Curriculum vitae of Jeremy A. Lynch

Contact information:
Institut für Entwicklungsbiologie
Universität zu Köln
Zülpicherstrasse 47b
50674 Köln, Germany
Tel. 0049 221 4702618
Fax. 0049 221 4705164
email: jlynch@uni-koeln.de

Academic Qualification:

- 1995-1999. Ohio State University, BS in Molecular Genetics
- 2000-2006. New York University, PhD in Biology

Research Experience:

- 1997-1999. Ohio State University, Lab of Paul Fuerst, Undergraduate honors thesis
- 1999-2000. Ohio State University, Lab of Ron Glaser, Research Technician.
- 2001-2006. New York University, Lab of Claude Desplan, doctoral thesis research.
- 2006-2009. University of Cologne, Lab of Siegfried Roth, postdoctoral research.
- 2010-present. University of Cologne, Junior Group Leader, Institute of Developmental Biology

Teaching Experience:

- Fall Semester 2000, Spring Semester2001, 2002. **NYU**, Supervision of Principles of Biology Lab.
- Fall Semester 2002, **NYU**, Supervision of Vertebrate Anatomy Lab.
- Summer Semester 2008-11, **University of Cologne**, Co-Supervision/Instruction of Molecular Evolution Practical.
- December 2009, **University of Santiago**, Santiago, Chile. Lecture/Lab Supervision, Advanced Insect Developmental Genetics and Genomics Summer Course.

Supervision of Student Research:

- 2003, Supervision of Summer Undergraduate Research Student "Early embryogenesis in the wasp *Nasonia*".
- 2004, Supervision of Master's thesis research project "Identifying enhancer regions of the *Nasonia hunchback* gene".
    - Student went on to a successful PhD at University of Texas
- 2005-2006, Supervision of early stages of a successful PhD student's *Nasonia* research
- 2008-2009, Supervision of Diplom (degree corresponding to an advanced Master in the German system) research project "Functional comparison of the *oskar* genes from *D. melanogaster* and *N. vitripennis*."

- 2009, Supervision of Graduate School rotation student who eventually joined our research group.
- 2009, Supervision of visiting PhD candidate from Gulbankian Institute, Portugal in establishing *in situ* hybridization and RNAi in the fly *Ceratitis*.
- 2010- present, Supervision of two PhD candidates on the topic of "Unraveling the Dorsal-Ventral Gene Regulatory Network of *Nasonia*"
- 2011, Co-supervision of Bachelor thesis research project, "The Role of a Protease Cascade in Establishing Dorsal-Ventral Polarity in *Tribolium*"

Other Relevant Experience:

- Summer 2001, Participant in embryology course at MBL in Woods Hole, Mass.
- December 2009, University of Santiago, Santiago, Chile. Lecture/Lab Supervision, Advanced Insect Developmental Genetics and Genomics Summer Course.

Fellowships and Awards:

- 2003-2005, NIH funded Developmental Genetics Training Grant Fellowship
- 2005-2006, NYU Dean's Dissertation Fellowship
- 2005, NYU Department of Biology Charolette Pann Memorial Award (awarded once per year)
- 2006, Awarded EMBO post-doctoral research fellowship (2 years), declined in favor of NIH fellowship
- 2007-2010 NIH Ruth L. Kirschstein Postdoctoral Fellowship

Extramural Funding:

- Co-PI (with Siegfried Roth) on Project A1 "**The co-option of the Toll/NF-KB signalling pathway for dorsoventral axis formation during insect evolution**" funded under the SFB (Collaborative research grant) 680 by the DFG (German Research Council)

Conference Presentations:

- October 2001, Poster at Developmental Basis of Evolution meeting in Chicago
- April 2002, Poster at Evolution of Developmental Diversity meeting, Cold Spring Harbor Laboratory.
- June 2003, Talk at 1st International *Nasonia* Genomics and Genetics Meeting, Schiemonnikoog, Netherlands.
- October 2003, Talk at Developmental Basis of Evolution meeting in Chicago
- March 2004, Talk at Evolution of Developmental Diversity meeting at Cold Spring Harbor Laboratory
- March 2005, Platform presentation at 46th Annual Drosophila Research Conference, San Diego
- August 2005, Talk at Tribolium meeting in Goettingen, Germany
- September 2005, Poster at International Society for Developmental Biology meeting, Sydney, Australia

- June 2007, Talk at 2nd International *Nasonia* genome sequencing and analysis meeting, Tempe AZ
- September 2007, Talk at Regional *Tribolium* research meeting, Goettingen, Germany
- May 2008, Talk at Developmental Basis of Evolutionary Change meeting, Berkeley, California
    - **Awarded travel grant by vote of student organizers**
- July 2008, Invited speaker at International Congress of Entomology, Durban, South Africa.
- August 2008, Platform presentation, European Evo-Devo Conference, Ghent, Belgium
- November 2009, Platform presentation, European Drosophila Research Conference, Nice, France
- July 2010, Talk at European Evo-Devo Conference, Paris, France

Invited Seminars:

- October 2008, Invited Seminar Speaker Evo-Devo Seminar Series, **Cambridge University, UK**
- December 2008, Invited Seminar Speaker, **EMBL, Heidelberg, Germany.** Host: Anne Ephrussi
- April 2010, Invited Seminar Speaker for student organized series in Evolutionary Genetics, **University of Groningen, Netherlands**.

Professional Activities:

- Peer reviewer for the following journals: Development, Genes and Evolution; Developmental Biology; Molecular Biology and Evolution; Zoology.
- Co-organized Regional Tribolium Research meeting, July, 2009.
- Major contributor to the successful white paper proposing the sequencing of *Nasonia* genomes
- Organizer of upcoming International Nasonia Genomics meeting, 2012.

Publications:

1. **Lynch, J**., Desplan, C. Evolution of development: beyond bicoid. ***Current Biology***. 2003 Jul 15;13(14):R557-9. doi:10.1016/S0960-9822(03)00472-X
2. **Lynch, J**., Desplan, C. 'De-evolution' of *Drosophila* toward a more generic mode of axis patterning. ***International Journal of Developmental Biology***. 2003. Evolution of Development special issue.
3. Shuker D, **Lynch J**, Peire-Morais A. Moving from model to non-model organisms? Lessons from Nasonia wasps. ***Bioessays***. 2003 Dec;25(12):1247-8. doi: 10.1002/bies.10367
4. Pultz MA, Westendorf L, Gale SD, Hawkins K, **Lynch J**, Pitt JN, Reeves NL, Yao JC, Small S, Desplan C, Leaf DS. A major role for zygotic hunchback in patterning the Nasonia embryo. ***Development***. 2005 Aug;132(16):3705-15. doi: 10.1242/dev.01939

5. **Lynch JA**, Brent AE, Leaf DS, Pultz MA, Desplan C. Localized maternal *orthodenticle* patterns anterior and posterior in the long germ wasp *Nasonia*. ***Nature***. 2006 Feb 9;439(7077):728-32. doi:10.1038/nature04445 **Featured in Faculty of 1000**

6. **Lynch JA**, Olesnicky EC, Desplan C. Regulation and function of *tailless* in the long germ wasp *Nasonia vitripennis*. ***Development Genes and Evolution***. 2006 Jul;216(7-8):493-8. doi: 10.1007/s00427-006-0076-5

7. **Lynch JA** and Desplan, C. A method for parental RNA interference in the wasp *Nasonia vitripennis*. ***Nature Protocols*** 1, 486 - 494 (2006). doi:10.1038/nprot.2006.70

8. Tribolium genome sequencing consortium (**Member**). The genome of the model beetle and pest *Tribolium castaneum*. ***Nature***. 2008 Apr 24;452(7190):949-55. doi:10.1038/nature06784

9. Rosenberg MI, **Lynch JA**, Desplan C. Heads and tails: evolution of antero-posterior patterning in insects. ***Biochim Biophys Acta***. 2009 Apr;1789(4):333-42. doi:10.1016/j.bbagrm.2008.09.007

10. Fonseca RN, **Lynch JA**, Roth S. Evolution of axis formation: mRNA localization, regulatory circuits and posterior specification in non-model arthropods. ***Current Opinions in Genetics and Development***. 2009 Aug;19(4):404-11. doi:10.1016/j.gde.2009.04.009

11. Roth S, **Lynch JA**. Symmetry breaking during Drosophila oogenesis. ***Cold Spring Harbor Perspectives in Biology***. 2009 Aug;1(2): a001891.

12. Nasonia Genome Working Group, Werren JH, Richards S, Desjardins CA, Niehuis O, Gadau J, Colbourne JK, Beukeboom LW, Desplan C, Elsik CG, Grimmelikhuijzen CJ, Kitts P, **Lynch JA**, *et al.,* Functional and evolutionary insights from the genomes of three parasitoid Nasonia species. ***Science***. 2010 Jan 15;327(5963):343-8. (Founding member of Nasonia Genome Working Group) doi: 10.1126/science.1178028

13. **Lynch JA***, Peel AD, Drechsler A, Averof M, Roth S. EGF Signaling and the Origin of Axial Polarity among the Insects ***Current Biology***. 2010 Jun 8;20(11):1042-7. doi:10.1016/j.cub.2010.04.023

14. Rousso T, **Lynch JA**, Yogev S, Roth S, Schejter ED, Shilo BZ. Generation of distinct signaling modes via diversification of the Egfr ligand-processing cassette. ***Development***. 2010 Oct;137(20):3427-37. doi: 10.1242/dev.049858

15. **Lynch JA***, Desplan C. Novel modes of localization and function of nanos in the wasp Nasonia. ***Development***. 2010 Oct 7. [Epub ahead of print] doi: 10.1242/dev.054213

16. **Lynch JA,** Roth S. The Evolution of Dorsal-ventral Patterning Mechanisms in Insects. ***Genes & Development***. 2011 25: 107-118. doi:10.1101/gad.2010711

17. **Lynch JA*,** Özüak O, Khila A, Abouheif E, Desplan C, Roth S. The Phylogenetic Origin of *oskar* Coincided with the Origin of Maternally Provisioned Germ Plasm and Pole Cells at the Base of the Holometabola. ***PLoS Genetics***. 2011 7(4): e1002029. doi:10.1371/journal.pgen.1002029.
(**Featured in accompanying article**: Extavour CG (2011) Long-Lost Relative Claims Orphan Gene:*oskar* in a Wasp. ***PLoS Genetics*** 7(4): e1002045. doi:10.1371/journal.pgen.1002045)

*** Indicates corresponding authorship**