Biology of Plethodontid Salamanders* (R. C. Bruce et al., eds.), Plenum.

- Sessions, S.K. 1996. Chromosomes: Molecular Cytogenetics. *In*: "Molecular Systematics", Second Edition (D.M. Hillis and C. Moritz, eds.), Sinauer.
- Green, D.M., and S.K. Sessions. 1991. Amphibian Cytogenetics and Evolution. Academic Press.
- Sessions, S.K. and D.M. Green. 1991. James Kezer: A pioneer in amphibian cytogenetics. *In*: Amphibian Cytogenetics and Evolution (D.M. Green and S.K. Sessions, eds.), Academic Press.
- Sessions, S.K. and J. Kezer. 1991. Evolutionary cytogenetics of bolitoglossine salamanders. *In*: Amphibian Cytogenetics and Evolution (D.M. Green and S.K. Sessions, eds.), Academic Press.
- Green, D.M. and S.K. Sessions. 1991. Nomenclature for chromosomes. *In*: Amphibian Cytogenetics and Evolution (D.M. Green and S.K. Sessions, eds.), Academic Press.
- Sessions, S.K. 1990. Chromosomes: Molecular Cytogenetics. *In*: "Molecular Systematics" (D.M. Hillis and C. Moritz, eds.), Sinauer, 1990.

#### Articles and Reviews:

- Raffel, T.R., J.O. Lloyd-Smith, S.K. Sessions, P.J. Hudson, and J.R. Rohr (2010). Does the early frog catch the worm? Disentangling potential drivers of a parasite age-intensity relationship in tadpoles. *Oecologia* (in press).
- Warny, P.R., S.K. Sessions, and B. Ballengée (2010). Salamander SciArt. *IRCF Reptiles and Amphibians*. vol. 17 (no. 3): 26-28.
- Sessions, S.K. and B. Ballengée (2010). Explanations for deformed frogs: Plenty of research left to do (a response to Skelly and Benard). *Journal of Experimental Zoology (Mol Dev Evol)* 314B: 341-346.
- Ballengeé, B. and S.K. Sessions (2009). Explanation for missing limbs in deformed amphibians. *Journal of Experimental Zoology (Mol Dev Evol)* 312B:1-10.
- Sessions, S.K. (2009). The mystery of deformed frogs. *IRCF Reptiles and Amphibians*. vol. 16 (no. 3): 198-199.
- Sessions, S.K. and H.C. Macgregor. (2009). The necessity of Darwin. This journal's tribute to the most influential scientist of all time. *Chromosome Research* 17:437-442.
- Sessions, S.K. (2009). Malformed frogs, the collapse of aquatic ecosystems (book review), *Herpetological Review* 40:121-124.
- Sessions, S.K. and H.C. Macgregor. (2009). The necessity of Darwin *Nature Precedings*. <http://hdl.handle.net/10101/npre.2009.2887.1> (2009)
- Hecker\*, L. L. Khait, S.K. Sessions, and R.K. Birla. (2008). Functional evaluation of isolated zebrafish hearts. *Zebrafish* 5:1-4.
- Rohr, JR, T.R. Raffel, S.K. Sessions, and P.J. Hudson (2008). Understanding the net effects of pesticides on amphibian trematode infections. *Ecological Applications* 18:1743-1753.
- Sessions, S.K., M. Stöck, D.R. Vieites, R. Quarles\*, M.S. Min, and D.B. Wake (2008). Cytogenetic analysis of the Asian plethodontid salamander, *Karsenia koreana*: evidence for karyotypic conservation, chromosome repatterning, and genome size evolution. *Chromosome Research* 16:563-574.
- Sessions, S.K. (2008). Evolutionary cytogenetics in salamanders. *Chromosome Research* 16:183-201.
- Houck\*, A., and S.K. Sessions (2006). Could atrazine affect the immune system of the frog, *Rana pipiens*? *Bios* 77:107-112.
- Sessions, S.K. (2005). The Trouble with Amphibians: An Example of Science in Action at the Undergraduate level. *Bios* 76:134-136.
- Iizuka, K., S. K. Sessions, S. Yasugi, T. Nakazato, and Y. Takeuchi (2005). Analysis of the form and evolutionary implications of the interdigital membrane of larval hynobiid salamanders. *Herpetologica Petropolitana* (Ananjeva N. and O. Tsinenko, eds.) 148-154.
- Sessions, S. K. (2002). James Kezer, pioneer in amphibian cytogenetics and teacher extraordinaire (obituary). *Herpetological Review* 33.
- Stopper\*, G., L. Hecker\*, R.A. Franssen\*, and Sessions, S.K., (2002). How parasites cause deformities in amphibians. *Journal of Experimental Zoology (Mol Dev Evol)* 294:252-263.

- Hecker\*, L. and S. K. Sessions (2001). Developmental analysis of limb deformities in amphibians. *Bios* 72
- Brinkman, J.N., S.K. Sessions, A. Houben, and D.M. Green (2000). Structure and evolution of supernumerary chromosomes in the Pacific giant salamander, *Dicamptodon tenebrosus*. *Chromosome Research* 8:477-485.
- Sessions, S.K. (1999). Status and Conservation of Midwestern Amphibians (review). *Herpetological Review* 30.
- Sessions, S.K., R.A. Franssen\*, and V.L. Horner\* (1999). Morphological clues from multilegged frogs: are retinoids to blame? *Science* 284:800-802.
- Sessions, S.K. 1998. Frog deformities (letter) *Science* 279:461-462.
- Sessions, S.K. 1998. Amphibians and trematodes. *Froglog* 26:1-2.
- Sessions, S.K. 1993. The art and science of fluorescence microscopy (review). *Systematic Biology* 42:224-225.
- Sessions, S.K. 1992. Developmental evolution: it's all in the timing (review). *Quarterly Review of Biology* 67:498-501.
- Sessions, S.K. 1991. Cytogenetics of amphibians and reptiles (review). *Herp Review* 22:29-30.
- Hayamizu, T.F., S.K. Sessions, N. Wanek, and S.V. Bryant. 1991. Effects of localized application of transforming growth factor beta-1 on developing chick limbs. *Developmental Biology* 145:164-173.
- Sessions, S.K. 1990. Molecular approaches to protein structure and function, applications to cell and developmental biology (review). *Quarterly Review of Biology* 65:499-500.
- Macgregor, H.C., S.K. Sessions, and J. W. Arntzen. 1990. An integrative analysis of phylogenetic relationships among newts of the genus *Triturus* (family Salamandridae), using comparative biochemistry, cytogenetics and reproductive interactions. *Journal of Evolutionary Biology* 3:329-373.
- Sessions, S.K. and S.B. Ruth. 1990. An explanation for naturally occurring supernumerary limbs in amphibians. *Journal of Experimental Zoology* 245:38-47.
- Kezer, J., S.K. Sessions, and P. León (1989): The meiotic structure and behavior of the strongly heteromorphic X/Y sex chromosomes of neotropical plethodontid salamanders of the genus *Oedipina*. *Chromosoma* 98:433-442.
- Sessions, S.K. (1989): Toward a developmental understanding of evolution. *BioScience* 39:566-567 (book review).
- Sessions, S.K., D.M. Gardiner, and S.V. Bryant (1989). Compatible limb patterning mechanisms in urodeles and anurans. *Developmental Biology* 131:294-301.
- Sessions, S.K., H.C. Macgregor, M. Schmid, and T. Haaf (1988). Cytology, embryology, and evolution of the developmental arrest syndrome in newts of the genus *Triturus*. *Journal of Experimental Zoology* 248:321-334.
- Sessions, S.K. and S.V. Bryant (1988): Evidence that regenerative ability is an intrinsic property of limb cells in *Xenopus*. *Journal of Experimental Zoology* 247:39-44.
- Villalobos, M., P. León, S.K. Sessions, and J. Kezer (1988). Enucleated erythrocytes in plethodontid salamanders. *Herpetologica* 44:243-250.
- Sessions, S.K. and A. Larson (1987). Developmental correlates of genome size in plethodontid salamanders and their implications for genome evolution. *Evolution* 41:1239-1251.
- Sessions, S.K. and J. Kezer (1987). Cytogenetic evolution in the plethodontid genus *Aneides*. *Chromosoma* 95:17-30.
- Sessions, S.K. (1986). Thoughts on genome size: The controversy continues. (book review), *Cell* 45:473-474.
- Macgregor, H.C. and S.K. Sessions (1986). The biological significance of variation in satellite DNA and heterochromatin in newts of the genus *Triturus*: an evolutionary perspective. *Phil.Trans. Roy.Soc. London B* 312:243-259.

- Macgregor, H.C. and S.K. Sessions (1986). Models for evolution in large genomes and karyotypes in urodeles. Symposium V: Karyotype conservation and diversification, mechanisms of DNA rearrangement. *Verh. Dtsch. Zool. Ges.* 79:137-148.
- Sessions, S.K. and J.E. Wiley (1985). Chromosome evolution in salamanders of the genus *Necturus*. *Brimleyana* 10:37-52.
- Sessions, S.K. (1984). Cytogenetics and evolution in salamanders. Ph.D. dissertation, University of California, Berkeley.
- Sessions, S.K. (1982). Cytogenetics of diploid and triploid salamanders of the *Ambystoma jefferesianum* complex. *Chromosoma* 84:599-621.
- Sessions, S.K., P. León, and J. Kezer (1982). Cytogenetics of the Chinese Giant Salamander, *Andrias davidianus* (Blanchard): the evolutionary significance of cryptobranchoid karyotypes. *Chromosoma* 86:341-357.
- Schwenk, K., S.K. Sessions, and D. Peccinini-Seale (1982). Karyotypes of the basiliscine lizards *Corytophanes cristatus* and *Corytophanes hernandesii*, with comments on the relationship between chromosomal and morphological evolution in lizards. *Herpetologica* 38:493-501.
- Kimmel, C.B., S.K. Sessions, and R.J. Kimmel (1981). Morphogenesis and synaptogenesis of the zebrafish Mauthner neuron. *J. Comp. Neurology* 198:101-120.
- Kezer, J., P. Leon, and S.K. Sessions (1980). Structural differentiation of the meiotic and mitotic chromosomes of the salamander, *Ambystoma macrodactylum*. *Chromosoma* 81:177-197.
- Sessions, S.K. (1980). Evidence for a highly differentiated sex chromosome heteromorphism in the salamander *Necturus maculosus* (Rafinesque). *Chromosoma* 77:157-168.
- Kimmel, C.B., S.K. Sessions, and R.J. Kimmel (1979). Target recognition in neurogenesis: formation of the Mauthner axon cap. *Proc. Natl. Acad. Sci. USA* 76:4691-4694.
- Kezer, J. and S.K. Sessions (1979). Chromosomal variation in the plethodontid salamander, *Aneides ferreus*. *Chromosoma* 71:65-80.
- Kimmel, C.B., S.K. Sessions, and R.J. Kimmel (1978). Radiosensitivity and time of origin of Mauthner neuron in the zebra fish. *Devel. Biol.* 62:526-529.
- Sessions, S.K. (1978). The chromosomes of *Anotheca spinosa* (Stejneger), family Hylidae. *Herpetologica* 34:70-73.
- Sessions, S.K. (1977). Egg capsules and embryos of the bolitoglossine salamander, *Lineatriton lineola* (Cope). *Herpetologica* 33:452-454.
- Kimmel, C.B., S.K. Sessions and M.C. Macleod (1976). Evidence for an association of most nuclear RNA with chromatin. *J. Mol. Bio.* 102:177-191.

### Invited Talks

- Audubon Society, Otsego County, Oneonta, NY 2010. Deformed amphibians: Harbingers of Doom or Chicken Little in the Mineshaft?
- Bennington College, Vermont. 2009. Deformed amphibians: Harbingers of Doom or Chicken Little in the Mineshaft?
- Darrin Fresh Water Institute, Rensselaer Polytechnic Institute, and Historical Society of Bolton, NY, 2009 Summer Lecture Series: Deformed amphibians: Harbingers of Doom or Chicken Little in the Mineshaft?
- Cornell University, 2009: Deformed amphibians: Harbingers of Doom or Chicken Little in the Mineshaft?
- Faculty Lecture Series, Hartwick College, 2009: Building Hearts and Brains (from Scratch).
- Glimmerglass University Lecture Series, Cooperstown, NY, 2009: Building Hearts and Brains (from Scratch).
- Wandersee Symposium, Hartwick College, 2009: Engaging Students in Biotechnology Research at Hartwick college: How and Why?

- New York State Museum Lecture Series, Biodiversity Research Institute, Spring 2008, Biology & Conservation: Do we still have to worry about deformed amphibians?
- Sullivan County Community College, 2007: Amphibians as Environmental Indicators: The Effects of Pollutants, Parasites, and Predators on /Disease in Frogs, Salamanders, and Toads.
- Roberson Museum and Science Center, Spring Lecture Series, 2007: Frog Ponderings: What's Happening and Why Should We Care?
- Cambridge University, Department of Veterinary Medicine, Cambridge Resource Center for Comparative Genomics, 2006: Evolutionary cytogenetics in salamanders.
- Upper Hudson Phi Beta Kappa Honors Society: Amphibians as Environmental Indicators. RPI, 2004.
- Inauguration speech, Tri-beta Biology Honors Society, State University College at Oneonta, 2004: The Trouble with Amphibians: An Example of Science in Action at the Undergraduate level.
- Sigma Xi, Villanova University, 2004: Update on Research on Deformed Amphibians
- Pan American Advanced Studies Institute (PASI) and Integrated Research Challenges in Environmental Biology (IRCEB): Declining Amphibians, La Selva Biology Station (OTS), 2004: Deformed and Malformed Amphibians.
- Binghamton University, 2002: What happened to the deformed amphibians?
- Ithaca College, 2001: What is causing deformed amphibians?
- University of Washington, Fred Hutchinson Cancer Research Center, 2000: Update on research on deformed amphibians.
- Hofstra University, 2000: Deformed amphibians: what now?
- Symposium of the Catskill Institute for the Environment: "Indicators of Catskill Ecosystem Health", SUNY Delhi, 1999: Update On Deformed Amphibian Research at Hartwick College.
- American Association for the Advancement of Science Annual Meeting: Challenges for a New Century, Anaheim, California, 1999: Symposium on Education, Entertainment, and Literacy: Deformed frogs: what does the evidence tell us?
- Union College, 1999: Deformed frogs: what does the evidence tell us?
- Upstate Herpetological Association, Syracuse, NY, 1998: The role of parasites in amphibian deformities.
- National Science Foundation Workshop: Mechanisms of Developmental Disruption in Amphibians, San Diego, 1998: Parasites and amphibian malformations.
- Sigma Xi Lecture, Hartwick College 1998: Mutant frogs: pollution or parasite?
- Siena College, 1998: Deformed amphibians: the role of natural phenomena.
- SUNY Cortland, 1998: Deformed amphibians: the role of natural phenomena.
- SUNY Cobleskill, 1998: Deformed amphibians: the role of natural phenomena.
- University of New Hampshire, 1998: Deformed amphibians: the role of natural phenomena.
- State University of New York College at Oneonta, 1997: What is causing the deformed frogs?
- State University of New York at Albany, 1997. Deformed amphibians: the role of natural phenomena.
- Special symposium, 18<sup>th</sup> Annual meeting of the Society of Environmental Toxicology and Chemistry, San Francisco, 1997: Evidence that deformed frogs are caused by natural phenomena.
- Syracuse University, 1997. Deformed amphibians: the role of natural phenomena.
- Wells College, 1997. Deformed amphibians: the role of natural phenomena.
- U.S. Environmental Protection Agency Workshop on Evaluating the increase of amphibian malformations, April 15-16, 1997, Shenandoah National Park, Virginia: Amphibian deformities: the role of natural phenomena.
- U.S. Environmental Protection Agency Workshop on Central North American Amphibian Limb Deformities, September 25-26, 1996, Duluth, Minnesota: An explanation for the occurrence of supernumerary limbs in natural populations of amphibians.
- Villanova University, 1996. An explanation for the occurrence of supernumerary limbs in natural populations of amphibians.

- Cornell University, Ithaca, NY, 1995: Phenotypic correlates of genome size variation in plethodontid salamanders.
- SUNY Oneonta, Oneonta, NY, 1995: Phenotypic correlates of genome size variation in plethodontid salamanders.
- SUNY Binghamton, Binghamton, NY, 1994: Phenotypic correlates of genome size variation in plethodontid salamanders.
- Smith College, Northampton, NY, 1993: Morphological correlates of genome size variation in plethodontid salamanders.
- University of Massachusetts, Amherst, MA, 1993: The developmental basis of morphological evolution of the vertebrate limb.
- SUNY Albany, Albany, NY 1992: Morphological correlates of genome size variation in plethodontid salamanders.
- Siena College, Albany, NY, 1992: The mystery of the polylegged frogs.
- Roundtable Workshop: "The Relationship of Development to Morphological Evolution", The Fourth International Congress of Systematic and Evolutionary Biology, 1990: University of Maryland, Baltimore.
- SUNY Stony Brook, Stony Brook, NY, 1990: A developmental perspective on the structure and evolution of vertebrate limbs.
- McGill University, Montreal, Quebec, Canada, 1989: The developmental basis of morphological evolution of the vertebrate limb.
- Cornell University, Ithaca, NY, 1989: The developmental basis of morphological evolution in the vertebrate limb.
- Harvard University, Cambridge, MA, 1989: The developmental basis of homology: an experimental approach.
- Reed College, Portland, OR, 1989: The control of pattern formation during limb development and regeneration.
- Tulane University, New Orleans, LA, 1988: An experimental approach to the problem of homology in the evolution of the tetrapod limb.
- The Highlands Biological Station, Highlands, NC, 1987: The evolution of genome size in salamanders of the family Plethodontidae.
- Symposium of the German Zoological Society, 1986: Karyotype conservation and diversification, mechanisms of DNA rearrangement. Munich, F.R. Germany. Models for evolution in large genomes and karyotypes of urodeles (with H.C. Macgregor).
- University of Heidelberg, F.R. Germany, 1985: The biological significance of large differences in genome size in plethodontid salamanders.
- Max Planck Institute for Biology, Tübingen, F.R. Germany, 1985: Current progress in the study of cytogenetics in European newts of the genus *Triturus*: Development, cytogenetics, and evolution in the genus *Triturus*.
- Discussion Meeting of the London Royal Society, 1985: The evolution of DNA sequences, London, U.K. The biological significance of variation in satellite DNA and heterochromatin in newts of the genus *Triturus*: an evolutionary perspective, (with H.C. Macgregor).
- 25th Anniversary Symposium of the Society for the study of Amphibians and Reptiles, 1982: Molecular and Genomic Evolution of Amphibians and Reptiles, North Carolina State University. The significance of sex chromosomes in the evolution of salamander genomes.

### **Abstracts and Symposia**

- Joint Annual Meeting of the Federation of American Societies for Experimental Biology (AFASEB), Biochemistry and Molecular Biology, Anaheim, California, 2010: In search of cardiac stem cells in regenerating newt (with Dwayvonia Miller\* and Andrew Piefer).

- Joint Meeting of Ichthyologists and Herpetologists, Brown University, Providence, Rhode Island, 2010: Limb deformities in amphibians: Development mechanisms (with Brandon Ballengée).
- Joint Meeting of Ichthyologists and Herpetologists, Portland, Oregon, 2009: Explanation for missing limbs in deformed amphibians (with Brandon Ballengée).
- The 44<sup>th</sup> Annual Meeting of the Canadian Society of Zoologists, Queen's University, Kingston, Ontario, 2005: Amphibian deformities and declines: the role of parasites and disease.
- Endocrine Disruptors and Amphibians: Analysis of the Effects of Two Common Environmental Pollutants, presented at the Annual Biomedical Research Conference for Minority Students (ABRCMS); October 15 - 18, 2003, in San Diego, CA (presenter: Clarence Owens\* '05).
- 51st Annual Meeting of the Japanese Society of Chromosome Research, 2000: "Jim Kezer: Pioneer in Salamander Chromosome Research" (with K. Iizuka, J. Applegarth, Y. Takeuchi, and T. Nadashi).
- Northeast Division of Fish and Wildlife Meeting, Saratoga, NY 2000: Cause of Amphibian Malformations in Selected Ponds in New York State (with E. Paul and H.A. Simonin of the New York DEC).
- Fourth Conference on the Biology of Plethodontid Salamanders, sponsored by the Highlands Biological Station, 1998: Population cytogenetics in *Eurycea wilderae* (with Jodi Wiktorowski)
- American Society of Ichthyologists and Herpetologists, 77<sup>th</sup> Annual Meeting, University of Washington, Seattle, WA, 1997: Deformed amphibians: the role of natural phenomena.
- XXII Annual Biological Sciences Symposium, SUNY Binghamton, 1997: Deformed amphibians: the saga continues!
- The North American Amphibian Monitoring Program 3rd Annual Meeting, 1997: Evidence that Trematodes Cause Deformities, including Extra Limbs, in Amphibians (<http://www.im.nbs.gov/naamp3/papers/54/54df.html>).
- XXI Annual Biological Sciences Symposium, SUNY Binghamton, 1996: An explanation for naturally occurring supernumerary limbs in amphibians.
- XX Annual Biological Sciences Symposium, SUNY Binghamton, 1995: Cytogenetics and phylogeny in desmognathine salamanders (with Annette Jones).
- XIX Annual Biological Sciences Research Symposium, SUNY Binghamton, 1994: An analysis of gene flow and genetic drift using an inversion polymorphism in the plethodontid salamander, *Eurycea wilderae*.
- Third Conference on the Biology of Plethodontid Salamanders, 1992, Highlands Biological Station, Highlands, NC: Genome size and morphological evolution in plethodontid salamanders.
- 1991 Annual Joint Meeting of the Society for the Study of Amphibians and Reptiles and the Herpetologists' League, Pennsylvania State University: Phenotypic correlates of genome size variation in plethodontid salamanders (with M. Walsh).
- The 1989 Centennial Meeting of the American Society of Zoologists, Boston, MA, 1989: Effects of localized application of retinoic acid on pattern in developing and regenerating salamander limbs (with N. Wanek and S.V. Bryant).
- 69th Annual Meeting, American Society of Ichthyologists and Herpetologists, "Amphibian Cytogenetics and Evolution" Symposium, San Francisco State University, San Francisco, CA, 1989: Phylogenetic patterns of chromosomal and genome size differentiation in bolitoglossine salamanders, family Plethodontidae (with James Kezer).
- Meeting of the American Society of Zoologists, San Francisco, CA, 1988: An experimental approach to problems of homology in the tetrapod limb (with D.M. Gardiner and S.V. Bryant).
- Society for the Study of Evolution, Asilomar, Pacific Grove, CA, 1988: An explanation for naturally occurring supernumerary limbs in amphibians (with S.B. Ruth).
- West Coast Regional Conference of the Society for Developmental Biology. Asilomar, Pacific Grove, CA, 1988: An experimental analysis of tetrapod limb homology (with D.M. Gardiner and S.V. Bryant).
- Sixth Biennial Regeneration Forum, Ohio State University, 1987: Evidence that regenerative ability is an intrinsic property of limb cells in *Xenopus*.

- Sixth Biennial Regeneration Forum, Ohio State University, 1987: Homology of patterning mechanisms between vertebrates (with D.M. Gardiner).
- Society for the Study of Evolution, Montana State University, 1987: Development and evolution of the tetrapod limb.
- Third International Congress of Systematic and Evolutionary Biology, University of Sussex, U.K., 1985: The biological significance of "extra" DNA in plethodontid salamanders.
- Joint annual meeting of the American Society of Ichthyologists and Herpetologists, The Herpetologists' League, and the Society of the Study of Amphibians and Reptiles, University of Oklahoma, 1984: Mechanisms of morphogenesis in ontogeny and phylogeny: evidence from limb regeneration in plethodontid salamanders.
- 65th annual meeting of the American Association for the Advancement of Science, Pacific Division, San Francisco, CA, 1984: Morphogenesis in ontogeny and phylogeny: a cellular perspective.
- 26th annual meeting of the Society for the Study of Amphibians and Reptiles, and 31st annual meeting of the Herpetologists' League, University of Utah, 1983: Evolution of the plethodontid genus *Aneides*: a cytological perspective, (with J. Kezer).
- Joint annual meeting of the Society for the Study of Amphibians and Reptiles, and the Herpetologist's League, North Carolina State University, 1982: Chromosome evolution in salamanders of the genus *Necturus*, (with J. Wiley).
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