Radhika Atit

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Education

Ph.D. **Dept. of Molecular Developmental Biology**, University of Cincinnati, Cincinnati, OH
Defended in May 1999
Dissertation: "Skin Wound Healing Paradigms in Neurofibromatosis Type I Mutant Mice."
Mentor: Dr. Nancy Ratner

B.S. **Biology** , Muhlenberg College, Allentown, PA
Graduated in 1993, *Suma Cum Laude*

Professional Positions

January '05- present:	Assistant Professor, Dept. of Biology, Case Western Reserve University, Cleveland, Ohio.
January '06- present:	Assistant Professor, Secondary Appointment, Dept. of Genetics, Case Western Reserve University, Cleveland, Ohio.
May '07- present:	Assistant Professor, Secondary Appointment, Dept. of Dermatology, Case Western Reserve University, Cleveland, Ohio.
January '02 to Dec '04:	Post-doctoral fellow, Dept. of Genetics, Case Western Reserve University, Cleveland, OH.
June '99 to Dec. '01:	Post-doctoral fellow, Sloan-Kettering Cancer Institute, New York, NY.
July '93 to May '99:	Graduate Research Assistant, Molecular Developmental Biology Program, University of Cincinnati, Cincinnati, OH.
Summer '92 and '93:	Summer Research Intern, Project focused on sympathetic pathway mediated pain in type II diabetic neuropathy, Diabetes Research Institute, Eastern Virginia Medical School, Norfolk, VA.
Summer '91:	Howard Hughes Summer Research Intern, Molecular Biology, Bucknell University, Lewisburg, PA.
Summer '90:	Pew Fellow Summer Research Intern, Pollen Germination, Bucknell University, Lewisburg, PA.

Publications

Ohtola, J., Myers, J., Yeh, K., **Atit R.** Wnt signaling/beta-catenin activity during ventral mouse dermal development. Manuscript in preparation.

Atit R., Sgaier, S. Mohammed, O., Taketo, M., Dufort, D., Joyner, A., Niswander, L., Conlon, R. (2006). Beta-catenin activity is necessary and sufficient for dorsal dermal fate specification. in mouse. *Developmental Biology,* 296, p164-176.

Publications cont.

Atit, R. , Conlon, R, and Niswander, L. (2003). EGFR signaling patterns the feather array by promoting interbud fate. *Developmental Cell* 4 p231-40

Rizvi, T.A, Ling, B., Huang, Y., Sidani, A., **Atit, R.**, Largaespada, D.A., Boissy, R.E., and Ratner, N. (2002). A novel cytokine pathway suppresses glial cell melanogenesis after injury to adult nerve. *J. Neuroscience* 22 p.9831-40

Sherman, LS., **Atit, R.**, Rosenbaum, T., Cox, A.D., Ratner, N. (2000). Single cell Ras-GTP analysis reveals altered Ras activity in a subpopulation of neurofibroma Schwann cells but not fibroblasts. *J Biol Chem.,* 275 p.30740-5.

Atit, R., Mitchell, K., Nguyen, L., Warshawksy, D., Ratner, N. (2000). The neurofibromatosis type 1 (*Nf1*) tumor suppressor is a modifier of carcinogen-induced pigmentation and papilloma formation in C57Bl/6 mice. Accepted at *J. Invest. Dermatology,* 114 p.1093-1100.

Atit, R., Crowe, M., Wenstrup, R., Greenhalgh, D., and Ratner, N. (1999). The *Nf1*, tumor suppressor gene is required for normal skin wound healing, fibroblast proliferation, and collagen deposition. *J. Invest. Dermatology*, 112 p.835-842.

Published Abstracts

Anyangwe, O., Myers, J., Atit, R. (2007). Wnt signaling and ventral dermis develoment. *Developmental Biology.*

Atit, R. and Niswander L. (2001). Mechanism of Epidermal Growth Factor in avian skin patterning. *Developmental Biology.*

Ratner, N. **Atit, R.**, Sherman, L.S., Crowe, M., Cox, A.D., and Wenstrup, R. (1999). Evidence in support of Ras-GTP dependent and independent abnormalities in NF1-mutant cells revealed by a new *in situ* Ras activation assay and by skin wounding. Medizinische Genetik.

Ratner, N., **Atit, R.**, Kim, H.A., Ling, B., DeClue, J.A., Crowe, M., and Rizvi, T.A. (1998). Neurofibromatosis type 1: Genetic and cellular mechanisms of peripheral nerve tumor formation. *J. Cancer Res. Clin. Oncol.*

Ratner N., **Atit**, **R.**, Wenstrup R., Crowe, M. (1997) Increased matrix deposition by *Nf1*-deficient fibroblasts: evidence for a Ras-independent phenotype. *Society of Neuroscience Abstracts* **23** (1): 68.

Atit, R., Crowe, M., Wenstrup, R., Greenhalgh, D., Ratner, N. (1997) Increased matrix deposition by *Nf1*-deficient fibroblasts: Evidence for a Ras-independent phenotype. *Molecular Biology of the Cell* **8**: 281a.

Invited Oral and Poster Presentations

2007: Wnt Meeting Signaling and Disease in Berlin, Germany. “Wnt signaling/beta-catenin in craniofacial dermal development.

2007: University of Pennsylvania, Dept. of Dermatology, What is Wnt signaling doing in the dermis, Philadelphia, Pennsylvania. (Seminar)

Invited Oral and Poster Presentations Cont.

2007: Columbia University, Dept. of Dermatology and Skin Disease Research Center, Role of Wnt signaling in dermal development, New York, New York (Seminar).

2006: Montagna Symposium on Skin Biology, Role of Wnt signaling in dermal development. Salishan Spa and Resort, Oregon. (Talk)

2006: Muhlenberg College, Origin of dermal cells of the skin, Allentown, Pennsylvania (Seminar)

2006: Great Lakes Mammalian Developmental Biology Meeting, Role of Wnts in ventral dermal development, Toronto, Canada. (Poster)

2006: Keystone Symposia on Beta-catenin, Role Wnts of dermal specification, Snow Bird, Utah (Poster)

2005: Oberlin College, Orgin of Skin Cells, Oberlin, Ohio (Talk)

2005: Case Western Reserve University, Origin of Dorsal Dermal Cells, Cleveland, Ohio

2004: International Wnt meeting, Role of Wnt signaling in dermal development, Ann Arbor, Michigan.
2004: Society of Differentiation Conference, Wnt signaling and dermal development. , Honolulu, Hawaii. (Poster)

2003: Developmental Biology Gordon Conference, "Role of BMPs and Wnts in patterning the dermamyotome," Andover, New Hampshire (Poster)

2002: Great Lakes Developmental Biology Meeting, "To Bud or Not to Bud: Role of Epidermal Growth Factor in avian skin patterning," Toronto, Canada

Developmental Biology Retreat, "To Bud or Not to Bud," Case Western Reserve University.

1998: International Neurofibromatosis Consortium Meeting, "Abnormalities in neurofibromin-deficient fibroblasts," Aspen, Colorado

Teaching

Fall '06 and '07: **Course Director** of BIOL 366: "Genes, Embryos, and Fossils." It is a new 300 level Evolutionary Developmental Biology class in the Biology Dept. at Case Western Reserve University, Cleveland, OH. This course is also a departmental seminar for the new SAGES curriculum at Case. The seminar-based class requires the student to identify and critically read and present primary literature at the intersection of Evolution, Developmental Biology, and Genetics. This course focuses on teaching students how to critically read primary literature, identify develop novel hypotheses and design short grant proposals to test their ideas. (Contact time 5-10 hours/week).

Spring '06 and '07: **Course Director** of BIOL 365/465 "Evo-Devo: Evol. Of the Animal Body Plan." This is a new 300 level Evolutionary Developmental Biology class in the Biology Dept. at Case Western Reserve University, Cleveland, OH. The class examines developmental genetics evidence for evolution theory and focuses on the principles of modularity as a principal for macroevolution. The course focuses on developing

Teaching Cont.

skill sets necessary in the communication of science. (Contact time 5-10 hours/week).

Spring ’05-current: **Undergraduate Research Mentor.** I have maintained 3-4 undergraduate research students in my laboratory during the academic year and full time during the summer. Undergraduate students have independent research projects and contribute to the productivity of my research program. (Contact time 8-10 hours/week).

Fall ‘’04 **Invited lecturer** in the Biology Department, Howard Hughes Medical Institute Outreach program. I gave a lecture to middle school and high school students on “Stem Cells: they hype and the hope.” It was a dynamic and interactive lecture with the students interacting by speaking into wireless microphones.

Fall ’03: **Lecturer/Team teacher** in a 300 level Developmental Biology class in the Biology Dept. at Case Western Reserve University, Cleveland, OH. I helped design the syllabus for the class and pick out the primary literature readings. I am team teaching with Dr. Jennifer Liang and guiding group discussion of primary literature (Contact time will vary from 1 hour to 6 hours a week).

Small group discussion leader in the Bioethics and Genetic Disease course in the School of Medicine, at Case Western Reserve University. I will be guiding discussion for a group of 10-12 second year medical students on subjects ranging from ethics of genetic testing to genetic mechanisms of human diseases (Contact time: 1 hour/week)

Summer ’02: **Graduate student mentor**. I helped design and supervised a rotation project and a portion of a thesis project for two students. We attempted to exogenously express genes in mesoderm tissue in chick and mouse embryos via electroporation. We also produced avian retrovirus containing the gene of our interest in tissue culture cells, concentrated the viral particles, and injected them in embryos as another way to perform gain-of-function studies. (Contact time approx. 12 hours/week)

Spring ’01: **Guest Lecturer** for 4 lectures in the Graduate level Developmental Biology class at Hunter College, City University of New York, NY. (Total time approx. 20hours)

Fall ’00: **Adjunct Faculty** at Hunter College. I developed and team-taught an undergraduate 300 level Developmental Biology class to a group of 30 students. (Total time approx. 15 hours/week)

Professional Activities and Service

2000- current: Member of Society of Developmental Biology.

2000-current: Peer-reviewed articles for journals: *Development, Developmental Biology, and Mechanisms of Development*.

2006- current: Reviewer for National Institutes of Health, National Institute for Arthritis, Musculoskeletal, and Skin (NIAMS).
Reviewer for the journal *Developmental Dynamics*.

Departmental Service

2005-current:	Chair of the Case Biology departmental seminar series committee.
2006-current:	Designed and produced a 4 page departmental newsletter to establish connections and spearhead departmental fundraising efforts from alumni.
2006-current:	Design and create a publicity poster to highlight faculty and student activities.
2007-current:	Member of the Biology Department Strategic Planning committee.

Honors, Awards, Grants

- R01 Award, 2007-2012, National Institutes of Health
- Jackson Award Nominee for Outstanding undergraduate mentoring, 2007.
- Basil O' Connor Junior Investigator Award, 2007- 2009, March of Dimes Foundation
- Presidential Research Initiative Award: 2005-2007, Case Western Reserve University
- NIH NRSA Postdoctoral Research Fellowship: F32 HD08670-01 Specificity of Notch signaling in feather development, 2000-2003.
- Dean's Distinguished Dissertation Award, 1998-1999
- Sigma Chi, inducted in 1998
- Phi Beta Kappa, inducted in 1993
- Omicron Delta Kappa, inducted in 1992
- Psi Chi, inducted in 1992
- "Tutor of the Year," May 1993
- Graduate Student Assistantship 1993-1999
- NIH Research Fellowship, Summer 1992
- PEW Research Fellowship, Summer 1990

Training Graduate Students and Undergraduate Students:

Case Graduate Students:

Thu Tran	Doctoral	(1/2007 – present)	Research Mentor
Nicholas Kerns	Masters, Plan B	(1/2006 – 5/2007)	Advisor
Kristopher Kramp	Masters, Plan B	(1/2006 – 5/2007)	Advisor
Danielle McKay	Docoral	(3/2005 – present)	Committee Member
Ghunwa Nakuozi	Doctoral	(5/2006 – present)	Committee Member
Ramil Noche	Doctoral	(3/2006 – present)	Committee Member

Case Undergraduate Students:

Karen Yeh '06 (5/2006-5/2007), Batool Zaidi '07 (3/2006-12/2007)

Jennifer Ohtola '07 (8/2005-5/2007), Hillary Michel'09 (2/2007 – 8/2007)

Preethi Mani '08 (3/2005- present), Pooja Sandesara '09 (8/2006 - present)

Adrie Welsh '09 (4/2007 - present)