Curriculum Vitae

Robert J. Denver, PhD Professor Emeritus August, 2023

Department of Molecular, Cellular and Developmental Biology (MCDB) Biological Sciences Building 1105 North University Avenue The University of Michigan Ann Arbor, MI 48109-1085 Department Website: https://lsa.umich.edu/mcdb

E-mail: rdenver@umich.edu

ORCID identifier: 0000-0002-2773-8174

Education:

1984	B.S., Biology, Rutgers University, New Brunswick, New Jersey
1989	Ph.D., Zoology, University of California at Berkeley, California

Postdoctoral Training:

1989-1990	Izaak Walton Killam Postdoctoral Fellow, Dept. of Zoology, University of Alberta, Edmonton, Canada
1990-1994	Dept. of Integrative Biology and Cancer Research Laboratory, University
1994	of California, Berkeley Laboratory of Molecular Embryology, National Institute of Child Health
	and Human Development, National Institutes of Health

Academic Appointments:

2022 -	present	Professor Emeritus, Dept. of Molecular, Cellular and Developmental
		Biology, and Dept. of Ecology and Evolutionary Biology, University of
		Michigan, Ann Arbor
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- 2014 2019 Chair, Department of Molecular, Cellular and Developmental Biology, University of Michigan, Ann Arbor.
- 2013 2014 Associate Chair for Research and Facilities, Department of MCDB University of Michigan, Ann Arbor.
- 2006 2021 Professor, Dept. of Molecular, Cellular and Developmental Biology, University of Michigan, Ann Arbor
- 2006 2021 Professor (courtesy appt) Dept. of Ecology and Evolutionary Biology, University of Michigan, Ann Arbor
- 2002 2005 Associate Chair for Curriculum, Dept. of Molecular, Cellular and Developmental Biology, University of Michigan, Ann Arbor
- 2002 Visiting Professor, Laboratoire de Physiologie Générale et Comparée, Muséum national D'Histoire naturelle, Paris, France

Associate Professor, Dept. of Molecular, Cellular and Developmental Biology, University of Michigan, Ann Arbor
Associate Professor (courtesy appt) Dept. of Ecology and Evolutionary
Biology, University of Michigan, Ann Arbor Assistant Professor, Dept. of Biology, The Univ. of Michigan, Ann Arbor
Research Assistant Professor, Reproductive Sciences Program,
University of Michigan, Ann Arbor
Visiting Associate Professor, Dept. of Biology, Univ. of Rennes, France
Lecturer, Dept. of Integrative Biology, University of California at Berkeley

Awards and Honors:

Elected Fellow, North American Society for Comparative Endocrinology (NASCE) (2022) Elected Fellow, American Association for the Advancement of Science (AAAS) (2018) Member, Sigma Xi (2018)

Keynote Speaker, North American Society for Comparative Endocrinology and International Symposium on Amphibian Endocrinology and Neurobiology (2019)

- Gorbman-Bern Memorial Lectureship, North American Society for Comparative Endocrinology, 18th International Congress of Comparative Endocrinology (2017).
- Stockard Distinguished Lecturer, Oklahoma State University (2016).
- Excellence in Teaching Award, College of Literature, Science and the Arts, University of Michigan (2012).

Keynote Speaker, International Symposium on Amphibian Endocrinology and Neurobiology, Berlin, Germany (2009).

- Plenary Lecturer, 24th meeting of the European Society for Comparative Endocrinology, Genoa, Italy (2008).
- Plenary Lecturer, International Symposium on Amphibian Endocrinology and Neurobiology, Jeju Island, South Korea (2003).
- Excellence in Research Award, College of Literature, Science and the Arts, University of Michigan (1998).
- Izaak Walton Killam Memorial Postdoctoral Fellowship, Univ. Alberta, Edmonton, Canada

Citation for Outstanding Contributions to Public and Academic Education, Department of Zoology, University of California at Berkeley (1989).

Outstanding Graduate Student Instructor Award, Univ. of California, Berkeley (1989). George H. Cook Scholar Honors Award, Rutgers University (1984).

Committee Assignments:

National:

Panel member, NSF Physiological Mechanisms and Biomechanics (PMB) Program in the NSF-BIO Division of Integrative Organismal Systems (IOS) (2021).

Panel member, Molecular Mechanisms of Obesity and Diabetes, Special Emphasis Panel, National Institutes of Health (2017).

Panel member, NSF Neural Systems Modulation panel (2016).

- Reviewer, Site Visit for the Program in Cellular Regulation and Metabolism, National Institute of Child Health and Human Development (2015).
- Member, Environmental Protection Agency FIFRA Scientific Advisory Panel: "Scientific Issues Associated with Integrated Endocrine Bioactivity and Exposure-Based Prioritization and Screening" (2014).

- Member, Environmental Protection Agency FIFRA Scientific Advisory Panel: "Weight-of-Evidence: Evaluating Results of the Endocrine Disrupter Screening Program (EDSP)" (2013).
- Member, Environmental Protection Agency FIFRA Scientific Advisory Panel: "Endocrine Disrupter Screening Program (EDSP) Proposed Tier 2 Ecotoxicity Tests" (2013).
- Reviewer, Site Visit for the Program in Cellular Regulation and Metabolism, National Institute of Child Health and Human Development (2011).
- Member, Environmental Protection Agency FIFRA Scientific Advisory Panel: "Integrated Approaches to Testing and Assessment Strategies: Use of New Computational and Molecular Tools" (2011).
- Member, Special Emphasis Panel, NIEHS (2011).
- External Reviewer, Department of Biology Graduate Program, University of Miami (2010). First author, "Biology Graduate Program Review Report"
- Member, Annual Meeting Steering Committee (AMSC), The Endocrine Society (2009-2012).
- Member, Special Emphasis Panel, NIH (2009).
- Member, Society of Environmental Toxicology and Chemistry (SETAC) Pellston Predictive Ecotoxicology Workshop, Forrest Grove, Oregon (2009).
- Member, Environmental Protection Agency FIFRA Scientific Advisory Panel: "Endocrine Disruptor Screening Program (EDSP)" (2008).
- Symposium chairperson, Annual Mtg of the Endocrine Society, Philadelphia, PA (2008).
- Member, Integrative and Clinical Endocrinology and Reproduction (ICER) Study Section, NIH (2006-2010).
- Environmental Protection Agency FIFRA Scientific Advisory Panel: "Effects of Atrazine on Amphibian Gonadal Development" (2003, 2007).
- Panel member, NSF Behavioral Neuroscience and Neuroendocrinology panel (2005, 2006).
- Chair, Division of Comparative Endocrinology, Society for Integrative and Comparative Biology (2006-2008).
- Reviewer, Eastern Research Group (for the US Environmental Protection Agency), Androgen Receptor Binding Assay for endocrine disruptor screening (2007).
- Consultant, Battelle National Laboratories (for the US Environmental Protection Agency), Amphibian metamorphosis assay for endocrine disruptor screening (2006-2007).
- Special Government Employee, US Environmental Protection Agency, FIFRA Scientific Advisory Panel (2003-present).
- Panel member, NSF Processes, Structure and Integrity-1 panel (2009).
- Ad hoc member, Integrative and Clinical Endocrinology and Reproduction (ICER) Study Section, NIH (Oct., 2004).
- Society-wide Nominating Committee, Soc. for Integrative and Comparative Biol (2004). Symposium chairperson, Annual Mtg of the Endocrine Society, Philadelphia, PA (2003).
- Panel member, NSF Integrative Animal Biology Program panel (2002).
- Secretary, Division of Comparative Endocrinology, SICB (1999-2001)
- Co-organizer, Symposium on "Amphibian Metamorphosis" (2001). Annual meeting of the Society for Comparative and Integrative Biology, Chicago, IL.
- Organizer, Symposium on "Comparative Biology of the Vertebrate Neuroendocrine Stress System: Molecular Evolution, Physiological Regulation and Control of Behavior", Winter Neuropeptides Meeting, 2000.
- Nomination Committee, Division of Comparative Endocrinology, Society for Integrative and Comparative Biology (member) 3/97-5/97

International:

- President, International Federation of Comparative Endocrinological Societies (IFCES; 2013-2017).
- Reviewer, Site visit for review of the Institute for Water and Wetland Research (IWWR), Radboud University, Nijmegen, The Netherlands (2014).
- Chair, International Program Committee, 18th International Congress on Comparative Endocrinology (held at Chateau Lake Louise, Banff National Park, Alberta, Canada June 2017).
- Vice president, International Federation of Comparative Endocrinological Societies (IFCES; 2009-2013).

Banker, North American Society for Comparative Endocrinology (NASCE; 2015-)

- Co-founder and first president, North American Society for Comparative Endocrinology (NASCE; 2010-2011).
- Secretary/Treasurer, North American Society for Comparative Endocrinology (2011-2015).
- President, International Scientific Advisory Board for the 27th Congress of European Comparative Endocrinologists, Rennes, France (2012-2014).
- Program Committee, second meeting of the North American Society for Comparative Endocrinology (NASCE 2013; to be held in Querétaro, Mexico, May 2013).
- International Program Committee, International Congress of Comparative Endocrinology, Barcelona, Spain, July, 2013.
- Organizer, inaugural meeting of the North American Society for Comparative Endocrinology (NASCE 2011; held in Ann Arbor, July 2011).
- Organizer, International Symposium on Amphibian Endocrinology and Neurobiology (ISAREN 2011; held in Ann Arbor, July 2011).
- Co-chair, Symposium on "Stress Adaptation in Vertebrates", International Conference on Comparative Endocrinology, Hong Kong (2009).
- Member, Organization for Economic Cooperation and Development (OECD) Molecular Screening (Toxicogenomics) Advisory Group, Subgroup on Thyroid Signaling Toxicity Pathways and Mechanisms (2009-2010).
- Member, International Program Committee, 7th International Symposium on Amphibian and Reptilian Endocrinology and Neurobiology, Berkeley, CA (2007).

Member-at-Large, Intl. Federation of Comparative Endocrine Societies (2005-2009)

Secretary-Treasurer, Intl. Federation of Comparative Endocrine Societies (2001-2005) Co-organizer, Symposium on "Novel Functions of the Corticotropin-Releasing Factor

System" to be held at the 15P^{thP} International Conference on Comparative Endocrinology, Boston (2005).

International Program Committee, 14P^{thP} International Conference on Comparative Endocrinology, Naples, Italy (2001).

Institutional:

2018	Member, Advisory Committee, Center for Organogenesis (renamed
	Center for Cell Plasticity and Organ Design)
2016-2017	Member, Search Committee for Department Chair, Department of Cell
	and Developmental Biology, The University of Michigan Medical School
2013-2014	Biological Sciences Building Planning Committee, Dept. of MCDB
2012-2013	Member, Faculty Search Committee, Dept. of MCDB
2012	Lead author, proposal for an Undergraduate Program in Neuroscience
	(UPiN); approved by the Dean of LS&A July, 2012.

2012-2013	Faculty advisor, Neuroscience Students Association (NSA)
2011-2013	Chair, Neuroscience Concentration Steering Committee
2012	Reviewer, Rackham Graduate School Centennial Fellowship Committee
2010-2013	Reviewer, Rackham Graduate School Predoctoral Fellowship Committee
2008-2010	Neuroscience Program Preliminary Exam Committee
2007-2008	Rackham Graduate School Executive Board
2007-2010	Faculty Senate
2007-2008	Chair, Animal Physiology Faculty Search Committee, Dept. of MCDB
2005-2008	Biomedical Research Council (BMRC)
2006-2007	LS&A Nominating Committee
2005-2006	MCDB Curriculum Committee
2002-2005	Associate Chair for Undergraduate Studies, Dept. of MCDB
1998-2000	Dept. of Biology Executive Committee
2002-2005	Dept. of MCDB Executive Committee
2006-2008	Dept. of MCDB Executive Committee
2009-2011	Dept. of MCDB Executive Committee
2013-2014	Dept. of MCDB Executive Committee
2005-2006	Member, Neurobiology/Endocrinology Search Committee
2006-2007	Member, Neurobiology/Endocrinology/Development Search Committee
2006	Saturday Seminars, LS&A undergraduate recruitment
2002-2005	Chair of the MCDB Undergraduate Advisors
2002-2005	Chair of MCDB Curriculum Committee
2004-2005	MCDB New Building Committee
2004	Introductory Biology Review Committee
2004	Introductory Biology Committee, College of Engineering
2004	Interdepartmental Microbiology Concentration Implementation Comm.
2004	Interdepartmental Neuroscience Concentration Implementation Comm.
2001-2003	Steering Committee, Environmental Toxicology Training Program
1999-2005	Training Committee, Reproductive Sciences Program
2003-2005	Training Committee, Center for Organogenesis (member since 1996)
1998-2000	Executive Committee, Neuroscience Program (member since 1995)

Grants (Completed):

National Science Foundation, Integrative Organismal Systems, Integrative Ecological Physiology, "The influence of the prey physiological stress response on predator-prey interactions" 2016-2020. (\$652,556).

National Science Foundation, Integrative Organismal Systems, Neural Systems. "Genome-wide analysis of DNA methylation and its regulation by hormones during post-embryonic brain development" 2015-2019. (\$790,179)

MCubed, "Evolution of Stress Neuropeptide Systems." 2019-2020. (\$20,000)

National Institutes of Health, R21 "Thyroid hormone regulates DNA methylation in the developing brain through direct modulation of the DNA methyltransferase 3a gene" 2015-2018. (\$411,707).

MCubed, "The cellular and molecular mechanisms of pain" 2017-2018 (\$20,000).

MCubed, "Transient receptor potential cation channels in health and disease." 2013-2014. (\$20,000)

National Science Foundation, "The neuroendocrine stress axis in amphibian development and physiology." 2009-2013. (\$807,629).

National Science Foundation, "Leptin physiology throughout the life cycle of the frog", 2007-2012. (\$540,000).

National Institutes of Health, "Hormone and Activity-Dependent Neural Gene Expression", 2004-2008 (\$898,253).

- National Science Foundation. "The neuroendocrine stress axis in amphibian development and physiology", 2003-2007 (\$585,915).
- Michigan State Department of Environmental Quality. "Effects of PCBs on Development of Great Lakes Amphibians", 2001-2002 (\$114,326).
- Michigan State Department of Environmental Quality. "Effects of PCBs on Development of Great Lakes Amphibians", 2000-2001 (\$95,905).
- National Science Foundation. "Neuroendocrine Control of Amphibian Metamorphosis", 1999-2002 (\$270,000).
- National Institutes of Health. "Thyroid Hormone Action in Brain Development ", 1998-2000 (\$151,000).
- National Science Foundation. "Molecular Basis of Thyroid Hormone Action in Brain Development", 1997-2000 (\$160,000).

American Thyroid Association "Physiopathology of brain dysfunctions in congenital hypothyroidism", 1997-1999 (\$25,000; Co-PI).

- Michigan State Department of Environmental Quality. "Effects of PCBs on Great Lakes Amphibians", 1999-2000 (\$52,174).
- Rackham Faculty Research Grant, The University of Michigan. "The Molecular Basis of Thyroid Hormone Action in Neural Development", 1996-1998 (\$15,000).
- Pheonix Faculty Research Grant, The University of Michigan. "The Molecular Basis of Thyroid Hormone Action in Neural Development", 1996-1998 (\$6,000)
- Office for Vice President for Research (OVPR) of The University of Michigan,
- "Neuroendocrine Control of Amphibian Metamorphosis", 1994 (\$20,000). College of LS&A, The University of Michigan, 1994 (\$12,000).

National Science Foundation, Neurosciences, Division of Neuroendocrinology, "Neuroendocrine Control of Amphibian Metamorphosis", 1993-1996 (\$225,914).

Trainee Awards:

- Research Experience for Undergraduates, NSF, 1993, 1995, 1998, 2000, 2001, 2003, 2004, 2006, 2007, 2008, 2009, 2010, 2011 (each award \$5-6K).
- National Institutes of Health, National Research Service Award (predoc; Yasuhiro Kyono; 2011-2013).
- National Institutes of Health, National Research Service Award (postdoc; Ben Dantzer; declined).

Endocrine Society Summer Research Fellowship (Caroline Hu), 2007. (\$5000).

National Science Foundation Doctoral Dissertation Improvement Grant (Graham Boorse; 1998-2000).

Membership in Professional Societies:

North American Society for Comparative Endocrinology (NASCE; co-founder and first president; since 2010)

International Federation of Comparative Endocrinological Societies (IFCES; served as IFCES president, 2013-2017; since 1991)

Endocrine Society (since 1991)

American Neuroendocrine Society (since 1994)

Society for Neuroscience (since 1994)

American Association for the Advancement of Science (since 1989)

Affiliations with Professional Organizations at the University of Michigan:

Neuroscience Graduate Program (member since 1995) Center for Organogenesis (member since 1996) Reproductive Sciences Program (member since 1994) Michigan Diabetes Research Training Center (member since 1995) Environmental Toxicology Training Program (member since 2001) Medical Scientist Training Program (mentor since 1995)

Journal Editing and Referee Activities:

Editorial Board Member, *General and Comparative Endocrinology* (2019-present). Associate Editor, *General and Comparative Endocrinology* (2001-2019). Associate Editor, *Frontiers in Neuroendocrine Science* (2010-2019). Associate Editor, *Frontiers in Experimental Endocrinology* (2010-2019).

- Guest Editor, Special Issue of *General and Comparative Endocrinology* with articles from the second biennial meeting of the North American Society for Comparative Endocrinology (NASCE), May 2013 Querétaro, México. *Gen. Comp. Endocrinol.* 203:1-314.
- Guest Editor, Special Issue of *General and Comparative Endocrinology* with articles from the inaugural meeting of the North American Society for Comparative Endocrinology (NASCE) and the 7th International Symposium on Amphibian and Reptilian Endocrinology and Neurobiology (ISAREN) (2012). *Gen. Comp. Endocrinol.* 176:275-518.
- Editorial Board, *Cell and Bioscience* (2010-present) (Journal of the Society of Chinese Bioscientists in America)
- Editorial Board, Integrative and Comparative Biology (2008-2011)
- Editorial Board, Journal of Experimental Zoology Part A: Comparative Experimental Biology (2006-present)
- Reviewer: Proceedings of the National Academy of Sciences USA; Nature; Current Biology; Science; Molecular and Cellular Biology; Endocrinology; Molecular Endocrinology; FASEB Journal; BMC Genomics; Brain, Behavior and Evolution; American Naturalist; Evolution and Development; Journal of Endocrinology; General and Comparative Endocrinology; American Journal of Physiology; Journal of Experimental Zoology; Physiological and Biochemical Zoology; Canadian Journal of Zoology; Neuroendocrinology; Ecology; Archives of Environmental Contamination and Toxicology; Herpetologica; Comparative Biochemistry and Physiology; Neuroscience Letters: International Journal of Developmental Biology: Biochemica et Biophysica Acta; Evolution; Developmental Dynamics; Journal of Zoology; Journal of Animal Ecology; Acta Oecologica; Journal of Clinical Investigation; Molecular Reproduction and Development; Hormones and Behavior; Journal of Molecular Endocrinology; Journal of Neurochemistry; Journal of Neuroendocrinology; FEBS Letters; Ecotoxicology and Environmental Safety; Environmental Research; Journal of Parasitology; Integrative and Comparative Biology; Ecotoxicology and Environmental Safety; Brain Research; Toxicological Sciences; Peptides; Journal of Comparative Neurology; Mechanisms of Development; Behavioral Ecology and Sociobiology; BMC Evolutionary Biology; Gene; Journal of Herpetology; Obesity; Functional Ecology; Journal of Evolutionary Biology; Biology Letters; Oecologica; Biology Open; Current Zoology; Neurotoxicity Research; Biological Journal of the Linnean Society; Scientific Reports, iScience.

<u>Reviewer</u>: National Science Foundation (NSF); Sea Grant; U.S. Civilian Research and Development Foundation (CRDF); Natural Environment Research Council, UK; National Science and Engineering Research Council (NSERC), Canada; EJLB Foundation, Canada; The Netherlands Organisation for Scientific Research (NWO); Research Corporation for Science Advancement; Murdock College Research Program; Medical Research Council, UK.

Other Memberships and Activities:

Postdoctoral/Graduate Student Affairs Committee Representative, American Society of Zoologists (1991-1993).

Coalition for Animals and Animal Research (CFAAR; co-founder and first president) Judge (on behalf of the Endocrine Society), Intel International Science and Engineering

Fair, Detroit, Michigan (2000).

Formal Teaching Experience:

Doing Science: An Introduction to Experimental Design in the Life Sciences (MCDB/EEB 399; MCDB 614); 2014, 2016, 2017 (I developed this course to teach experimental design to advanced undergraduate and beginning graduate students) Endocrinology (MCDB 418); 1994-2000, 2002-2004, 2006, 2007, 2009 (Spring and Fall), 2010 (Spring and Fall), 2011 (Spring and Fall), 2012 (Spring and Fall), 2013 (Spring and Fall), 2014 Spring, 2015 Spring and Fall Principles of Animal Physiology and Neurobiology (Bio 225); 1999, 2000, 2004, 2006, 2009, 2010, 2011, 2012, 2013 Topics in Developmental Neurobiology (Bio 800); 1998, 1999 Neuroscience Graduate Seminar (Neuro 700); 1996, 2009 Introductory Biology (Bio 154): 1996, 1997 EEOB Graduate Seminar (Biology 685): 1994, 1996 MCDB Graduate Seminar (Biology 615); 1996 Introductory Biology Workshop (Freshman Seminar; Bio 150); 1997 Guest lectures: Cellular and Molecular Neurobiology (MCDB 422) Introductory Biology Honors (Bio 155) Introductory Biology (Bio 154) Principles of Animal Physiology (Bio 225) Pharmacology 660

Research in the Life Sciences (Bio 201)

Informal Teaching Experience:

Presentations to Society of Biology Students, UM 1998, 2008, 2009, 2011 Presentation to Neuroscience Students Association, UM 2012

Teaching Grants:

Large Course Initiative Grant, Center for Research on Learning and Teaching, University of Michigan 2013 LS&A Faculty Project Grant "Animating Physiology" 2013 LS&A Instructional Technology Grant 2007

Ph.D. Dissertation Committees:

Laurel Hester (Member of committee, Dept. Biology, EEOB) Karen Glennemeier (Chair of committee, Dept. Biology, EEOB) Dissertation title: "Roles of corticosterone in the development and physiological ecology of Rana pipiens tadpoles and the disruption of this endocrine system by organochlorine contamination" Zheng Zhou (Member of committee, Dept. Biology, MCDB) Mike Burger (Cognate member of committee, SNRE) Graham Boorse (Chair of committee, Dept. Biology, EEOB; Dept. EEB) Dissertation title: "The roles of the corticotropin-releasing factor system in amphibians" Meng Yao (Chair of committee, Dept. MCDB) Dissertation title: "Mechanisms of corticotropin-releasing factor (CRF) gene regulation in the frog Xenopus laevis" Hua Lin (Member of committee, Dept. MCDB) Debra Speert (Neuroscience, Member of committee) Peter Schleuter (Member of committee, Dept. MCDB) Jun Ni (Member of committee, Dept. MCDB) Yunyun Ni (Member of committee, Dept. MCDB) Yang Zhao (Member of committee, Dept. MCDB) Nestor Lopez (Cognate member of committee, Psychology) Hongxia Ren (Member of committee, Dept. MCDB) Sara Storrs (Member of committee; University of Missouri, Columbia) Margareta Sutija (Cognate member of committee; Macguarie University, Sydney, Australia) Mary Wagner (Cognate member of committee; University of Victoria, British Columbia, Canada) Pia Bagamasbad (Chair of committee, Dept. MCDB) Dissertation title: "Molecular mechanisms of nuclear hormone receptor transcriptional synergy and autoinduction" Jessica Middlemis-Maher (Member of committee, Dept. EEB) Ryan Evans (Cognate member of committee, Dept. Biological Chemistry) Gizem Kalay, (Member of committee, Dept. MCDB) Chris Longson (Cognate member of committee; Macquarie University, Sydney, Australia) Lawrence Own (Member of committee; Neuroscience Program) Yasuhiro Kyono (*Chair of committee*; Neuroscience Program) Saurabh Kulkarni (Member of committee; University of Cincinnati) Jennifer Rutkiewicz (Member of committee; Environmental Health Sciences Dept., School of Public Health, UM) Joseph Knoedler (*Chair of committee*; Neuroscience Program) Yaxuan Yang (Member of committee; Dept. MCDB) Megan Greenwald-Yarnell (Member of committee; Neuroscience Program) Curtis Powell (Cognate member of committee; UM Dept. of Biological Chemistry) Christopher Sifuentes (Member of committee; Dept. MCDB) Marnix Gorissen (Member of committee; Radboud University Nijmegen, The Netherlands) Kyle Ketchesin (Member of committee; Neuroscience Program) Samhitha Raj (Chair of committee; Dept. of MCDB) Allison Box (Member of committee: Dept. MCDB) Bahaar Chawla (Member of committee; Dept. MCDB) Zachary Sterner (Member of committee; Univ. of Cincinnati)

M.S. Committees:

Hannah Foster (Member of committee, EEB Frontiers Masters Program) Peter Dornbos (Member of committee, School of Public Health) Melissa Cui (*Chair of committee*; Dept. MCDB) Rose Slupski (*Chair of committee*; Neuroscience Graduate Program) Ariel Harden (*Chair of committee*; MCDB Pathways Masters Program) César Rodriquez (*Chair of committee*; MCDB Pathways Masters Program)

Graduate Students and Postdocs Trained

Rana Adawi (MS 1997)

Elvira Arellanes Licea (postdoc)

José Ávila Mendoza (postdoc; Associate Research Scientist, Instituto de Neurobiología, UNAM Campus Juriquilla, Querétaro, México) Pia Bagamasbad (PhD 2012; Associate Professor I, National Institute of Molecular Biology and Biotechnology, University of the Philippines Diliman) Robert Bartel (MS 1999; Director of Education Programs, The Endocrine Society) Ronald Bonett (postdoc; Assoc. Prof. University of Tulsa, OK) Graham Boorse (PhD 2004; Asst. Prof., Arizona State University, Pheonix) Erica Crespi (postdoc: Asst. Prof., Washington State Univ., Pullman, WA) Melissa Cui (MS 2013) Bert De Groef (postdoc; Lecturer, College of Science, La Trobe University, Melbourne, Australia) Michael Fraker (postdoc; deceased) Karen Glennemeier (PhD 2000; Scientist, Audobon Society, Chigaco, IL) Sylvia Grommen (postdoc; Lecturer, College of Science, La Trobe University, Melbourne, Australia) Ariel Harden (MCDB Pathways MS student; PhD candidate Northwestern University) Kembra Howdeshell (postdoc; NIEHS, Research Triangle Park, NC) Caroline Hu (MS 2008; PhD student, Stanford University) Fang Hu (postdoc; Assoc. Prof, South Central China University, Hunan) Livue Huang (postdoc; Pfizer Corp.) Joseph Knoedler (PhD 2016; postdoc Stanford University) Yasuhiro Kyono (PhD 2015; postdoc University of Chicago) Lilly Lavner (MS 2011)

Choi Li (MS 2010; Associate, White and Case Law Firm, Washington D.C.) Richard Manzon (postdoc; Assoc. Prof., University of Regina, Saskatchewan, Canada) Smita Mathew (postdoc)

Hirofumi Michimae (postdoc; Research Scientist, Hokaido University, Japan) Mark Miller (MS 2005)

Chris Pelletier (MS 2007; Research Associate, Cornell University) Anna Ray (MS 1999)

Samhitha Raj (PhD 2018; MCDB Graduate Program; Assistant Professor, Fulbright University, Ho Chi Minh City, Vietnam)

César Rodriguez (MCDB Pathways MS student; scientists, NanoBio USA) Cristina Saenz de Miera Patin (postdoc University of Michigan Medical School) Christopher Sifuentes (postdoc; Staff Scientist, Computational Medicine and

Bioinformatics, University of Michigan)

Rose Slupski (MS 2012)

Gary Ten Eyck (postdoc; Asst. Prof., Dept Pharm Sci, University of Hawaii, Hilo)

Roldan Valverde (postdoc; Assoc. Prof., Southeastern Louisiana University, LA) Meng Yao (PhD 2007; Asst. Prof., Peking University, China) Navarette Ramirez, Pamela (Visiting scholar, UNAM, Querétaro, México) Luan Wen (postdoc; Research Associate, University of Michigan Medical School)

Invited Lectures and Symposia:

- International Symposium on Amphibian Endocrinology. Waseda University, Tokyo, Japan (1992).
- The Wellcome Trust Metamorphosis Meeting, Surrey, England (1992) Nicoll, C.S., Bres, O., Denver, R.J. (1992).
- Symposium on Integrative Thyroid Physiology in Conventional and Comparative Animal Models. APS/FASEB Spring Meeting, Anaheim, CA (1992).

Department of Molecular and Cell Biology, University of California at Berkeley (1992). Joint U.S.-Japan Symposium on New Perspectives in Developmental Endocrinology.

University of Hawaii at Manoa, Honolulu, HI (1993).

State-of-the-Art Lecture, 17th Conference of the European Society of Comparative Endocrinology, Cordoba, Spain (1994).

Workshop on Steroid Hormones and Brain Function, Breckenridge, Colorado (1995). Department of Zoology, The University of Texas, Austin, TX. (1995).

- Symposium on Amphibian Metamorphosis: Integrative Aspects. (1995). American Society of Zoologists Meeting, Washington D.C.
- International Symposium on Amphibian Endocrinology. (1996). University of Colorado, Boulder, CO.
- Laboratory of Reproductive Physiology, Centre Nationale de Researche Scientifique (CNRS), Universite de Rennes, Bretagne, France. (1996).
- Institut Federatif de Recherches Multidisciplinaires sur les Peptides, INSERM, Universite de Rouen, Normandie, France. (1996).
- National Institute of Medical Research, The Ridgeway, Mill Hill, London. (1996).
- Muséum national d'Histoire naturelle, Centre Nationale de Researche Scientifique (CNRS), Paris, France. (1996).
- Center for the Integrative Study of Behavior and Department of Biology, Indiana University. (Dec. 5-6, 1996).
- International Symposium on Neuroendocrine Regulation of Reproduction and Growth, Annual Meeting of the Society for Experimental Biology, University of Kent at Canterbury. (1997).

XIII International Conference on Comparative Endocrinology, Symposium on Thyroid Hormone Function and Metabolism. Yokohama, Japan (1997).

- XIII International Conference on Comparative Endocrinology, Symposium on Comparative Regulation of Growth Hormone Secretion. Yokohama, Japan (1997).
- Division of Biological Sciences, University of Missouri, Columbia (1998).

Department of Biology, University of North Dakota, Grand Forks (1998).

Department of Biology, North Dakota State University, Fargo (1998).

Department of Psychology, Michigan State University, East Lansing (1998).

Center for Organogenesis, University of Michigan, Ann Arbor (1998).

XIXth Conference of the European Society of Comparative Endocrinology. Symposium on Metamorphosis. Nijmegen, The Netherlands (1998).

Department of Biology, University of Rhode Island, Naraganasett (1998).

- Departments of Biology and Molecular Biology and Biochemistry, Wesleyan University (1998).
- Endocrinology and Metabolism Research Conference, UM Medical School (1998).

Department of Human Genetics, Laval University, Quebec (1998).

Winter Neuropeptides Meeting, "CRH Influences the Rate of Developmental Processes", Breckenridge, Colorado (1999).

Department of Integrative Biology, University of California at Berkeley (1999).

- Group in Endocrinology, University of California at Berkeley (1999).
- Gordon Research Conference on Metamorphosis, Connecticut College, Connecticut (1999).
- Symposium on Stress Hormones. (2000). 20th Conference of the European Society of Comparative Endocrinology, Faro, Portugal
- Symposium on Stress is it more than a disease? A comparative look at stress and adaptation. (2001). Annual meeting of the Society for Comparative and Integrative Biology, Chicago, IL.
- W. M. Keck Center for Behavioral Biology and Departments of Genetics and Zoology, North Carolina State University (2001).
- Department of Biology, University of Ottawa, Ontario (2001).
- Department of Zoology, University of Toronto (2001).
- 18th workshop of the International School of Ethology "Impact of Endocrine Disruptors on Brain Development and Behavior" Erice, Italy (2002).
- Laboratory of Comparative Endocrinology, Department of Zoology, Catholic University of Leuven, Belgium (2002).
- International Symposium on Environmental Endocrine Disrupters. International Conference Center, Hiroshima, Japan (2002).
- Syposium on "Physiology Underlying Phenotypic Plasticity and Polyphenism" Annual meeting of the Society for Comparative and Integrative Biology, Toronto, Canada (2003).
- Symposium on Developmental Endocrinology (chairperson), Annual meeting of the Endocrine Society, Philadelphia, PA (2003).
- International Workshop on the Use of Anuran Models in Endocrine Disruption and Reproductive Toxicology Research. Midcontinent EPA Laboratory, Duluth, MN (2003).
- Plenary lecturer, International Symposium on Amphibian Endocrinology and Neurobiology, Jeju Island, South Korea (2003).
- Symposium on "The Fetal Origins Of Developmental Plasticity: Life History, Adaptation, And Disease", Annual Meeting of the Human Biology Association, Tampa, FL (2004).
- Division of Biological Sciences, University of Missouri, Columbia (2004).
- Department of Biology, Andrews University, Berrien Springs, Michigan (2004).
- Pediatric Endocrinology Group, Department of Pediatrics, The University of Michigan Medical School, Ann Arbor (2005).
- Symposium on "Ontogeny and Phylogeny of Developmental and Adaptive Endocrine Systems" 15th International Conference on Comparative Endocrinology, Boston, MA (2005).
- Symposium on "Metamorphosis: A multi-kingdom approach" Annual meeting of the Society for Comparative and Integrative Biology, Orlando, FL (2006).
- Symposium on "Stress adaptation from invertebrates to man" State-of-the-art lecturer and symposium co-chair, 23rd meeting of the European Society for Comparative Endocrinology, Machester, UK (2006.)
- Meet the Professor Session, "Thyroid hormone, metamorphosis and development." American Thyroid Association, Pheonix, AZ (2006).

Participant, NSF Workshop on Allostasis, University of Washington, Seattle, WA (2007).

Speaker, symposium on "Endocrine lessons from evolution, part I" Annual meeting of the Endocrine Society, Toronto, Canada (2007).

Department of Biological Sciences, University of Iowa (2007).

- Department of Physiology and Biophysics, Georgetown University School of Medicine (2008).
- Chair of symposium on "Endocrine lessons from evolution, part II" Annual meeting of the Endocrine Society, San Francisco, CA (2008).
- Metabolism and Endocrinology Division Research Seminar Series, Univ. Michigan Dept. of Internal Medicine (April, 2008)
- Plenary Lecturer, 24rd meeting of the European Society for Comparative Endocrinology, Genoa, Italy (2008).
- Department of Biological Sciences, State University of New York at Albany, NY (2009).
- Unit of Molecular Morphogenesis, Laboratory of Molecular Embryology, NICHD/NIH (2009).
- State-of-the-Art Lecture, International Conference on Comparative Endocrinology, Hong Kong (2009).
- Keynote Speaker, International Symposium on Amphibian and Reptilian Endocrinology and Neurobiology, Berlin, Germany (2009).
- Symposium on Evolution and DoHaD, 6th International Congress on the Developmental Origins of Health and Disease (DoHaD), Santiago, Chile (2009).
- Invited Speaker, Workshop on Implementation of the Grand Challenges in Organismal Biology, Annual Meeting of the Society for Integrative and Comparative Biology, Seattle, WA (2010).

Visiting Scholar, Department of Biological Sciences, University of Denver, CO (2010). Department of Biology, University of Miami, FL (2010).

Department of Pediatrics, Pediatric Endocrinology Seminar, UM (2010).

- Symposium on Growth Hormone, Metabolism and Obesity, International Congress on Neuroendocrinology, Rouen, France (2010).
- Symposium on Ecological Developmental Biology, European Society of Evolutionary Developmental Biology, Paris, France (2010).
- Muséum national d'Histoire naturelle, Centre Nationale de Researche Scientifique (CNRS), Paris, France (2010).
- Muséum national d'Histoire naturelle, Commemoration of the 90th birthdays of Professors Jacques Leloup and François Lachiver, Paris, France (2011; Lecture given in French).
- Symposium on Environmental Stressors and Developmental Plasticity, Meeting of the Canadian Society of Zoologists, Mount Allison University in Sackville New Brunswick (2012).
- Meet-the-Professor Session, American Thyroid Association (ATA) Annual Meeting. Quebec City, Quebec, Canada (2012).
- Biology Department, Kenyon College, Gambier, Ohio (2013).
- Department of Biological Science, University of Tulsa, OK (2013).
- Symposium on Development and Plasticity of Neuroendocrine Systems, 2nd Meeting of the North American Society for Comparative Endocrinology, Santiago de Querétaro, Mexico (2013).
- State-of-the-Art Lecture, 17th International Conference on Comparative Endocrinology, Barcelona, Spain (2013).
- Fourteenth Annual Center for Neuroendocrine Studies (CNS) Symposium, University of Massachusetts, Amherst (2013).
- Department of Animal Physiology, Radboud University Nijmegen, The Netherlands (2013).
- FASEB Conference, Biology and Pathobiology of Krüppel-like factors, Snowmass, CO (2014).

- State-of-the-Art Lecture, Symposium on Metamorphosis, 27th Conference of European Comparative Endocrinologists, Rennes, France (2014).
- Keynote Speaker, International Symposium on Amphibian and Reptilian Endocrinology and Neurobiology, Okazaki, Japan (2014).
- Department of Biology, Swarthmore College, Pennsylvania (2014).
- Symposium Speaker, 15th International Thyroid Congress (ITC), É. Chester Ridgway Trainee Conference, Orlando, FL (2015).
- Symposium Speaker, FASEB Science Research Conference on KLF and Sp Transcription Factors in Disease and Regenerative Medicine, Snowmass, CO (2016).
- Symposium Speaker, International Symposium on the Pituitary Gland and Related Systems, 31st annual meeting of Japan Society for Pituitary Research, and the Japan Society for Comparative Endocrinology (JSPS), Honolulu, HI (2016).
- Department of Human Genetics, University of Michigan Medical School (2016). Stockard Distinguished Lecturer. Oklahoma State University (2016).
- Invited Lecturer, Instituto de Neurobiología, UNAM Campus Juriquilla, Querétaro, México (2017).
- Gorbman-Bern Memorial Lectureship, North American Society for Comparative Endocrinology, 18th International Congress of Comparative Endocrinology (2017).
- Invited Oral Presentation, The 6th International Conference on Biology and Pathobiology of KLF/Sp Transcription Factors (KLF-2018), Kyoto, Japan (2018).
- Invited Speaker, Breakthroughs in Biology, Connell Symposium, Department of Molecular, Cellular and Developmental Biology, University of Michigan (2019).
- Keynote Speaker, North American Society for Comparative Endocrinology (NASCE) Biannual Conference and International Symposium on Amphibian and Reptilian Endocrinology and Neurobiology (ISAREN), Gainesville, FL (2019).
- Symposium on Chromatin Modification by T₃-TR, American Thyroid Association (ATA) *virtual* (2021).

Bibliography (131 publications; h-index = 54, i10-index = 107 Google Scholar; July, 2023):

Primary Research Articles:

- Raj., S., Sifuentes, C.J., Kyono, Y. and Denver, R.J. Metamorphic gene regulation programs in *Xenopus tropicalis* tadpole brain. *PLoS ONE* 18(6): e0287858. doi:10.1371/journal.pone.0287858
- Knoedler, J.R., Sáenz de Miera, C., Subramani, A. and Denver, R.J. (2021) An intact *Krüppel-like factor* 9 gene is required for acute liver *Period* 1 mRNA response to restraint stress. 162(9):1 *Endocrinology* doi:10.1210/endocr/bqab083
- Fraker, M.E, Ludsin, S.A., Luttbeg, B. and Denver, R.J. (2021) Stress hormonemediated antipredator morphology improves escape performance in wood frog tadpoles. *Scientific Reports* 11:4427 (2021) doi:10.1038/s41598-021-84052-9/
- 87. Ávila-Mendoza, J., Subramani, A. and Denver, R.J. (2020) Krüppel-like factors 9 and 13 block axon growth by transcriptional repression of key components of the cAMP signaling pathway. *Frontiers in Molecular Neuroscience* 13:602638 doi:10.3389/fnmol.2020.602638

- Raj, S., Kyono, Y., Sifuentes, C.J., Arellanes-Licea, E., Subramani, A. and Denver, R.J. (2020) Thyroid hormone induces DNA demethylation in *Xenopus* tadpole brain. *Endocrinology* 161(11):1-18 doi:10.1210/endocr/bqaa155
- Ávila-Mendoza, J., Subramani, A., Sifuentes, C.J. and Denver, R.J. (2020) Molecular mechanisms for Krüppel-like factor 13 actions in hippocampal neurons. *Molecular Neurobiology* 57(9):3785-3802 doi:10.1007/s12035-020-01971-w PMID: 32578009
- 84. Kyono, Y., Raj, S., Sifuentes, C., Buisine, N., Sachs, L. and Denver, R.J. (2020) DNA methylation dynamics underlie metamorphic gene regulation programs in *Xenopus* tadpole brain. *Developmental Biology* 462(2):180-196, doi: 10.1016/j.ydbio.2020.03.013 PMID:32240642
- Knoedler, J.R., Ávila-Mendoza, J., Subramani, A., C. and Denver, R.J. (2020) The paralogous Krüppel-like factors 9 and 13 regulate the mammalian cellular circadian clock output gene *Dbp*. *Journal of Biological Rhythms* 35(3):257-274 doi: 10.1177/0748730420913205 PMID:32241200
- Bagamasbad, P.D., Espina, J.E.C., Knoedler, J.R., Subramani, A., Harden, A.J. and Denver, R.J. (2019) Coordinated transcriptional regulation by thyroid hormone and glucocorticoid interaction in adult mouse hippocampus-derived neuronal cells. *PLoS One* 14(7): e0220378. doi: 10.1371/journal.pone.0220378 PMID:31348800
- Wen, L., He, C. and Denver, R.J. (2019) Thyroid hormone receptor alpha is required for thyroid hormone-dependent neurogenesis in *Xenopus* tadpole brain. *Frontiers in Endocrinology* 10:396 doi: 10.3389/fendo.2019.00396 PMID:31316462
- Laslo, M., Denver, R.J. and Hanken, J. (2019) Evolutionary conservation of thyroid hormone receptor and deiodinase expression dynamics *in ovo* in a direct-developing frog, *Eleutherodactylus coqui*. *Frontiers in Endocrinology* 10:307 doi: 10.3389/fendo.2019.00307 PMID:31178826
- Bender, M.C., Hu, C., Pelletier, C. and Denver, R.J. (2018) To eat or not to eat: Ontogeny of hypothalamic feeding controls and a role for leptin in modulating life history transition in amphibian tadpoles. *Proceedings of the Royal Society B* 285: 20172784. doi: 10.1098/rspb.2017.2784 PMID:29593109
- Sáenz de Miera, C., Parr, E. and Denver, R.J. (2018) Bulk electroporation-mediated gene transfer into *Xenopus* tadpole brain. *Cold Spring Harb Protoc*; doi:10.1101/pdb.prot097691 PMID:29769396
- Kulkarni, S.S., Denver, R.J., Gomez-Mestre, I, and Buchholz, D.R. (2017) Genetic accommodation of developmental acceleration explains divergent plasticity among spadefoot toads. *Nature Communications* 8:993. doi: 10.1038/s41467-017-00996-5. PMID:29051478
- 76. Bender, M.C., Sifuentes, C.J. and Denver, R.J. (2017) Leptin induces mitosis and activates the canonical Wnt/β-catenin signaling pathway in neurogenic regions of *Xenopus* tadpole brain. *Frontiers in Endocrinology* 8:99. doi:10.3389/fendo.2017.00099. PMID:28533765
- 75. Knoedler, J.R., Subramani, A. and Denver, R.J. (2017) The Krüppel-like factor 9 cistrome in mouse hippocampal neurons reveals predominant transcriptional repression via proximal promoter binding. *BMC Genomics* 18:299. doi: 10.1186/s12864-017-3640-7 PMID:28407733

- 74. Kyono, Y., Sachs, L., Bilesimo, P., Wen, L. and Denver, R.J. (2016) Developmental and thyroid hormone regulation of the DNA methyltransferase 3a gene in *Xenopus* tadpoles. *Endocrinology* 157:4961-4972. doi: 10.1210/en.2016-1465 PMID:27779916
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- 72. Hu, F., Knoedler, J.R. and Denver, R.J. (2016) A mechanism to enhance cellular responsivity to hormone action: Krüppel-like factor 9 promotes thyroid hormone receptor beta autoinduction during postembryonic brain development. *Endocrinology* 157:1683-1693 doi: 10.1210/en.2015-1980 PMID:26886257
- Bagamasbad, P., Bonett, R.M., Sachs, L., Buisine, N., Raj, S., Knoedler, J.R., Kyono, Y., Ruan, Y., Ruan, X. and **Denver, R.J.** (2015) Deciphering the regulatory logic of an ancient, ultraconserved nuclear receptor enhancer module. *Molecular Endocrinology* 29:856-872 doi: 10.1210/me.2014-1349 PMID:25866873
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- DuRant, S.E., Wilson, A.F., **Denver, R.J.**, Hepp, G.R. and Hopkins, W.A. (2014) Altered plasma thyroid hormone concentrations could be an upstream mechanism for incubation temperature-induced phenotypes in birds. *Biology Letters* 10(1):20130950. PMID:24402717
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- Bagamasbad, P., Ziera, T., Borden, S.A., Rozeboom, A.M., Seasholtz, A.F. and Denver, R.J. (2012) Molecular basis for glucocorticoid induction of the Krüppel-like factor 9 gene in hippocampal neurons. *Endocrinology* 153:5334-5345 doi: 10.1210/en.2012-1303 PMID:22962255
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role for a conserved cyclic AMP response element. *Endocrinology* 148:2518-2531 PMID:17289845

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