CARLOS R. INFANTE

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EDUCATION

2008	Ph.D., Biology, Harvard University, Cambridge, MA
	Dissertation title: "Deiodination and the integration of larval adaptations in the
	Ceratophryinae (Anura: Leptodactylidae)"
	Advisor: James Hanken
1997	B.S., Zoology with Special Honors, The University of Texas at Austin
1997	B.A., Plan II Liberal Arts Program with Honors, The University of Texas at Austin

RESEARCH & PROFESSIONAL EXPERIENCE

2018-pres.	Assistant Professor, Department of Integrative Biology, The University of Colorado,
	Denver, CO
2015-2018	Assistant Research Professor, The University of Arizona, Tucson, AZ
2014-2015	Senior Research Associate, The University of Georgia, Athens, GA
2010-2014	Postdoctoral Research Associate, The University of Georgia, Athens, GA
	Advisor: Douglas B. Menke
	Functional and comparative genomics
2008-2010	Postdoctoral Fellow, Harvard University, Cambridge, MA
	Advisor: Jonathan B. Losos
	Ecology, evolution, and development of limb morphology in Anolis lizards
1999-2000	Collections Assistant, Herpetology Division, Texas Natural History Collections
1998-1999	Research Assistant, Division of Medical Genetics, The University of Texas Medical
	School at Houston, TX

Grants, Fellowships & Awards

Research Grants The asterisk (*) indicates a grant for which I was not a PI, but provided preliminary data and contributed to design, development, and writing.	
2018	National Science Foundation Collaborative Research Grant: Enhancers and the convergent evolution of limb reduction in squamates. PI: Carlos R. Infante. Co-PIs: Brant Faircloth (LSU), Travis Glenn (UGA), Douglas Menke (UGA). (\$1,263,668)
2014	*National Institute of Health Project Grant (NICHD-R01HD081034): Developmental context and the control of appendage <i>cis</i> -regulatory networks. PI: Douglas Menke
2012	*National Science Foundation CAREER Award (IOS-1149453): Developmental evolution of limb morphology. PI: Douglas Menke
2003	Putnam Expeditionary Grant, Museum of Comparative Zoology, Harvard University, Cambridge, MA (\$9,709)
2001	Putnam Expeditionary Grant, Museum of Comparative Zoology, Harvard University, Cambridge, MA (\$4,897)

Fellowships and Awards

2015	Trainee Travel Award, Society for Developmental Biology and the Pan-American
	Society for Evolutionary Developmental Biology (\$400)
2007	Ford Fund Fellowship, Museum of Comparative Zoology, Harvard University, Cambridge, MA
2003	Milton L. Shifman Endowed Scholarship, Marine Biological Laboratory, Woods
2003	Hole, MA
2002-2005	Graduate Research Fellowship, National Science Foundation, (\$114,000)

PUBLICATIONS

- Ching, ST, **CR Infante**, W Du, A Sharir, S Park, DB Menke, and OD Klein. 2018. Isl1 mediates expansion of mesenchymal cells in the developing external genitalia via regulation of *Bmp4*, *Fgf10*, and *Wnt5a*. Human Molecular Genetics 27(1):107–119. DOI:10.1093/hmg/ddx388 PMID:29126155
- **Infante, CR**, AM Rasys, and DB Menke. 2018. Appendages and gene regulatory networks: Lessons from the limbless. Genesis 56(1) e23078. DOI:10.1002/dvg.23078 PMID: 29076617
- Tollis, M, ED Hutchins, J Stapley, SM Rupp, WL Eckalbar, I Maayan, E Lasku, **CR Infante**, SR Dennis, JA Robertson, CM May, MR Crusoe, E Bermingham, DF DeNardo, ST Hsieh, RJ Kulathinal, MJ Huentelman, WO McMillan, DB Menke, SC Pratt, JA Rawls, O Sanjur, J Wilson-Rawls, MA Wilson Sayres, RE Fisher, and K Kusumi. 2018. Comparative genomics reveals accelerated evolution in conserved pathways during the diversification of anole lizards. Genome Biology and Evolution. DOI:10.1093/gbe/evy013 PMID:29360978
- Wang, JS, **CR Infante**, S Park, and DB Menke. 2018. PITX1 promotes chondrogenesis and myogenesis in mouse hindlimbs through conserved regulatory targets. Developmental Biology 434(1):186–195. DOI:10.1016/j.ydbio.2017.12.013 PMID:29273440
- Domyan, ET, Z Kronenberg, **CR Infante**, AI Vickery, SA Stringham, R Bruders, MW Guernsey, S Park, J Payne, RB Beckstead, G Kardon, DB Menke, M Yandell, and MD Shapiro. 2016. Molecular shifts in limb identity underlie development of feathered feet in two domestic avian species. Elife 2016(5): e12115. DOI:10.7554/eLife.12115 PMID:26977633
- Infante, CR, AG Mihala, S Park, JS Wang, KK Johnson, JD Lauderdale, and DB Menke. 2015. Shared *cis*-regulatory activity in the limbs and phallus and functional divergence of a limb-genital enhancer in snakes. Developmental Cell 35: 107–119. DOI:10.1016/j.devcel.2015.09.003 PMID: 26439399 Covered by National Public Radio's "Science Friday" and National Geographic's "Not Exactly Rocket Science" blog.
- Park, S*, **CR Infante***, LC Rivera-Davila[†], and DB Menke. 2014. Conserved regulation of hoxc11 by pitx1 in *Anolis* lizards. Journal of Experimental Zoology. Part B, Molecular and Developmental Evolution 322(3):156–165. DOI:10.1002/jez.b.22554 PMID: 24376195
- **Infante, CR***, S Park*, AG Mihala, DM Kingsley, and DB Menke. 2013. Pitx1 broadly associates with limb enhancers and is enriched on hindlimb *cis*-regulatory elements. Developmental Biology 374(1):234–244. DOI:10.1016/j.ydbio.2012.11.017 PMID:23201014
- Bloom, S, C Ledon-Rettig, **CR Infante**, A Everly, J Hanken, and N Nascone-Yoder. 2013. Developmental origins of a novel gut morphology in frogs. Evolution & Development 15(3): 213–223.
- Zimmerman, JM, **CR Infante**, J Hanken, and L Olsson. 2013. Morphology of the cranial skeleton and musculature in the obligate carnivorous tadpole of *Lepidobatrachus laevis* (Anura, Ceratophryidae). Acta Zoologica 94(1):101–112.

- Eckalbar, WL, E Lasku, **CR Infante**, RM Elsey, GJ Markov, AN Allen, JJ Corneveaux, JB Losos, DF DeNardo, MR Huentelman, J Wilson-Rawls, A Rawls, and K Kusumi. 2012. Somitogenesis in the anole lizard and alligator reveals evolutionary convergence and divergence in the amniote segmentation clock. Developmental Biology 363(1):308–319.
- Siler, CD, LJ Welton, RM Brown, **CR Infante**, and AC Diesmos. 2011. *Ophiophagus hannah* (King Cobra). Diet. Herpetological Review 42(2):297.
- LaDuc, TJ, and **CR Infante**. 2001. New Texas county records of amphibians and reptiles. Herpetological Review 32(4):284–285.

In Preparation

Infante, **CR**, S Park, JS Wang, S Pau[†], J Sanders, S Poe, S Pierce, RE Glor, L Mahler, JB Losos, DM Kingsley, and DB Menke. Functional divergence of a *Tbx4* enhancer and the adaptive radiation of *Anolis* lizards. To be submitted to Nature.

The asterisk () denotes equal contribution; † denotes undergraduate mentee.*

RESEARCH PRESENTATIONS

Invited Seminars	
2017	Department of Biological Sciences, Columbia University, New York, NY
2016	School of Life Sciences, Arizona State University, Tempe, AZ
2015	Department of Molecular and Cellular Biology Joint Seminar Series, The University of Arizona, Tucson, AZ
2014	The University of Georgia Institute of Bioinformatics, Athens, GA
2009	Western Mindanao State University, Zamboanga City, Philippines

Contributed Talks

- **Infante, CR**. 2018. Regulatory evolution, development, and convergence among *Anolis* lizards. Guild of Rocky Mountain Ecologists and Evolutionary Biologists, University of Colorado Mountain Research Station, CO.
- **Infante**, **CR**. 2017. Enhancers and the convergent evolution of limb reduction in squamates. Genome 10K and Genome Sciences Conference, Norwich, UK.
- **Infante, CR**, AG Mihala, S Park, JS Wang, and DB Menke. 2015. Disentangling the regulatory network contributing to limb evolution in *Anolis* ecomorphs. The Pan-American Society for Evolutionary Developmental Biology, Berkeley, CA.
- **Infante**, **CR**, JS Wang, S Park, SH Pau, AG Mihala, and DB Menke. 2015. Disentangling the regulatory network contributing to limb evolution in reptiles. International Meeting on Limb Development and Regeneration, St. Petersburg, FL.
- **Infante**, **CR**, S Park, and DB Menke. 2014. The evolution of limb enhancers in lizards and snakes. Joint Meeting of Ichthyologists and Herpetologists, Chattanooga, TN.
- **Infante, CR**, S Park, and DB Menke. 2014. The evolution of the regulatory control of development in vertebrate appendages. Southeastern Regional Meeting of the Society for Developmental Biology, Callaway Gardens, GA.
- **Infante, CR**, S Park, AG Mihala, and DB Menke. 2014. Using ChIP-Seq to identify limb enhancers in the lizard genus *Anolis*. Annual Meeting of the Society for Integrative and Comparative Biology, Austin, TX.

- **Infante**, **CR**, JB Losos, and DB Menke. 2012. The developmental basis of an adaptive radiation: the evolution of limb diversity in *Anolis* lizards. Annual Meeting of the Society for Integrative and Comparative Biology, Charleston, SC.
- **Infante, CR**, RE Glor, JB Losos, DM Kingsley, and DB Menke. 2011. The developmental basis of an adaptive radiation: the evolution of limb diversity in *Anolis* lizards. Southeastern Regional Meeting of the Society for Developmental Biology, Gainesville, FL.
- **Infante**, **CR**. 2009. The developmental basis of limb diversity in *Anolis* lizards. Sixth *Anolis* Symposium, Cambridge, MA.
- **Infante**, **CR**. 2008. Deiodination and the control of metamorphosis in anuran amphibians. Annual Meeting of the Society for Integrative and Comparative Biology, San Antonio, TX.
- **Infante**, **CR**. 2007. Metamorphic remodeling and the evolution of larval morphology in the carnivorous tadpole *Lepidobatrachus laevis*. Annual Meeting of the Society for Integrative and Comparative Biology, Phoenix, AZ.
- **Infante, CR**. 2006. Jaws! Heterochrony and the control of metamorphosis in the carnivorous tadpole *Lepidobatrachus laevis*. Annual Meeting of the American Society of Ichthyologists and Herpetologists, New Orleans, LA.
- **Infante, CR**. 2006. Deiodinases and the control of metamorphosis in the carnivorous larvae of the anuran *Lepidobatrachus laevis*. Annual Meeting of the Society for Integrative and Comparative Biology, Orlando, FL.
- **Infante, CR**, and J Hanken. 2004. Thyroid hormone receptor expression and the metamorphosis and evolution of anuran jaws. Annual Meeting of the Society for Integrative and Comparative Biology, New Orleans, LA.

Posters

- **Infante, CR**, S Park, J Wang, S Pau, and DB Menke. 2016. Functional divergence of a *Tbx4* enhancer and the evolution of hindlimb reduction in reptiles. Society for Developmental Biology. Boston, MA.
- **Infante**, **CR**, AG Mihala, S Park, and DB Menke. 2015. Limb loss and the evolution of appendage enhancers in snake genomes. The Biology of Genomes. Cold Spring Harbor Laboratory, NY.
- **Infante, CR**, S Park, JB Losos, DM Kingsley, and DB Menke. 2012. *Cis*-regulatory evolution and the control of limb development in *Anolis* lizards. Sixth International Meeting of the Latin American Society for Developmental Biology. Montevideo, Uruguay.
- **Infante**, **CR**, JB Losos, and DB Menke. 2010. The evolution of limb length in the lizard genus *Anolis*. Eleventh International Conference on Limb Development and Regeneration, Williamsburg, VA.
- **Infante**, **CR**, and J Hanken. 2005. Metamorphosis and the evolution of jaw morphology in the carnivorous anuran tadpole *Lepidobatrachus laevis*. Fifteenth International Congress of Comparative Endocrinology, Boston, MA.

TEACHING EXPERIENCE & MENTORSHIP

Instructor, "Genetics", University of Colorado Denver
Co-Instructor, "Genetic and Molecular Networks", University of Arizona
Teaching Fellow, "Foundations of Biological Diversity", Harvard University
Teaching Fellow, "Integrative Biology of Organisms", Harvard University

2001	Teaching Fellow, "Genetics and Genomics", Harvard University
2000	Teaching Fellow, "Integrative Biology of Organisms", Harvard University
Mentorship)
2017-2018	Emma Baker (University of Arizona undergraduate researcher)
2012	Laura Rivera-Davila (University of Puerto Rico/University of Georgia undergraduate SUNFIG program)
2011-2015	Shana Pau (University of Georgia undergraduate researcher)
2011-2013	Tyler Haeffs (University of Georgia undergraduate researcher)
2011-2013	Anuj Dhir (University of Georgia undergraduate researcher)

ACADEMIC SERVICE & PUBLIC OUTREACH

2017-pres.	Committee Member, Vertebrate Genomes Project
2012-2014	President, The University of Georgia Postdoctoral Association
2011-2014	Planning Committee, Researcher Orientation and Ongoing Training Seminar, The University of Georgia
2011-2012	Board Member, The University of Georgia Postdoctoral Association
2009	Invited lecture, "Exploring Biodiversity", Harvard Museum of Natural History Professional Development Series for Continuing Education

Professional Training

2012	"A Systems Biology Approach to Understanding Mechanisms of Organismal
	Evolution", Pan-American Advanced Studies Institute, Montevideo, Uruguay
2003	"Embryology: Concepts and Techniques in Modern Developmental Biology",
	Marine Biological Laboratory, Woods Hole, MA
2001	"Workshop in Applied Phylogenetics", The University of California at Davis,
	Bodega Bay, CA

PROFESSIONAL ASSOCIATIONS

Society for Developmental Biology Pan-American Society for Evolutionary Developmental Biology Society for the Study of Evolution American Society of Ichthyologists and Herpetologists Society for Integrative and Comparative Biology Sigma Xi

SELECT FIELD EXPERIENCE

2012	Expedition Co-Leader, Museum of Comparative Zoology (Cuba)
2010	Expedition Member, Museum of Comparative Zoology (Cuba)
2009	Expedition Member, University of Kansas Biodiversity Institute (Philippines)
2004	Dissertation Research, Museum of Comparative Zoology (Argentina)
2002	Dissertation Research, Museum of Comparative Zoology (Argentina)
2001	Expedition Member, University of Kansas Biodiversity Institute (Philippines)

REFERENCES

Douglas B. Menke (Postdoctoral mentor)

Associate Professor of Genetics The University of Georgia Paul D. Coverdell Center for Biomedical and Health Sciences 500 D.W. Brooks Drive Athens, GA 30602 Tel: (706) 542-9557

Email: dmenke@uga.edu

Jonathan B. Losos (Postdoctoral mentor)

Professor of Biology Washington University Campus Box 1137 Saint Louis, MO 63130 Tel: (314) 295-8666

Email: losos@wustl.edu

James D. Lauderdale (Collaborator)

Associate Professor of Cellular Biology The University of Georgia Paul D. Coverdell Center for Biomedical and Health Sciences 500 D.W. Brooks Drive Athens, GA 30602 Tel: (706) 542-7433

Email: jdlauder@uga.edu