

Duncan J. Irschick

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Graduate advisors Jonathan B. Losos and Allan Larson

Positions

2008-present	Associate Professor, University of Massachusetts at Amherst
2006-2007	Assistant Professor, University of Massachusetts at Amherst
2001-2005	Assistant Professor, Tulane University (awarded early tenure in 2005; moved to Univ. Mass Amherst as advanced Assistant Professor)
2000-2001	Postdoctoral Researcher, University of California at Berkeley
1997 – 2000	Postdoctoral Researcher, University of Cincinnati
1992 - 1997	Graduate student (Ph.D.), Washington University in St. Louis. “ <i>Adaptation, Performance Ability, and Evolutionary Diversification in <u>Anolis</u> Lizards</i> ”
1987-1991	Undergraduate (B. S., Zoology), University of California, Davis, CA

Teaching

2008-2009	Co-Instructor, <i>Biology of Social Issues</i> (BIO 105), University of Massachusetts at Amherst (2 semesters)
2006-2008	Instructor, <i>Comparative Physiology</i> (BIO 566), University of Massachusetts at Amherst (3 semesters)
2001-2006	Instructor, <i>Biostatistics and Experimental Design</i> (EEOB 408/708), Tulane University (3 semesters)
2001-2006	Instructor, <i>Human Physiology</i> (EEOB 333), Tulane University (5 semesters)
2001-2006	Instructor, <i>Ecological Physiology</i> (EEOB 452/752), Tulane University (3 semesters)
2004, 2006	Instructor, Graduate seminar (EEOB 681), Tulane University (2 semesters)
1999	Co-Instructor, <i>Freshman Biology</i> (BIO 103), Univ. Cincinnati (1 semester)

- 1999 Instructor, Seminar in Population Biology, "*Ecomorphology: New approaches for an old idea*" (BIO 996), Univ. Cincinnati (1 semester)
- 1998 Instructor, *Data analysis* (Biometry, BIO 765), Univ. Cincinnati (1 semester)
- 1995-1996 Teaching assistant, *Fundamentals of Biology*, Instructor-Garland Allen, Washington University (1 semester)
- 1993-94 Teaching assistant, *Evolution*, Instructor-Jonathan Losos, Washington University (1 semester)

Postdoctoral researchers supervised (5)

Dr. Anthony Herrel, Ph.D. University of Antwerp (9/01 – 12/02), Dr. Bieke Van Hooydonck, Ph.D. University of Antwerp (9/01 – 12/02), Dr. Martin Dallimer, Ph.D. University of Edinburgh (10/1/02 – 6/1/03), Dr. Jay Meyers, Ph.D. Northern Arizona University (4/1/05-3/1/2008), Dr. Jerry Husak. Ph.D. Oklahoma State University (1/1/2007-4/1/2008).

Ph.D. and M.S. students supervised (8)

Shawn Vincent (9/01 – 12/05), Simon Lailvaux (9/02 – 12/05), Christine Buckley (9/02 – 4/08), David McMillan (9/03 – 5/09), Phillip Bergmann (1/04-6/08), Justin Henningsen (9/1/06 – present), Chi-Yun Kuo (begins 9/1/09), Suellen Almeida (M.S. 2009-present)

Undergraduate students supervised (39)

Emily Georges (Independent study), Hannah Tosi (Independent study), Elyse Wagner (Independent study), Rachel Herman (Honors student), Kelly Kumm (Independent study), Heidi Li (Independent study), Hyun-Joo Kim (Independent study), Suellen Almedia, Independent study, Minority), Sandy Robinson (Independent study), Lauren Bonvini (Honors thesis), Amy Trombecky (Work-study), Simon Miner (Independent study), Laura Custer (Work-study), Jessica Wood (REU fellowship), William Bell (REU fellowship), Michael Kunen (Work-study), Issac Kremsky (Work-study), Jacqueline Fountain (Independent study), Jennifer Weaver (Work-study), Phuong-Di Dang (Honors student), Rachel Katz (Work-study), John Rossell (Independent study), Natasha Bloch (Honors student, Minority), Elizabeth Carlisle (Honors student), Justin Elstrott (Honors student), Andy Jimenez (LAMP student, Minority), John Danzell (LAMP student, Minority, Kevin Gibbons (Independent study), Christina Hartnett (Independent study), Rebecca Joachim (Independent study), Daniel Ballow (Independent study), Anemone Androsceu (Independent study), Daniel Hincapie (Independent study), Veronica Webb (Independent study), Margarita Ramos (Independent study), Esteban Toro (Summer research in lab), Jon Forman (Summer research), Ted Macrini (Summer research), Stephen Koruba (Summer research).

Undergraduate student accomplishments (Graduate school placement, publications)

Margarita Ramos (Princeton University, 4 publications), Esteban Toro (Stanford University, 3 publications), Natasha Bloch (University of Chicago, 3 publications), Justin Elstrott (UC San Diego, 3 publications), Elizabeth Carlisle (George Washington University, 2 publications), Anemone Androsceu (Veterinary school, 1 publication), Rebecca Joachim (M.S. degree in public health, University of Houston, 1 publication), Ted Macrini (University of Texas at Austin, 3 publications), Stephan Koruba (1 publication), Jonathan Forman (1 publication), Jessica Wood (University of Missouri at Columbia)

Editorial Service

Functional Ecology (2005-present)
Open Conservation Biology Journal (2008-present)
Southeastern Naturalist (2007)

Awards and fellowships

2009 National Science Foundation proposal (in review). **\$873,196**. Processes, Structures and Integrity panel. “Using performance traits to understand the evolution of sexual signals”. D. J. Irschick (PI), K. Zamudio (co-PI).

2009 National Institute of Health award, “Skill development: Object manipulation to tool use”. **\$291,589**. Katrina Supplement Award. J. Lockman (PI), **D. J. Irschick (co-PI)**. Start date: 2/01/09. 3R01HD043842-05S1.

2009 National Science Foundation. **\$11,460** (Funded for a symposium on “Hormones and Performance” at the annual SICB meetings for 2009). Physiological and Integrative Systems Panel (for supporting scientific workshops). “Hormonal regulation of whole-animal performance: Implications for selection”. J. Husak (PI), I. T. Moore (co-PI), **D. J. Irschick (co-PI)**. Start date: 1/31/09.

2006 National Science Foundation award (IOB 0622164), Ecological and Evolutionary Physiology Panel, Research for undergraduates, **\$6,000**. **D. Irschick (PI)**. Start date: 5/1/06.

2006 National Science Foundation award (IOB 0600731) Supplement award to conduct additional selection work on lizards. Environmental and Structural Systems. **\$14,207**. **D. Irschick (PI)**. Start date: 1/1/06.

2005 National Science Foundation award (IOB 0527930), Ecological and Evolutionary Physiology Panel, Research for undergraduates, **\$6,000**. **D. Irschick (PI)**. Start date: 6/1/05.

2004 National Science Foundation award (IOB 0421917). Ecological and Evolutionary Physiology Panel “Comparative and convergent aspects of natural selection.” **\$327,589**. **D. Irschick (PI)**. Start date: 7/1/04.

2004 National Institute of Health award, “Skill development: Object manipulation to tool use”. **\$1.5 million**. J. Lockman (PI), **D. Irschick (co-PI)**. Notification of Ranking (1.5%) 7/15/03. Start date: 2/1/04.

2003 National Science Foundation (International supplement award). Ecological and Evolutionary Physiology Panel “Convergence of ecological locomotor function in old and new world lizards”. **\$18,595**. **D. Irschick (PI)**.

2002 Board of Regents Support Fund, 2002 (for award period 2003-2007). “Recruitment of Superior Graduate Students to Ecology and Evolutionary Biology at Tulane University”. **\$76,000**. D. C. Heins, PI; S. P. Darwin, Co-PI, **D. Irschick, Co-PI**

2002 Coypu Foundation award, “The molecular ecology of invasive reptile species: Inferring routes and timing of invasions” J. McLachlan (PI), **D. Irschick (co-PI)**, S. Michael (co-PI). **\$135,460 to D. J. Irschick and Scott Michael** (Direct costs).

2000 National Science Foundation award (IBN 9983003), Ecological and Evolutionary Physiology Panel, Research for undergraduates, **\$6,393**. **D. Irschick (PI)**, B. C. Jayne (co-PI). Start date: 4/1/00.

2000 National Science Foundation award (IBN 9983003), Ecological and Evolutionary Physiology Panel, "Life on a limb: The evolution of locomotion in arboreal specialists". **\$238,935**, **D. Irschick (PI)**, B. C. Jayne (co-PI). Start date: 4/1/00.

1994 Dean's Excellence in Teaching Award

1994 Sigma Xi Grant-in-aid of Research, **\$500**

1994 Presidential Undergraduate Fellowship, **\$1,000**

1988/89 White Mountain Research Station Fellowship, **\$2,000**

Total external funds acquired: \$2,608,518

Media attention

American Association for the advancement of Science, Natural History Magazine, BBC, National Geographic, Hampshire Gazette, Independent UK, Canadian Broadcasting Corporation (CBC), The Columbus Dispatch, The Journal of Experimental Biology News and Views, National Geographic News, Physorg.com, NPR, Discovery Channel, Sciencecentric.com, Science News, ScienceDaily, Springfield Republican, San Diego Union-Tribune, Wissenschaft-online (a German online news group), ABC news, Baltimore Sun, Cincinnati Enquirer. The New York Times, Yahoo! News, The Toronto Star, ScienceBlog, ThaIndian News, Indo-Asian News Service,, NewKerala.com, TopNews.in, AECC, DNAIndia.com, Esciencenews.com, ScienceMode.com, Boston Examiner, NewsNow.co.uk, New York Daily News, Firstscience.com, Newswise.com, Canadian National Post, Wired magazine.com, MSNBC.com, FOXNEWS.com, Scientific American, The Globe and Mail, Aiken Standard, Whats UP! Magazine, Wall Street Journal

Notable:

-Consultant for Pixar Studios

-Featured on upcoming “The Daily Planet” for the Discovery channel on effects of tail loss on lizard jumping (Gillis et al. 2009)

-Featured on the Discovery Channel for “Weird Science” on gecko adhesion

-Featured on the Research Channel on “Rapid evolution”

-Research on gecko adhesion featured on “Head Games for the Science Discovery TV network”

-Research featured in book on “Lizards” by Pianka and Vitt 2003 (Lizard adhesion, Irschick et al. 1996)

-Research featured in Herpetology textbook by Pough et al. 2005 (Lizard bipedalism, gecko adhesion; Irschick et 1996; Irschick and Jayne 1999)

-Research featured in “Moths that Drink Elephant tears” by Matt Walker (Effects of self-amputation and performance in spiders by Ramos et al. 2004)

-Research featured in “Lizards in an Evolutionary tree; Ecology and adaptive evolution of anoles” by Jonathan Losos (anole lizards; multiple papers)

-Research featured in upcoming volume of widely used “Evolution” textbook by D.

Futuyma (Honest signalling in lizards; Vanhooydonck et al. 2005)

-Research featured in upcoming book by Carl Zimmer on Evolution (Rapid evolution in lizards; Herrel et al. 2008)

News organizations for which opinions have been solicited (regarding other papers): The Scientist, Kentucky Mercury News, Twin Cities Pioneer Press, Dallas Star Telegram, Grand Forks Herald, The Charlotte Observer, Columbia Daily Tribune, Detroit Free Press, Portsmouth Herald, South Florida Sun-Sentinel, KCTV news, teenja.com, Miami Herald, diverssite.com, National Geographic News, New Orleans Times-Picayune, Discovery Channel News

Reviewer for (63 journals and organizations)

American Midland Naturalist, The Anatomical Record, The American Naturalist, The American Zoologist, Animal Behaviour, Annals of the Missouri Botanical Garden, Animal Biology (formerly Netherlands Journal of Zoology), Australian Journal of Zoology, Behavior, Behavioral Ecology and Sociobiology, Behavioral Ecology, Belgian Journal of Zoology, Biological Journal of the Linnean Society, Biotropica, Biology Letters, Bioessays, Biological reviews of the Cambridge Philosophical Society, Bioscience, British Sciences Research Council, Copeia, Current Zoology, Ecology, Ecoscience, Ethology, Evolution, Evolutionary Ecology Reports, Frontiers in Zoology, Functional Ecology, Herpetologica, Hormones and Behavior, Integrative Zoology, Journal of Anatomy, Journal of Animal Ecology, Journal of Comparative Physiology, Journal of Evolutionary Biology, Journal of Experimental Biology, Journal of Experimental Zoology, Journal of Herpetology, Journal of the Royal Society of Western Australia, Journal of Morphology, Journal of Natural History, Journal of Orthoptera Research, Journal of Theoretical Biology, Louisiana Board of Regents, Naturwissenschaften, National Geographic Society, The Molecular Ecology, National Science Foundation, National Research Foundation for South Africa, Natural Sciences and Engineering Research Council of Canada, Nature, Oecologia, Oikos, Physiological and Biochemical Zoology, Proceedings of the National Academy of Sciences, Philosophical Transactions of the Royal Society of London, PLoS Biology, PLoS one, Proceedings of the Royal Society of London, Senckembergiana Lethaea, Southeastern Naturalist, Zoology, Zoologischer Anzeiger

Special Issues, Edited Volumes, and Symposia organized

Special Issue for Functional Ecology (published July 2007). “Sexual selection, physiology, and performance” D. J. Irschick, R. Van Damme, and A. Herrel.

Symposia for the International Congress of Vertebrate Morphology, Paris, 2007 (Published February 2008 in Evolutionary Ecology Research). “Natural selection on biomechanical traits” D. J. Irschick and F. Le Galliard.

Symposia for the Society of Integrative and Comparative Biology, Boston 2009 (Accepted, Society-wide, to be published in Integrative and Comparative Biology in 2009) “Hormonal regulation of whole-animal performance: implications for selection” J. F. Husak, D. J. Irschick, and I. T. Moore.

Edited Volume. Accepted for John Wiley-Blackwell Press. *Animal Signaling; Functional and Evolutionary perspectives*. D. J. Irschick, M. Briffa, J. Podos (Editors). Being organized as an edited book for publication in 2010.

Meeting talks and abstracts

- (1) Irschick DJ, Jayne BC. 1998. A comparative analysis of laboratory and field escape performance in two lizard species (*Callisaurus draconoides* and *Uma scoparia*). *American Zoologist* 37: 628A.
- (2) Jayne BC, Irschick DJ. 1998. Effects of incline on the three-dimensional kinematics of the hindlimb of a lizard. *American Zoologist* 37: 635A.
- (3) Irschick DJ, Jayne BC. 1999. Comparative three-dimensional kinematics of the hindlimb for high-speed bipedal and quadrupedal locomotion of lizards. *American Zoologist* 38: 130A.
- (4) Jayne BC, Sanwald M, Irschick DJ. 1999. A field experiment on incline utilization and preferred speeds during the locomotion of lizards. *American Zoologist* 38: 514A.
- (5) Irschick DJ, Jayne BC. 2000. Three-dimensional kinematics of the hindlimb during locomotion vary ontogenetically in lizards. *American Zoologist* 39: 617A
- (6) Irschick DJ, Jayne BC. 2001. A comparative field study of the arboreal locomotion of lizards. *American Zoologist* 40: S6.11
- (7) Irschick DJ. 2001. Evolutionary approaches for studying functional morphology: Examples from studies of performance capacity. *American Zoologist* 40: 276A
- (8) Irschick DJ, Bocchi S, Full RJ. 2002. Does power limit climbing performance? Loading small climbing lizards. *American Zoologist* 41:15.1
- (9) VanHooydonck B, Jimenez M, Irschick DJ. 2002. Effects of surface diameter on acceleration in arboreal lizards. *American Zoologist* 41:15.2
- (10) Irschick DJ. 2002. Using phylogenies to understand the evolution of function and behavior in lizards. *American Journal of Physiology*. 26.6A
- (11) McMillan D, Rank NE, Irschick DJ, Dahlhoff, EP. 2002. Effects of temperature on locomotory performance of two species of California willow beetles. *American Journal of Physiology*. 35.11A
- (12) Irschick DJ. 2003. Studying performance in nature: Implications for fitness variation within populations. *Integrative and Comparative Biology*. 42:S2.4
- (13) Irschick DJ, Full RJ. 2003. Running without a back: Experimental manipulations of axial bending in geckos and effects on kinematics and force dynamics. *Integrative and Comparative Biology* 42:36.4
- (14) Ramos M, Christensen T, Irschick DJ. 2003. Self-autonomy enhances performance in a spider, *Tiddaren sysphoides*. *Integrative and Comparative Biology*. 42:34.5
- (15) Vincent SE, Herrel A, Irschick D. 2003. Kinematic comparisons of aquatic and terrestrial predation in a pitviper, *Agkistrodon piscivorus*. *Integrative and Comparative Biology* 42:36.4
- (16) Toro E, Herrel A, Irschick DJ. 2003. Comparative biomechanics of jumping in *Anolis* lizards. *Flemish Journal of Sport Sciences*.

- (17) Toro E, Herrel A, Irschick DJ. 2003. Biomechanical analysis of jumping in *Anolis* lizards. [A7.22]. Society for Experimental Biology.
- (18) Buckley C, Michael, S, Irschick DJ. 2004. The effect of hatching timing and substrate type on performance and behavior of a direct-developing frog. *Integrative and Comparative Biology* 43:32.3.
- (19) Vanhooydonck B, Herrel A, Meyers J, Irschick DJ. 2004. The evolution of dewlap size in *Anolis carolinensis*. *Integrative and Comparative Biology* 43:32.6
- (20) Irschick DJ, Carlisle E, Elstrott J, Ramos M, Vanhooydonck B, Meyers J, Herrel A. Comparing habitat use, morphology, and performance in two divergent *Anolis* lizard populations. 2004. *Integrative and Comparative Biology* 43:33.5
- (21) Vincent S, Irschick DJ, Herrel A. 2004. Has head shape evolved to match feeding mode in *natricine* snakes? Convergence and constraints. *Integrative and Comparative Biology* 43:39.4
- (22) Carlisle E, Irschick DJ. 2004. Morphology, behavior, and habitat use in two populations of *Anolis carolinensis*. *Integrative and Comparative Biology* 43:P2.87
- (23) Herrel A, Vanhooydonck B, Herrel A, Irschick DJ. 2004. Ontogeny of head shape, bite performance, and diet in the Jamaican lizard *Anolis lineatopus*. *Integrative and Comparative Biology* 43:66.5
- (24) Elstrott J, Irschick DJ. 2004. Evolutionary correlations among morphology, habitat use and clinging in Caribbean *Anolis* lizards. *Integrative and Comparative Biology* 43:66.6
- (25) Vanhooydonck B, Irschick DJ. 2004. Ecological correlates of acceleration capacity in *Anolis* lizards. [A10.10]. Society for Experimental Biology.
- (26) Herrel A, Vanhooydonck B, Porck J, Irschick DJ. 2004. Morphological and biomechanical correlates of differences in locomotor performance and substrate use in two species of *Anolis* lizards. [A10.23]. Society for Experimental Biology.
- (27) Dang P, Vincent S, Lailvaux S, Irschick DJ. 2004. The role of body size in Orthopteran jumping mechanics. *Integrative and Comparative Biology* 44:543-543
- (28) Lailvaux S, Irschick DJ. 2004. Rumble in the Jungle: bite force, dewlap size, and male fighting ability in two species of Caribbean *Anolis* lizards. *Integrative and Comparative Biology* 44:587-587
- (29) McMillan DM, Vanhooydonck B, Herrel A, Meyers J, Irschick DJ. 2004. Does the context of honest signaling change across populations? *Integrative and Comparative Biology* 44:601-601
- (30) Irschick DJ, Lailvaux S, Ramos M, Vanhooydonck B, Herrel A, Losos JB. 2004. Life and death in the big city: Sexual signals, parasitism, and selection. *Integrative and Comparative Biology* 44:576-576

- (31) Rossell JM, Vincent SE, Herrel A, Irschick DJ. 2004. Do juvenile snakes compensate for their small size when feeding? Ontogeny of feeding performance in the water snake, *Nerodia fasciata*? *Integrative and Comparative Biology*. 44:632
- (32) Meyers JJ, Irschick DJ, Vanhooydonck B, Herrel A. 2005. Divergent roles for different color signals in a polygynous lizard: A test of the reinforcement and dual-function hypotheses. *Integrative and Comparative Biology*. 45:1045
- (33) Buckley C, Adolph S, Irschick DJ. 2005. Persistence of incubation effects on the phenotypes of hatchling western fence lizards, *Sceloporus occidentalis*. *Integrative and Comparative Biology*. 45:972
- (34) Bergmann PJ, Irschick DJ. 2005. The temperature-dependence of clinging and sprinting ability in day geckos. *Integrative and Comparative Biology*. 45:964
- (35) Vanhooydonck B, Herrel A, Irschick DJ. 2005. Effects of substrate diameter on acceleration capacity in *Anolis* lizards. *Integrative and Comparative Biology*. 45:1089
- (36) Lailvaux SP, Irschick DJ. 2006. The evolution of performance-based fighting ability in Caribbean *Anolis* lizards. 13th Benelux Congress of Zoology, Leuven, Belgium.
- (37) Huyghe K, Herrel A., Vanhooydonck B, Irschick DJ. 2006. The Hispaniolan twig Anole, *Anolis sheplani*: pushing the boundaries of morphospace. 13th Benelux Congress of Zoology, Leuven, Belgium.
- (38) Meyers J, Irschick DJ. 2007. Performance and niche space in a community of lizards. *Integrative and Comparative Biology*. 39.9
- (39) Buckley CR, Irschick DJ, Adolph SC. 2007. The persistence of environmentally-induced phenotypic variation in western fence lizards. *Integrative and Comparative Biology*. 52.5
- (40) McElroy E, Meyers J, Irschick DJ. 2007. Linking badge morphology, performance, and field behavior in the ornate tree lizard, *Urosaurus ornatus*. *Integrative and Comparative Biology*. 55.1
- (41) Wood J, Meyers J, Irschick DJ. 2007. Display behavior, sexual signal size, and performance in *Anolis sagrei*. *Integrative and Comparative Biology*. 55.3
- (42) Husak JF, Irschick DJ, Meyers J, Moore IT. 2007. Hormones, sexual signals, and performance of green anole lizards (*Anolis carolinensis*). *Integrative and Comparative Biology*. 55.4
- (43) Irschick DJ, Meyers J. 2007. A comparative analysis of natural and sexual selection in lizards. *Integrative and Comparative Biology*. 64.4
- (44) Bergmann PJ, Meyers J, Irschick DJ. 2007. Evolving to be short and stubby – orthogenesis and grades of evolution in body plan in lizards. *Integrative and Comparative Biology*. 36.2

- (45) Herrel A, Vanhooydonck B, Irschick DJ. 2007. Morphological and biochemical correlates of differences in arboreal locomotor performance and substrate use in *Anolis* lizards. *Comparative Biochemistry and Physiology.A – Molecular & Integrative Physiology* 146:S143
- (46) Buckley CR, Adolph SC, Irschick DJ. 2008. Ecomorphology among populations of the western fence lizard, *Sceloporus occidentalis*. *Integrative and Comparative Biology*.
- (47) Irschick DJ. 2008. Sexual selection and functional morphology: A new frontier? *Integrative and Comparative Biology*. 27.2
- (48) Henningsen JP, Husak JF, Irschick DJ. 2008. Do androgens mediate seasonal changes in sexual signal size and bite-force performance in green anoles (*Anolis carolinensis*)? *Integrative and Comparative Biology*. 27.5
- (49) Meyers JJ, Irschick DJ. 2008. The role of badge size, bite performance and display behavior in predicting dominance in male ornate tree lizards. *Integrative and Comparative Biology*. 27.7
- (50) Miner SV, Meyers JJ, Husak JF, Irschick DJ. 2008. How do hormones, performance, sexual signals, and behavior interact to predict dominance in brown anoles? *Integrative and Comparative Biology*. 27.8
- (51) Bonvini LA, Irschick DJ, Gillis GB. 2008. Losing Stability: Tail loss and jumping in the lizard *Anolis carolinensis*. *Integrative and Comparative Biology*. 42.5
- (52) Bergmann PJ, Irschick DJ. 2008. Conservatism in lizard vertebral number evolution is widespread but not universal. *Integrative and Comparative Biology*. 51.4
- (53) Husak JF, Irschick JF, Irschick DJ, Meyers JJ, Moore IT. 2008. Sexual signals, performance, and testosterone in Bahamian *Anolis* lizards. *Integrative and Comparative Biology*. 53.4
- (54) McMillan DM, Irschick DJ. 2008. Do long term changes in environmental temperature affect thermal tolerance in lizards? *Integrative and Comparative Biology*. 73.5
- (55) Bergmann PJ, Irschick DJ. 2008. Reduced constraint on vertebral number facilitates the diversification of lizards. *Canadian Journal of Zoologists Meeting*. May 2008.
- (56) Husak JF, Irschick DJ. 2009. Hormones as mediators of animal performance. *Integrative and Comparative Biology*. S3.1
- (57) McMillan DM, Rees B, Irschick DJ. 2009. The role of HSP70 expression in locomotion – Reduced sprint speeds after heat stress in *Sceloporus occidentalis*. *Integrative and Comparative Biology*. 42.5
- (58) Irschick DJ, Henningsen J. 2009. Trade-offs between force and accuracy in human performance. *Integrative and Comparative Biology*. 98.6
- (59) Almeida S, Irschick DJ. 2009. The kinetics and kinematics of human performance: Trade-offs between force and accuracy *Integrative and Comparative Biology*. 98.7

- (60) Bergmann PJ, Irschick DJ. 2009. Alternate pathways in the evolution of body elongation, locomotor performance and kinematics in two clades of lizards. *Integrative and Comparative Biology*. 104.1
- (61) Henningsen J, Herman R, Irschick DJ. 2009. Tail autotomy and escape performance in a stream side salamander. *Integrative and Comparative Biology*. 104.5
- (62) McMillan DM, Rees B, Irschick DJ. 2009. Thermal tolerance and Hsp70 expression in the Western fence lizard, *Sceloporus occidentalis*: Geographic variation in measures of acute stress and their role in selection on sprint speeds. *Experimental Biology Conference Abstract, New Orleans*.
- (63) Herrel A, Losos JB, Vanhooydonck B, Irschick DJ. 2009. The evolution of locomotor performance in *Anolis* lizards: why are mainland anoles different? *International Ethological Conference Abstract, Rennes, France*.
- (64) Irschick DJ, Almeida S. 2009. Functional and behavioral limits on human hammering performance. *Society for Experimental Biology Conference Abstract, Glasgow, UK (The research presented in this talk was highlighted in many media outlets, including FOXnews.com, MSNBC.com, Science Daily, Scientific American, the Globe and Mail, and many others)*
- (65) Irschick DJ. 2009. Tails of selection on sexual signal size and performance in anoles. 2009 *Anolis* symposium abstract, Harvard Boston.
- (66) Henningsen J, Irschick DJ. 2009. Dewlap manipulation and behavior in *Anolis* lizards. 2009 *Anolis* symposium abstract, Harvard, Boston.
- (67) Almeida S, Irschick DJ. 2010. Effects of temperature on the development and locomotion of spotted salamanders (*Ambystoma maculatum*). *Integrative and Comparative Biology*. Seattle, WA.
- (68) Irschick DJ. 2010. Correlational selection on sexual signal size and performance in lizards. *Integrative and Comparative Biology*. Seattle, WA.
- (69) Kuo, Chi-Yun, Irschick DJ. 2010. Loading effects on jumping and running in green anole lizards (*Anolis carolinensis*). Seattle, WA.
- (70) Henningsen J, Irschick DJ. 2010. Performance trumps signal size during staged dominance encounters between male green anole lizards. *Integrative and Comparative Biology*. Seattle, WA.
- (71) Bergmann PJ, Irschick DJ. 2010. Tempo and mode of lizard axial evolution. Is body elongation a key innovation? *Integrative and Comparative Biology*. Seattle, WA.

Invited seminars

- (1) 1994 - Southeastern Louisiana University, Louisiana. "A comparative analysis of clinging ability among Pad-bearing lizards"

- (2) 1995 - University of Oklahoma, Oklahoma. "Performance capacity and habitat use in *Anolis* lizards and other pad-bearing lizards"
- (3) 1997 - University of Kentucky, Kentucky. "An evolutionary analysis of the ecological significance of maximal locomotor performance in West Indian *Anolis* lizards".
- (4) 1997 - University of Cincinnati, Ohio. "An Evolutionary Analysis of the ecological Significance of maximal locomotor performance in West Indian *Anolis* lizards".
- (5) 1997 - Society for the study of Amphibians and Reptiles meeting, Seattle, Washington. "An evolutionary analysis of the ecological significance of maximal locomotor performance in West Indian *Anolis* lizards".
- (6) 1998 – Washington University in St. Louis, Missouri. "Life on the run: The evolution of function and behavior in lizards"
- (7) 1999 - The University of California at Riverside, California. "The evolution of morphology, function and behavior in lizards: Ecological and biomechanical approaches".
- (8) 1999 - The University of Glasgow, UK. "The evolution of morphology, function and behavior in lizards: Ecological and biomechanical Approaches".
- (9) 1999 - The University of Oxford, UK. "The evolution of morphology, function and behavior in lizards: Ecological and biomechanical Approaches".
- (10) 1999 - Indiana State University, Indiana. "The evolution of morphology, function and behavior in lizards: Ecological and biomechanical Approaches".
- (11) 2000 – California State Northridge, California. "How do function, morphology and behavior evolve? Ecological and physiological approaches".
- (12) 2000 – Tulane University, Louisiana. "How do function, morphology and behavior evolve? Ecological and physiological Approaches".
- (13) 2000 – The University of California at Davis, California. "Evolutionary tests of ecological and physiological hypotheses: Lizards as a model system"
- (14) 2000 – The University of California at Berkeley, California. "Ecological performance: A new term in biology?"
- (15) 2000 – Sonoma State University, California. "The evolution and physiology of locomotion"
- (16) 2000 – San Francisco State University, California. "New perspectives on the evolutionary ecology of locomotion in lizards"
- (17) 2000 – Brigham Young University, Utah. "The ecology and evolution of locomotion: An integrative approach"
- (18) 2001 - The Society for Integrative and Comparative Biology, Chicago, Illinois. Oral presentation. "Evolutionary approaches for studying functional morphology: Examples from studies of performance"

capacity". In the Symposium "Molecules, Muscles, and Macroevolution: Integrative Functional Morphology" (Invited speaker)

(19) 2001 – The University of New Orleans, Louisiana. "A novel test of two evolutionary models: An ecological approach"

(20) 2001 – Louisiana State University, Louisiana. "Evolutionary tests of ecological ideas: Lizards as a model system"

(21) 2001 – Southeastern Louisiana University, Louisiana. "Mixing ecology, evolution and physiology: A tasty brew or bad chemistry?"

(22) 2002 – The American Physiological Society, San Diego, California. Oral presentation. "Using phylogenies to understand the evolution of function and behavior in lizards". In the Symposium "Phylogenetic Approaches to Understanding Physiological Evolution" (Invited speaker).

(23) 2002 – Topics in Functional and Ecological Vertebrate Morphology (Symposium). Antwerp, Belgium. Oral Presentation. "Is evolution predictable? Co-evolutionary patterns of ecology, performance and morphology in old and new world lizard radiations" (Invited speaker)

(24) 2003 – The Society for Integrative and Comparative Biology, Toronto, Canada. Oral presentation. "Studying performance in nature: Implications for fitness variation within populations". In the Symposium "Selection and Evolution of Performance in Nature" (Invited speaker).

(25) 2003 – University of Southern Mississippi, Hattiesburg, Mississippi. Oral presentation. "A mechanistic approach to the ecology and evolution of function"

(26) 2003 – University of Louisiana at Lafayette, Lafayette, Louisiana. Oral presentation. "The evolution of performance in lizards: An ecological perspective"

(27) 2004 – The International Congress of Vertebrate Morphology, Boca Raton, Florida. Oral Presentation. "The ontogeny of habitat use and performance in Caribbean anoles". In the Symposium "The ontogeny of performance in vertebrates" (Invited speaker).

(28) 2004 – The International Congress of Vertebrate Morphology, Boca Raton, Florida. Oral Presentation "Whole-organism studies of clinging and locomotion in arboreal pad-bearing lizards". In the Symposium "Adhesion in Vertebrates - Mechanisms and Biomimetic Implications" (Invited speaker).

(29) 2004 – Virginia Tech University, Blacksburg, Virginia. Oral presentation. "Life and death in the big city: Selection, sexual signal size, and male competition in lizards".

(30) 2004 – Ohio University, Athens, Ohio. Oral presentation. "Ontogeny, performance, male polymorphism, and selection in lizards"

(31) 2004 – University of Montana, Missoula, Montana. Oral presentation. "Ontogeny, performance, male polymorphism, and selection in lizards".

(32) 2005 – Northern Arizona University, Flagstaff, Arizona. Oral Presentation. "Life and death in the big city: Selection, sexual signal size, and male competition in lizards".

- (33) 2005 – Harvey Mudd University, Claremont, California. Oral Presentation. “Lizard scene investigation (LSI): Mortality, polymorphism, and sexual selection in lizards “
- (34) 2005 – Brown University, Providence, Rhode Island. Oral Presentation. “Sexual signals, performance, and plasticity”
- (35) 2005 – University of Massachusetts, Amherst, Massachusetts. Oral Presentation. “An integrative perspective on the evolution of performance and sexually selected traits”
- (36) 2006 – Colorado State University, Fort Collins, Colorado. Oral Presentation. “An integrative perspective on the evolution of performance and sexually selected traits”
- (37) 2006 – Florida State University, Tallahassee, Florida. Oral Presentation. “An integrative perspective on the evolution of performance and sexually selected traits”
- (38) 2006 – Oklahoma State University, Stillwater, Oklahoma. Oral Presentation. “The evolution of performance, plasticity, and sexual signals”
- (39) 2006 – Loyola University, New Orleans, Louisiana. Oral Presentation. “Sexual selection and performance: An integrative view”
- (40) 2006 – University of New Orleans, Louisiana. Oral Presentation. “An integrative perspective on the evolution of performance and sexually selected traits”
- (41) 2006 - Brown University, Providence, Rhode Island. Oral Presentation "Selection on lizard communities: Different strokes for different lizards"
- (42) 2006 – Harvard University, Concord Field Station, Massachusetts. Oral Presentation. “Sexual signals, selection, and performance”.
- (43) 2007 – The Society for Integrative and Comparative Biology, Phoenix, Arizona. Oral presentation. “Anti-predatory behavior and sexual dimorphism in *Anolis* lizards”. In the Symposium “Ecological dimorphisms in vertebrates: proximate and ultimate causes” (Invited speaker with Bieke Vanhooydonck).
- (44) 2007 – Union College, Schenectady, New York. Oral Presentation "Performance, biomechanics, and evolution"
- (45) 2007 – The University of Massachusetts, Department of Kinesiology, Amherst, Massachusetts. Oral Presentation. “Jumping, running, and biting, oh my! Exploring the wonders of animal performance”.
- (46) 2007 - OCIB Symposium, Selected plenary lecturer for 2007. Carleton University and the University of Ottawa, Canada. “Bridging the gap between theory and reality in sexual selection; performance, fitness, and signaling”
- (47) 2007 – University of Tours, France. Oral Presentation. “How can we integrate sexual selection, performance, and evolution?”

- (48) 2007 – SUNY Stony Brook. Oral Presentation. “Sexual signals and animal function: New approaches and ideas”
- (49) 2008 – The University of Massachusetts, Neuroscience and Behavior program, Amherst, Massachusetts. Oral Presentation. "Hormones, size-morphs, and social competition in green anole lizards"
- (50) 2008 – Rhode Island College, Rhode Island. Oral Presentation. “The evolution of performance and sexual selection”
- (51) 2008 – Tufts University, Massachusetts. Oral Presentation. “Sexual selection: The interface of function and behavior?”
- (52) 2009 – Boston University, Massachusetts. Oral Presentation. “Performance, sexual selection, and natural selection: An integrative approach”.
- (53) 2009 – Indiana University, Indiana. Oral Presentation. “Studying sexual selection from a functional perspective”
- (54) 2009 – University of Antwerp, Belgium. Oral Presentation. "Signalling and animal performance: drawing the connections"
- (55) 2010 – University of Connecticut, Storrs. Oral Presentation. “Animal performance: Sexual selection, innovations, and rapid evolution ”
- (56) 2010 – Selected for the EvE Hilgendorf Lecture Series, University of Tuebingen, Germany (funded by the Volkswagen Company). Oral Presentation. “The evolution of animal performance: from microevolution to macroevolution”
- (57) 2010 – University of Tennessee at Knoxville. Oral Presentation. “Animal athletics: From microevolution to macroevolution”

University Service

Tulane University (2001-2005)

Evolutionary Systematics Search committee

Graduate program review committee

University of Massachusetts at Amherst (2006-Present)

Biology dept. committees

Ecological physiology search committee chair (2007)

Evolutionary developmental biologist search committee (2009)

AQUAD Biology assessment committee (2007)

Interim biology chair search committee (2007)

Hiring priorities Committee (2007-2009)

Space committee (2007-Present)

Biology chair search committee (2008-2009)

Personnel committee (2008-Present)

Sinauer lectureship committee (2007-Present)

Research committee (2009-Present)

Other committees

OEB steering committee (2007-Present)
Darwin Fellow search committee (2007)
Darwin Fellow funding committee (2007-Present)
OEB Graduate review committee (2007 and 2008)
OEB Evolution core course committee (2008-Present)
OEB Graduate organizing committee (2008-Present)

Graduate student thesis committee member:

Doonata Roome (Member, Tulane University)
Jennifer Coulson (Member, Tulane University)
Michael Guill (Member, Tulane University)
Philip Bergmann (Chair, Tulane University)
Christine Buckley (Chair, Tulane University)
David McMillan (Chair, Tulane University)
Shawn Vincent (Chair, Tulane University)
Simon Lailvaux (Chair, Tulane University)
Sharlene Santana (University of Massachusetts at Amherst)
Eliza Nelson (University of Massachusetts at Amherst)
Daniel Moen (State University of New York-Stony Brook, external Committee Member)
Olivier Dangles (2007, HDR defense, external committee member, University of Tours, France)
Katleen Huyghe (2009, Ph.D. defense, external committee member, University of Antwerp, Belgium)
Christofer Clemente (2006, Ph.D. defense, external committee member, The University of Western Australia)
Bieke Vanhooydonck (2001, Ph.D. defense, external committee member, University of Antwerp, Belgium)

Service to Profession:

-Division of Vertebrate Morphology (Society of Integrative and Comparative Biology) Nominating committee 2009
-Division of Vertebrate Morphology (Society of Integrative and Comparative Biology) Poster evaluation committee (2 years)
-Division of Vertebrate Morphology (Society of Integrative and Comparative Biology) Best Student talk evaluation committee (2 years)
-NSF Dissertation Improvement Grant Panel member (3 years)
-NSF panel member (2 years)
-Editorial Service (Functional Ecology, Open Conservation Biology Journal, Southeastern Naturalist)
-Reviewer for 60 peer-reviewed journals and organizations