

# Marc D. Servetnick

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## ***Education***

- 1985 Ph.D., Zoology, University of California, Berkeley, California.  
1977 B.A., Biophysics, Johns Hopkins University, Baltimore, Maryland.  
1980 Embryology Course, Marine Biological Laboratory, Woods Hole, Massachusetts.

## ***Professional Experience***

- 1999-present **Associate Professor, Dept. of Biology, Ithaca College, Ithaca NY**  
**Department Chair, 2005-present**  
*courses taught: Developmental Biology; Cell Biology; Genes, Embryos and the Technology of Reproduction (Honors course); Literature in Biology; lab instructor: Principles of Biology I, Principles of Biology II.*
- 2004-05 **Program Director, National Science Foundation, Arlington VA**  
Division of Integrative Organismal Biology, Developmental Systems Cluster. Directed programs in Developmental Neuroscience, Integrative Cellular Neuroscience
- 1993-1999 **Assistant Professor, Dept. of Biology, Ithaca College, Ithaca NY**
- 1992 **Lecturer, Dept. of Biology, Univ. of Virginia, Charlottesville, VA**  
*course taught: Human Genetic Disease, Fall 1992*
- 1988-1993 **Post-doctoral researcher, Dept. of Biology, Univ. of Virginia, Charlottesville.**  
Research: Neural and lens induction in amphibian embryos.  
Cloning of receptor tyrosine kinases. (Adviser: Dr. Rob Grainger.)
- 1985-1987 **Post-doctoral researcher, Max-Planck Institut fur Entwicklungsbiologie (Developmental Biology), Tübingen, Germany**  
Research: Nuclear and cell surface proteins in early *Xenopus* development. (Adviser: Dr. Peter Hausen)
- 1978-1985 **Graduate student, Dept. of Zoology, Univ. of California, Berkeley, CA**  
Dissertation: Changes in the synthesis and intracellular localization of nuclear proteins during embryogenesis in the sea urchin, *Strongylocentrotus purpuratus*. (Thesis adviser: Dr. Fred Wilt)  
*Teaching Associate: Cell Biology*  
*Teaching Assistant: Vertebrate Embryology, Cell Biology, General Biology, Human Biology*

## **Publications**

- Zhang L, El-Hodiri HM, Ma H-F, Zhang X, Servetnick M, Wensel TG, and Jamrich M (2003). Targeted expression of the dominant-negative FGFR4a in the eye using *Xrx1A* regulatory sequences interferes with normal retinal development. *Development* 130, 4177-86
- Golub R, Clementi J, Adelman Z, Weiss R, Bonasera J, and Servetnick M (2000). Evolutionarily conserved and divergent expression of members of the FGF receptor family among vertebrate embryos, as revealed by FGFR expression patterns in *Xenopus*. *Development Genes and Evolution* 210, 345-357.
- Servetnick MD, Cook TL Jr, and Grainger RM (1996). Lens Induction in axolotls: Comparison with inductive signalling mechanisms in *Xenopus laevis*. *Intl. J. Develop. Biol.* 40, 755-761.
- Grainger RM, Henry JJ, Saha MS, and Servetnick M. (1992). Recent progress on the mechanisms of embryonic lens formation (Review). *Eye* 6, 117-122.
- Saha MS, Servetnick M and Grainger RM (1992). Vertebrate eye development. *Current Opinion in Genetics and Development* 2, 582-588.
- Servetnick M and Grainger RM (1991). Homeogenetic neural induction in *Xenopus*. *Developmental Biology* 147, 73-82.
- Servetnick M and Grainger RM (1991). Changes in neural and lens competence in *Xenopus* ectoderm: Evidence for an autonomous developmental timer. *Development* 112, 177-188.
- Servetnick M, Schulte-Merker S and Hausen P (1990). Cell surface proteins during early *Xenopus* development: analysis of cell surface proteins and total glycoproteins provides evidence for a maternal glycoprotein pool. *Roux' Archives of Devel. Biology* 198, 433-4.42.
- Servetnick MD and Wilt FH (1987). Changes in the synthesis and intracellular localization of nuclear proteins during embryogenesis in the sea urchin *Strongylocentrotus purpuratus*. *Developmental Biology* 123, 231-244.

## **Electronic Submission**

- Adelman, Z., Bonasera, J., and Servetnick, M. (2000). DNA sequence: *Xenopus* fibroblast growth factor receptor 4c cDNA. GenBank accession AF288453 (<http://www.ncbi.nlm.nih.gov>).

## Grants

- 2002 National Science Foundation: Research at Undergraduate Institutions (\$299,362.)  
Title: Use of transgenic *Xenopus* embryos to study cell specification in the developing eye.
- 2001 National Science Foundation: Major Research Instrumentation Award (\$78,000.)  
Title: Acquisition of a Microscopy Core Facility for Biological Research  
(One of four Principal Investigators)
- 1995 National Science Foundation: Research at Undergraduate Institutions (\$222,325.)  
Title: Expression and Regulation of a Novel *Xenopus* FGF Receptor mRNA
- 1996-9 National Science Foundation: Research Experience for Undergraduates Supplements  
(to fund summer undergraduate research)  
(1999: \$5,435; 1997: \$5,000; 1996: \$6,400.)
- 1993 Ithaca College Provost's Summer Research Grant (\$3,000)  
Title: Expression of a Novel FGF-Receptor mRNA in Early *Xenopus* Embryos
- 1991 Grant-in-Aid from Fight for Sight (National Society to Prevent Blindness) (\$11,000)  
Title: Regulation of Competence for Lens Induction in *Xenopus* Development
- 1988 National Research Service Award, National Eye Institute Post-Doctoral Fellowship  
Title: Lens competence in early *Xenopus* development. (\$80,316.)

## Reviews

### grant proposals

- 1995-2005 National Science Foundation, ad hoc reviewer  
2002 Murdock Charitable Trust  
2004 National Science Foundation Developmental Neuroscience advisory panel

### book chapters

- 1998 Reviewed two chapters of a proposed Developmental Biology text  
Wilt FH and Hake, SC (2003). Principles of Developmental Biology.  
WW Norton & Co.

## Conference Presentations

Mid-Atlantic Regional Developmental Biology Conference, Washington DC (April, 2002).

Servetnick M, Wood-Friend A, and Bonasera J. Poster: FGFR-1 and FGFR-3 mediate distinct effects in early *Xenopus* embryos.

International *Xenopus* Conference, Estes Park, Colorado (August 1996)

Servetnick, Marc D, Golub, Richard L, Weiss, Rebecca and Grainger, Robert M  
Poster: FGFR-4 Expression during early *Xenopus* development.

American Society for Cell Biology Conference, Denver, Co. (November 1992)

Servetnick M and Grainger RM. Poster: Characterization of novel receptor tyrosine kinases expressed during *Xenopus* gastrulation.

International *Xenopus* Conference, Les Diablerets, Switzerland (August 1990)

Servetnick M. and Grainger R. Poster: Changes in competence occur autonomously in *Xenopus* ectoderm.

Society for Developmental Biology, Washington, D.C. (June 1990)

Servetnick, Marc and Grainger, Robert. Poster: Changes in competence occur autonomously in *Xenopus* ectoderm. .

Southeast Regional Developmental Biology Conference, Charlottesville, VA (May 1990)

Servetnick, Marc and Grainger, Robert. Platform presentation: Changes in competence occur autonomously in cultured *Xenopus* embryonic ectoderm.

Society for Developmental Biology, Berkeley, CA (June, 1989)

Servetnick, Marc and Grainger, Robert. Poster: Gain and loss of lens-forming competence in *Xenopus* embryonic ectoderm.

## Conference Presentations by Undergraduate Students

(names of students are in bold)

**Amanda Popielski** and Marc Servetnick. Northeast Regional Developmental Biology Conference, Woods Hole, MA, April 2004. Embryonic Expression of FGFR-3 in *Xenopus laevis*.

**Kate Majka** and Marc Servetnick. Eastern College Science Conference, Niagara Falls, NY, April 2002. Effect of blocking signaling through *Xenopus* FGFR-4 on embryonic cadherin expression.

**Allison Greene, Tiffany LaBella** and Marc Servetnick. Eastern College Science Conference, New York, NY, April 2000. Construction of a dominant negative *Xenopus* fibroblast growth factor receptor-4.

**Ricky Golub** and Marc Servetnick. National Conference for Undergraduate Research, Asheville, NC, April 1996. Temporal expression of fibroblast growth factor receptor-4 mRNA in animal caps of early *Xenopus laevis* embryos.

**Ricky Golub, Rebecca Weiss,** and Marc Servetnick. 20<sup>th</sup> Annual Biological Sciences Research Symposium, Binghamton University, Binghamton, NY, November 1995. Expression of a novel FGF-receptor mRNA in early *Xenopus laevis* embryos.

**Rebecca Weiss** and Marc Servetnick. Eastern College Science Conference, Ithaca, NY, April 1995. Temporal and Spatial Expression of a Novel FGF-Receptor in Early *Xenopus* Embryos.

**Zach Adelman** and Marc Servetnick. Eastern College Science Conference, Ithaca, NY, April 1995. Determination of the Polyadenylation State of a Novel FGF Receptor mRNA during Mesoderm Induction in *Xenopus laevis*.

### **Invited Lectures**

#### *Research seminars:*

Hobart and William Smith Colleges, Dept of Biology, Geneva NY (April 2004)  
National Science Foundation, Arlington VA (March 2004)  
Colgate University, Dept. of Biology, Hamilton, NY (March 1996)  
Cornell University, Section of Genetics and Development, Ithaca, NY (March 1994)  
Ithaca College, Dept. of Biology, Ithaca NY (January 1993)  
University of Dayton, Dept. of Biology, Dayton, OH (January 1993)  
Lafayette College, Dept. of Biology, Easton PA (January 1993)  
Bowdoin College, Dept. of Biology, Brunswick, ME (February 1992)

#### *Guest lectures:*

##### **Ithaca College**

Fall 2005	Principles of Biology	Embryonic Development
Spring 2003-04	Genetics	Developmental Genetics
Spring 2000	The Cancer Experience	The biological basis of cancer

##### **Cornell University**

Spring 2001	Molecular Aspects of Development Axial Determination in early <i>Xenopus</i> development
Spring 1999	Molecular Aspects of Development Molecular Biology of Dorsal-Ventral Axis Specification in <i>Xenopus</i> Development
Spring 1997	Molecular Aspects of Development Embryonic Induction in <i>Xenopus</i> Development
Spring 1997	Careers after Training in Molecular Bioscience Academic Teaching Positions at Small Colleges
Spring 1996	Fertilization and the Early Embryo Inducers, receptors and mesodermal cell determination in early amphibian development

## **Honors, Awards, and Professional Memberships**

Society for Developmental Biology  
Phi Beta Kappa  
Beta Beta Beta (Biology Honor Society)  
Sigma Xi (Scientific Research Society)  
designated "Particularly Meritorious Faculty member" - 2000, 2002

## **Departmental and College Service**

### *Departmental Service*

Department Chair, Fall '05 – present  
Chair, Genetics Search Committee, Fall '01 (hired Dr. Marina Caillaud)  
Chair, Vertebrate Physiology Search Committee, '96-'97 (hired Dr. Jean Hardwick)  
Laboratory Coordinator Search Committee summer '99 (hired Harry Mussell)  
Departmental Administrative Assistant Search Committee, '99 (hired Nancy Pierce)  
Greenhouse/Animal Care Lab Technician Search Committee, '96 (hired Susan Greene)  
Chair, Botany Search Committee, '95-'96 (hired Dr. Susan Swensen)  
Biology Honors Committees (served as research adviser for students in bold)  
**Amanda Wood-Friend** ('03)                      **Natalya Fish** ('97-'98)  
**Jamie Fountain** ('01-'02)                      Chris Walsh ('97-'98)  
Kristin Sager ('01-'02)                      **Aaron Pfalzer** ('96-'97)  
Melanie Powers ('00-'01)                      Michael Overholtzer ('95-'96)  
Jaime Blair ('99-'00)                      **Ricky Golub** ('95-'96)  
Sheri Meslinsky ('99-'00)                      Monica Srodon ('93-'94)  
**Michael Eckrich** ('97-'98)

### Biochemistry Honors Committees

**Michael Mazourek** ('98-'99)                      Peter Yakowec ('95-'96)  
A. Thomas Torello ('96-'97)                      John Millholland ('94-'95)

Biology Department Personnel Committee: '99-'03.  
Biology Department Curriculum Committee, '95-'96  
Biology Department Library Representative, '97-'00.

### *College Service*

Radiation Safety Committee, '94-present  
Chair and Radiation Safety Officer, Fall '96- Spring '04  
Institutional Biosafety Committee, '94-present  
Chair Fall '94 - Summer'96.  
Pre-Medical Advisory Committee, '96-'04  
Search Committee, Executive Director of Development, '02  
Faculty Institutional Advancement Committee, '01  
Participant in Discovery Days, Fall 1996, '97, '98  
(recruiting of high school students admitted to Ithaca College)  
Presentations to Promising Scholars Program, Spring '96, '97, '98  
(recruiting of particularly promising science and math majors to Ithaca College)

## ***Teaching-related Activities and Outreach***

Taught two-week segment of Honors Junior Seminar (Cultural Encounters) on human cloning: science and ethics (Fall '01)

Organized Departmental Seminar Series Fall '94, Spring '95, Spring '97

Sponsored Computer-Assisted Learning Project (Fall '94) conducted by students in Computer-Assisted Learning, with Dr. Gordon Rowland  
project: Computer-Assisted 3-D Reconstruction of Chicken Embryo Sections

Saturday Morning Math and Science Academy (Fall '95) taught session on embryonic development to 30 5<sup>th</sup>-8<sup>th</sup> grade students

Ithaca College Educational Opportunity Program (Summer '97)  
Discussion Series: Cloning: Technological Marvel, Ethical Quandary. Presentation: The scientific question behind cloning: Do adult cells retain all their genetic information?

Outreach to Ithaca City Schools ('97-present) several presentations to kindergarten and elementary school classes on embryonic development