

# John J. Young

john.young@simmons.edu

Simmons University • Biology Department  
300 The Fenway • Boston, MA 02115 • 617-521-2662

## EDUCATION

---

Ph.D.	University of California, Berkeley	2013
M.S.	University of Oregon, Eugene	2003
B.S.	Aquinas College , Grand Rapids MI	2001

## PROFESSIONAL APPOINTMENTS

---

Assistant Professor Biology Department, Simmons University	2019-present
Course Manager MBL Embryology	2020-present

## TEACHING EXPERIENCE

---

Assistant Professor Biology Department, Simmons University	2019-Present
Course Manager MBL Embryology Course	2020-Present
Adjunct Faculty, Emmanuel College Biol2123 Genetics Lecture for biology majors	2018
Teaching Assistant, MBL Embryology course <i>Xenopus</i> module	2014-2018
Lecturer, Harvard School of Dental Medicine	2017-Present
High School student mentor Michaela McCormack (Boston University Academy)	2018
Mentored undergraduate honors students (UC Berkeley) Daniel Wong Gloria Wu Sofia Hsu	2012-2013 2011-2012 2009-2011
Graduate Teaching Instructor, University of California, Berkeley MCB 141 Developmental Biology Spring 2010	Spring 2010
Graduate Student Instructor, University of California, Berkeley MCB 130 Cell Biology Fall 2008	Fall 2008
Teaching Assistant, University of Oregon Foundations IV (ecological physiology)	Winter 2002

## RESEARCH EXPERIENCE

---

**Post-Doctoral Fellow** 2013-2019  
Harvard Medical School  
Department of Genetics  
Investigating the evolutionary and developmental mechanisms behind  
Avian wing morphology and diversity.  
Advisor: Clifford J. Tabin

**Graduate Student** 2007-2013  
University of California, Berkeley  
Thesis Project 1: Identified direct transcriptional targets of wnt  
signaling involved in amphibian neural patterning.  
Thesis Project 2: Generated targeted mutations in the *noggin* locus via  
zinc-finger nucleases and characterized the resulting phenotype.  
Advisor: Richard M. Harland

**Senior Research Technician** 2004-2007  
Van Andel Institute.  
Investigated the mechanisms of anthrax lethal toxin mediated MAPK  
inhibition.  
Supervisor: Nick S. Duesbery

**Graduate Student** 2001-2003  
University of Oregon  
Thesis project: Experimental harvests of macroalgae along the Oregon  
coast with an analysis of associated epiphytic diatom communities.  
Advisor: Lynda Shapiro

**Student** 2011  
Embryology Course  
Marine Biological Laboratory, Woods Hole, MA

**Student** 2006  
Cell and Developmental Biology of *Xenopus* Course  
Cold Spring Harbor Laboratory, Cold Spring Harbor, NY

**Student** 2005  
NEB Molecular Biology Summer Workshop  
Smtih College, Northampton, MA

## FIELDS OF EXPERTISE

---

Molecular Biology	Developmental Biology	Embryology
Cell Biology	Evolutionary Biology	Genetics
Comparative Anatomy	Marine Biology	Ecology
Cancer Biology	Zoology	

## EXTRACURRICULAR COURSES

---

Elements of Teaching (Group facilitator)	2020
Summer Teaching Institute, Simmons College	2018
Elements of Teaching: Preparing for a Teaching Career in STEM	2018
Getting Active Learning Right	2017

## PUBLICATIONS

---

- Royle, S.R., Tabin, C.J., **Young, J.J.**, 2021. Limb positioning and initiation: An evolutionary context of pattern and formation. *Dev. Dyn.* doi:10.1002/dvdy.308
- Kong, N.R., Bassal, M.A., Tan, H.K., Kurland, J.V., Yong, K.J., **Young, J.J.**, Yang, Y., Li, F., Lee, J.D., Liu, Y., Wu, C.-S., Stein, A., Luo, H.R., Silberstein, L.E., Bulyk, M.L., Tenen, D.G., Chai, L., 2021. Zinc Finger Protein SALL4 Functions through an AT-Rich Motif to Regulate Gene Expression. *Cell Rep* 34, 108574. doi:10.1016/j.celrep.2020.108574
- Young, J. J.**, Grayson, P., Edwards, S. V and Tabin, C. J. (2019). Attenuated Fgf Signaling Underlies the Forelimb Heterochrony in the Emu *Dromaius novaehollandiae*. *Curr. Biol.* **29**, 3681-3691.e5. **(Highlighted Article)**
- Young, J. J.**, Grayson, P. and Tabin, C. J. (2019). Developmental Biology: Hox Timing Determines Limb Placement. *Curr. Biol.* **29**, R52–R54.
- Young, J. J.** and Tabin, C. J. (2017). Saunders’s framework for understanding limb development as a platform for investigating limb evolution. *Dev. Biol.* **429**, 401–408.
- Young, J.J.**, Kjolby, R.A.S., Kong, N.R., Monica, S.D. and Harland, R.M. (2014) Spalt-like 4 promotes posterior neural fates via repression of *pou5f3* family members in *Xenopus*. *Development*, **141**:1683-1693. **(Highlighted Article)**
- Young, J. J.** and R.M. Harland (2012) Targeted gene disruption with engineered zinc-finger nucleases (ZFNs). *Methods Mol Biol*
- Young, J.J.**, J.M. Cherone\*, Y. Doyon, I. Ankoudinova, F.M. Faraji, A.H. Lee, C. Ngo, D.Y. Guschin, D.E. Paschon, J.C. Miller, L. Zhang, E.J. Rebar, P.D. Gregory, F.D. Urnov, R.M. Harland, and B. Zeitler, (2011) Efficient targeted gene disruption in the soma and germ line of the frog *Xenopus tropicalis* using engineered zinc-finger nucleases *Proc Natl Acad Sci U S A*, **108**(17): p. 7052-7057. **\*indicates undergraduate student researcher**
- Stolfi, A., Gainous, T. B., **Young, J. J.**, Mori, A., Levine, M., and Christiaen, L. (2010). Early chordate origins of the vertebrate second heart field. *Science* **329**, 565-8.
- Ding, Y., Boguslawski, E. A., Berghuis, B. D., **Young, J. J.**, Zhang, Z., Hardy, K., Furge, K., Kort, E., Frankel, A. E., Hay, R. V., Resau, J. H., and Duesbery, N. S. (2008). Mitogen-activated protein kinase kinase signaling promotes growth and vascularization of fibrosarcoma. *Mol Cancer Ther* **7**, 648-58.
- Depeille, P., **Young, J. J.**, Boguslawski, E. A., Berghuis, B. D., Kort, E. J., Resau, J. H., Frankel, A. E., and Duesbery, N. S. (2007). Anthrax lethal toxin inhibits growth of and vascular endothelial growth factor release from endothelial cells expressing the human herpes virus 8 viral G protein coupled receptor. *Clin Cancer Res* **13**, 5926-34.
- Young, J. J.**, Bromberg-White, J. L., Zylstra, C., Church, J. T\*., Boguslawski, E., Resau, J. H., Williams, B. O., and Duesbery, N. S. (2007). LRP5 and LRP6 are not required for protective antigen-mediated internalization or lethality of anthrax lethal toxin. *PLoS Pathog* **3**, e27. **\*indicates undergraduate student researcher**
- Van Gaest, A. L., Young, C. M., **Young, J. J.**, Helms, A. R., and Arellano, S. M. (2007).

Physiological and behavioral responses of *Bathynnerita naticoidea* (Gastropoda : Neritidae) and *Methanoaricia dendrobranchiata* (Polychaeta : Orbiniidae) to hypersaline conditions at a brine pool cold seep. *In* "Mar Ecol-Evol Persp", Vol. 28, pp. 199-207.

Liang, X., **Young, J. J.**, Boone, S. A., Waugh, D. S., and Duesbery, N. S. (2004). Involvement of domain II in toxicity of anthrax lethal factor. *J Biol Chem* **279**, 52473-8.

## MEETING ABSTRACTS

---

EMBO Limb Development and Regeneration, 2019. Barcelona, Spain Attenuated Fgf Signaling Underlies the Forelimb Heterochrony in the Emu *Dromaius novaehollandiae*. **John J. Young**, Phil Grayson, Scott V. Edwards, and Clifford J. Tabin. \*Awarded best talk prize

Northeastern Society for Developmental Biology 2018. Woods Hole, MA Developmental mechanisms underlying forelimb heterochrony and reduction in the emu *Dromaius novaehollandiae*. **John J. Young**, Phil Grayson, Scott V. Edwards, and Clifford J. Tabin. \*Awarded best talk 3<sup>rd</sup> prize

Gordon Research Conference for Developmental Biology 2017. Developmental mechanisms underlying forelimb heterochrony and reduction in the emu *Dromaius novaehollandiae*. **John J. Young**, Phil Grayson, Scott V. Edwards, and Clifford J. Tabin.

Pan-American Society for Evolution and Developmental Biology Meeting 2015. Genomic and transcriptomic sequencing of the Great Pond Snail *Lymnaea stagnalis*. Alexander j. Brandt, **John J. Young**, Jessica B. Lyons, Daniel S. Rokhsar, and Clifford J. Tabin.

British Society of Developmental Biology Meeting 2013. The transcription factors *Sal-like 1* and *4* (*Sall1/4*) are direct Wnt targets and mediate neural patterning via repression of the stem cell factor *oct4*. **John J. Young**, Rachel A.S. Kjolby, Stefanie D. Monica, and Richard Harland.

Society of Developmental Biology Meeting 2012. The transcription factor *Sal-like 1* (*Sall-1*) is a direct transcriptional target of Wnt/beta-catenin signaling and regulates neural patterning along with morphogenesis. **John J. Young** and Richard Harland. \*Awarded best student poster prize

Santa Cruz Developmental Biology Meeting 2008. Knockdown of three secreted wnt antagonists in the frog *Xenopus tropicalis* leads to loss of anterior structures. **John J. Young** and Richard Harland.

Bacillus ACT 2007. Developmental expression and role of the anthrax toxin receptor Tem8 in *Xenopus* **John J. Young** and Nick S. Duesbery.

Bacillus ACT 2005. Involvement of Domain II in toxicity of anthrax lethal factor. **John J. Young**, Liang, X., Boone, SA, Waugh, DS, and Duesbery, NS.

Deep Sea Biology Symposium 2003. Extreme salinity tolerance of *Methanoaricia dendrobranchiata* Blake (Polychaeta: Orbinidae). Alicia R.Helms and **John J. Young**.

Phycological Society of America 2003 Experimental harvests of five species of macroalgae along the Oregon coast. **John J. Young**, Herczeg B, and Shapiro, L

## **GRANTS AND AWARDS**

---

Unraveling the cellular and genetic mechanisms that underlie anuran limb development (\$315,700)	2021-2024
Ruth L. Kirschstein National Research Service Award (NIH)	2015-2018
Neil Richmond Scholarship, University of Oregon	2003

## **HONORS**

---

Best Talk award, EMBO Limb Development and Regeneration	2019
3 <sup>rd</sup> Prize Postdoc talk, NESDB	2018
Best Student Poster Award, SDB 2012	2012
Best Student Talk, Genetics, Genomics, and Development symposium UC Berkeley	2012
Best Student Poster, GGD retreat, UC Berkeley	2011
Best Student Poster, GGD retreat, UC Berkeley	2009
Graduated Cum Laude, Aquinas College	2001

## **COMMITTEES**

---

Dissertation Committee Samantha Royle, Harvard University	2019-present
Student representative Systems biology faculty search committee	2012
Student representative Genetics, genomics, and development admissions committee	2010