

LAURA ALLISON ROMANO

Denison University
Department of Biology
Granville, OH 43023

Telephone: (740) 587-6337
FAX: (740) 587-5634
E-mail: romanol@denison.edu

EDUCATION:

Ph.D., University of Arizona, May 2000.
Major in Cell Biology and Anatomy; Minor in Molecular and Cellular Biology

B.S. with Honors, College of William and Mary in Virginia, May 1993.
Major in Biology; Minor in Anthropology

SPECIALIZED TRAINING:

Developmental Biology Teaching Workshop
Darling Marine Center, Walpole, ME, June 2004.

Molecular Phylogenetics Course at the Summer Institute in Statistical Genetics
North Carolina State University, Raleigh, NC, Summer 2003.

Seminar in Teaching Biology
Department of Biology, Duke University, Spring 2002.

Computer Applications for Teachers Course
Department of Education, University of Arizona, Fall 1999.

**“Embryology: Concepts and Techniques in Modern Developmental Biology”
Course**
Marine Biological Laboratory, Woods Hole, MA, Summer 1998.

ACADEMIC POSITIONS HELD:

Associate Professor
Department of Biology, Denison University
September 2010 – present
• evolution of sea urchin development

Assistant Professor
Department of Biology, Denison University
September 2003 – present
• evolution of sea urchin development

Postdoctoral Research Associate

Department of Biology, Duke University

April 2000 – August 2003

Advisor: Dr. Gregory Wray

- evolution of sea urchin development

Graduate Research Assistant

Department of Cell Biology and Anatomy, University of Arizona

July 1994 – March 2000

Advisor: Dr. Raymond Runyan

- molecular basis of heart valve development in chicken

Research Assistant

Department of Cell Biology and Anatomy, University of Arizona

July 1993 – June 1994

Advisor: Dr. Joseph Bagnara

- melanization during frog development

Undergraduate Research Assistant

Department of Biology, College of William and Mary in Virginia

January 1990 – May 1993

Advisor: Dr. Norman Fashing

- functional morphology of feeding appendages in mites; scientific illustrations

TEACHING AND MENTORING EXPERIENCE:

Instructor, Evolutionary Developmental Biology

Spring 2005, Fall 2008

Department of Biology, Denison University

- instructed undergraduates through lecture, discussion, and laboratory exercises

Instructor, Introduction to the Science of Biology

Fall 2004, Spring 2005, Spring 2006, Fall 2006, Spring 2009, Spring 2010

Department of Biology, Denison University

- instructed undergraduates through lecture, discussion, and laboratory exercises

Instructor, Cellular and Molecular Biology

Spring 2004, Fall 2005, Spring 2007, Spring 2010

Department of Biology, Denison University

- instructed undergraduates through lecture, discussion, and laboratory exercises

Instructor, Developmental Biology

Fall 2003, 2004, 2006, 2009

Department of Biology, Denison University

- instructed undergraduates through lecture, discussion, and laboratory exercises

Mentor

Summer 2004 – present

Department of Biology, Denison University

- served as a mentor for undergraduate students working in my laboratory

Co-Instructor, Molecular Biology

Spring 2002

Marine Biological Station, University of Tohoku (Japan)

- instructed graduate students through laboratory exercises

Mentorship in Teaching Biology

Spring 2002

Department of Biology, University of North Carolina at Greensboro

- discussed teaching-related issues with Dr. Dean Wendt

Guest Instructor, Experiments in Development and Molecular Genetics

Fall 2001

Department of Biology, Duke University

- instructed undergraduate students through lecture and discussion

Mentor

Fall 2000 – Spring 2003

Department of Biology, Duke University

- served as a mentor for several graduate students in the laboratory

Mentor, Howard Hughes Medical Institute Summer Research Program

Summer 2000

Department of Biology, Duke University

- served as a mentor for an undergraduate student in the laboratory

Problem-Based Learning Facilitator, Physiology

Spring 1998

College of Medicine, University of Arizona

- facilitated a discussion group of medical students

Problem-Based Learning Facilitator, Gross Anatomy

Fall 1995, 1999

College of Medicine, University of Arizona

- facilitated a discussion group of medical students

Teaching Assistant, Human Gross Anatomy

Fall 1995, 1999

College of Medicine, University of Arizona

- assisted medical students in the laboratory

Preparatory Teaching Assistant, Introductory Biology II

Spring 1994

Department of Ecology and Evolutionary Biology, University of Arizona

- prepared laboratory supplies and equipment; assisted undergraduate students in laboratory exercises related to ecology, genetics, and evolution

Preparatory Teaching Assistant, Introductory Biology I

Fall 1993

Department of Molecular and Cellular Biology, University of Arizona

- prepared laboratory supplies and equipment; assisted undergraduate students in laboratory exercises related to molecular, cellular, and developmental biology

AWARDS:

- Grant from the National Institutes of Health (\$206,456), 2009 – 2012.
- Society for Developmental Biology Travel Grant for Teaching Faculty (\$500), 2006.
- Grant from the Denison University Research Foundation (\$4,645), 2006.
- Scholarship for Summer Institute in Statistical Genetics (\$350), 2003.
- Achievement Rewards for College Scientists Scholarship (\$6,000), 1999 – 2000.
- College of Medicine Fellowship (University of Arizona) (\$2,000), 1999 – 2000.
- Society for Developmental Biology Scholarship (\$3,200), 1998.
- Graduate Student Council Travel Grant (University of Arizona) (\$500), 1998.
- Graduate Registration Scholarship (University of Arizona) (\$2,188), 1998, 1999.
- Langman Award Finalist, American Association of Anatomists, 1998.
- American Heart Association Predoctoral Fellowship (\$13,200), 1997 – 1998.
- American Heart Association Student Stipend Award (\$5,000), 1996 – 1997.
- Honorable Mention, US DOD Science and Engineering Fellowship, 1995, 1996.
- Graduate College Fellowship (University of Arizona) (\$14,000), 1995.
- Biology 21 Flinn Fellowship (\$14,000), 1994 – 1995.
- Research Grant awarded by the College of William and Mary (\$350), 1992 – 1993.

PEER-REVIEWED PUBLICATIONS:

(*denotes undergraduate student)

Walters, J. L.*, Binkley, E. M.*, Haygood, R. and Romano, L. A. (2008) Evolutionary analysis of the cis-regulatory region of *SM50* in stronglylocentrotid sea urchins. *Developmental Biology* **315**, 567-578.

Romano, L. A. and Wray, G. A. (2006) Endo16 is required for gastrulation in the sea urchin *Lytechinus variegatus*. *Development Growth and Differentiation* **48**, 487 – 497.

Romano, L. A., and Wray, G. A. (2003) Conservation of *endo16* expression in sea urchins despite evolutionary divergence in both *cis* and *trans*-acting components of transcriptional regulation. *Development* **130**, 4187 – 4199.

Wray, G. A., Hahn, M., Abouheif, E., Balhoff, J., Pizer, M., Rockman, M. V., and Romano, L. A. (2003) Evolution of eukaryotic transcription. *Molecular Biology and Evolution* **20**, 1377 – 1419.

Romano, L. A., and Runyan, R. B. (2000) Slug is an essential target of TGF β 2 signaling in the developing chicken heart. *Developmental Biology* **223**, 91 – 102.

Romano, L. A., and Runyan, R. B. (1999) Slug is a mediator of epithelial-mesenchymal cell transformation in the developing chicken heart. *Developmental Biology*. **212**, 243 – 254.

Runyan, R. B., Wendler, C. C., Romano, L. A., Boyer, A. S., Dagle, J. M., and Weeks, D. L. (1999) Utilization of antisense oligodeoxynucleotides with embryonic tissues in culture. *Methods*, **18(3)**, 316 – 321.

PROFESSIONAL ACTIVITIES:

Chair of plenary session titled “The sea urchin as a model system for education” at the Developmental Biology of the Sea Urchin Meeting in Woods Hole, MA, Spring 2008.

Reviewer for the National Science Foundation. Spring 2006 – present.

Reviewer for “Life: The Science of Biology” textbook published by Sinauer Associates, Inc. Fall 2005.

Reviewer for manuscripts published in: *Developmental Biology*; *Evolution and Development*; *Development, Genes, and Evolution*; *Genetika*. Spring 2000 – present.

Member, Organizing Committee for the Weinstein Cardiovascular Development Conference in Tucson, AZ. Spring 1999.

PROFESSIONAL SOCIETIES:

Society for Integrative and Comparative Biology, 2010 – present.
American Society for the Advancement of Science, 2003 – present.
Society for Developmental Biology, 1999 – present.

UNIVERSITY SERVICE:

Member, Search Committee for Visiting Organismal Biologist, Spring 2010.
Department of Biology, Denison University

Faculty Advisor, Operation Smile, 2009 – present.
Denison University

Participant, June Orientation, Summer 2009.
Denison University

Chair, Search Committee for Visiting Molecular Biologist, Spring 2009.
Department of Biology, Denison University

Member, Student Enrollment and Retention Committee, Fall 2008 – Spring 2010.
Denison University

Chair, Student Enrollment and Retention Committee, Fall 2007 – Spring 2008; Fall 2009 – Spring 2010.
Denison University

Representative, Student Enrollment and Retention Committee of the Board of Trustees,
Fall 2007 – Spring 2009

Member, Search Committee for Visiting Organismal Biologist, Spring 2007.
Department of Biology, Denison University

Representative, Marine Sciences Education Consortium (MSEC), 2007 – present.
Duke Marine Laboratory

Facilitator, Workshop on Academic Dishonesty at International Orientation, Fall 2006.
Denison University

Member, Search Committee for Visiting Molecular Biologist, Spring 2006.
Department of Biology, Denison University

Member, Honorary Degrees Committee, Fall 2005 – Spring 2007.
Denison University

Member, Wells Scholarship Selection Committee, March 2005.
Denison University

Coordinator, Departmental Assessment Exam, Fall 2004 – Spring 2007.
Department of Biology, Denison University

Member, Greek Awards Selection Committee, March 2004.
Denison University

Member, Search Committee for Tenure-Track Ecologist, Spring 2004.
Department of Biology, Denison University

Volunteer, Fundraiser for the Muscular Dystrophy Association, March 2004.
Denison University

Volunteer, Faculty Focus Sessions for Prospective Students, March 2004, 2005, 2006.
Denison University

Volunteer, Admissions Workshops for Prospective Students, November 2003, 2004.
Denison University

Volunteer, Dinners for Prospective Students, 2003 – present.
Denison University

Member, Graduate Studies Committee, Fall 1996 – Spring 1997.
Department of Cell Biology and Anatomy, University of Arizona

Member, Seminar Committee, Fall 1995 – Spring 1996.
Department of Cell Biology and Anatomy, University of Arizona

COMMUNITY OUTREACH:

Mentor, Licking County Educational Service Center, Spring 2009.

Judge, Ohio Academy of Sciences Fair, May 2005, 2006, 2007.

E-mentor, Society for Developmental Biology, Spring 2004 – present.

Judge, Ohio Regional Science and Engineering Fair, February 2004.

Guest Instructor, North Carolina School of Science & Mathematics, Fall 2002

Judge, Southern Arizona Regional Science and Engineering Fair, March 1997, 1998.

Judge, International Science and Engineering Fair, March 1996.

INVITED SEMINARS:

“The molecular basis of diversity: insight from studying the evolution of developmental mechanisms in the sea urchin” presented to the Department of Biology, Ohio Wesleyan University, December 2008.

“The evolution of diversity: insight from the sea urchin” presented to the Department of Biology, Kenyon College, January 2008.

“The developmental basis of morphological diversity: functional analysis of evolutionary changes in the *endo16* promoter of sea urchins presented to the Department of Biology, Denison University, December 2002.

“The developmental basis of morphological diversity: functional analysis of evolutionary changes in the *endo16* promoter of sea urchins” presented to the Marine Biological Station, University of Tohoku (Japan), March 2002.

“The developmental basis of morphological diversity: functional analysis of evolutionary changes in the *endo16* promoter of sea urchins” presented to the Department of Biology, College of William and Mary in Virginia, February 2002.

OTHER SEMINARS:

“The evolution of diversity: insight from the sea urchin” presented to the Department of Biology, Denison University, September 2008, 2009.

“The evolution of diversity: insight from the sea urchin” presented to the Denison Scientific Association, Denison University, April 2007.

“The molecular basis of diversity: evolutionary analysis of genes that regulate the development of the larval skeleton in sea urchins” presented to the Department of Biology, Denison University, October 2006.

“Poodles versus pitbulls: insight into the molecular basis of diversity” presented to the Tuesday Lunch Series, Denison University, March 2005.

“The molecular basis of morphological diversity: evolutionary analysis of genes that regulate the development of the larval skeleton in sea urchins” presented to the Department of Biology, Denison University, November 2004.

“The molecular basis of morphological diversity: evolutionary analysis of genes that regulate the development of the larval skeleton in sea urchins: presented to Women in Science, Denison University, November 2004.

PRESENTATIONS AT CONFERENCES:

(* denotes undergraduate student)

Miller, E.*, Moore, D.*, Orłowski, S.*, Tekelenburg, S.*, Romano, L.A. (2011) Isolation of genes required for the ingression, patterning, and differentiation of cells that give rise to the larval skeleton in the pencil urchin, *Euclidaris tribuloides*. Society for Integrative and Comparative Biology Meeting, Salt Lake City, UT (poster presentation)

Orłowski, S.*, Murch, C.*, Binkley, E.*, and Romano, L. A. (2009) Comparative analysis of *SM50* and other genes required for development of the larval skeleton in sea urchins. Developmental Biology of the Sea Urchin Meeting, Woods Hole, MA. (poster presentation)

Romano, L. A. (2009) Careers in undergraduate teaching and research: rewards and challenges. Developmental Biology of the Sea Urchin Meeting, Woods Hole, MA. (panel discussion)

Romano, L. A. (2009) A semester-long project related to the evolution of developmental mechanisms: exploring the benefits for undergraduate students at a small liberal arts institution. Society for Developmental Biology Meeting, San Francisco, CA. (poster presentation)

Orłowski, S.*, Murch, C.*, Binkley, E.*, and Romano, L. A. (2009) Comparative analysis of *SM50* and other genes required for development of the larval skeleton in sea urchins. Society for Developmental Biology Meeting, San Francisco, CA. (poster presentation)

Romano, L. A. (2008) Use of the sea urchin and its genome at a primarily undergraduate institution (PUI). Developmental Biology of the Sea Urchin Meeting, Woods Hole, MA. (oral presentation)

Walters, J. L.*, Binkley, E. M.*, Thaman, K.*, and Romano, L. A. (2006) Evolutionary analysis of the cis-regulatory region of *SM50*, a gene that is essential for development of the larval skeleton. Developmental Biology of the Sea Urchin Meeting, Woods Hole, MA. (poster presentation)

Walters, J. L.*, Binkley, E. M.*, Haygood, R., and Romano, L. A. (2006) Evolutionary analysis of the cis-regulatory region of *SM50*, a gene that is essential for skeletogenesis in the sea urchin. Society for Developmental Biology Meeting, Ann Arbor, MI. (poster presentation)

Cannon, L. E.*, Kiehl, N. I.*, and Romano, L. A. (2005) Preliminary work for investigating the evolution of transcriptional regulation of spicule matrix genes in the sea urchin. Developmental Biology of the Sea Urchin Meeting, Woods Hole, MA. (poster presentation)

- Romano, L. A., and Wray, G. A. (2004) Antisense morpholinos directed against LvEndo16 disrupt morphogenesis in the sea urchin embryo. Mid-Atlantic Regional Developmental Biology Conference. (poster presentation)
- Romano, L. A., and Wray, G. A. (2003) Antisense morpholinos directed against LvEndo16 disrupt morphogenesis in the sea urchin embryo. Developmental Biology of the Sea Urchin Meeting, Woods Hole, MA. (poster presentation)
- Romano, L. A., and Wray, G. A. (2002) Functional analysis of evolutionary changes in the *endo16* promoter of sea urchins. Developmental Biology of the Sea Urchin Meeting, Woods Hole, MA. (poster presentation)
- Romano, L. A., and Wray, G. A. (2002) Endo16 is required for morphogenesis in *Lytechinus variegatus*. Developmental Biology of the Sea Urchin Meeting, Woods Hole, MA. (poster presentation)
- Romano, L. A. and Wray, G. A. (2000) Evolution of *endo16* promoter structure and function. Developmental Biology of the Sea Urchin Meeting, Woods Hole, MA. (oral presentation)
- Romano, L. A. and Runyan, R. B. (2000) Slug is an essential target of TGFb2 signaling in the developing chicken heart. Weinstein Cardiovascular Development Conference, St. Louis, MO. (oral presentation)
- Runyan, R. B., Wendler, C. C., Romano, L. A., and Boyer, A. S. (2000) Epithelial-mesenchymal cell transformation is a multi-step process in the atrioventricular canal. Society for Experimental Biology. San Francisco, CA. *FASEB J.* **14(4)**, A272. (oral presentation)
- Romano, L. A. and Runyan, R. B. (1999) Slug is a mediator of epithelial-mesenchymal cell transformation in the developing chicken heart. Weinstein Cardiovascular Development Conference, Tucson, AZ. (poster presentation)
- Romano, L. A. and Runyan, R. B. (1998) The transcription factor Slug plays a role in the epithelial-mesenchymal cell transformation which occurs in the developing heart. Society for Experimental Biology. San Francisco, CA. *FASEB Journal.* **12(4)**, A46. (oral presentation)
- Romano, L. A. and Runyan, R. B. (1998) The transcription factor Slug plays a role in the epithelial-mesenchymal cell transformation which occurs in the developing heart. Scientific Sessions of the Arizona Heart Association (Arizona Affiliate), Phoenix, AZ. (poster presentation)

Romano, L. A. and Runyan, R. B. (1998) The transcription factor Slug plays a role in the epithelial-mesenchymal cell transformation which occurs in the developing heart. Weinstein Cardiovascular Development Conference, Nashville, TN. (poster presentation)

Romano, L. A. and Runyan, R. B. (1997) U-Pa is a marker of epithelial-mesenchymal cell transformation in vitro. Flinn Foundation Meeting, Phoenix, AZ. (poster presentation)

Romano, L. A. and Runyan, R. B. (1996) U-Pa is a marker of epithelial-mesenchymal cell transformation in vitro. Weinstein Cardiovascular Development Conference, Philadelphia, PA. (poster presentation)

Romano, L. A. and Runyan, R. B. (1996) U-Pa is a marker of epithelial-mesenchymal cell transformation in vitro. Scientific Sessions of the American Heart Association (Arizona Affiliate), Phoenix, AZ. (poster presentation)

Romano, L. A. and Fashing, N. J. (1993) The functional morphology of the chelicerae of six species of algophagid mites. Eastern Branch of the Entomological Society of America, Williamsburg, VA. (poster presentation)