

STEPHANIE J. ELLIS, PHD

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My longstanding core research question is **how complex tissue architecture is formed and maintained** during animal development and homeostasis. In my research group, we will study the role of a growth control phenomenon, **cell competition**, in mammalian tissue development and disease. In particular, my research aims to reveal the molecular mechanisms and cellular dynamics that underlie maintenance of tissue fitness during development and aging, and furthermore will unveil strategies of growth control used during organogenesis. In a collaborative environment, I aspire to lead a **dynamic, multidisciplinary research team** combining cell and developmental biology, genetics, computational biophysics, regenerative medicine, and disease modeling.

CURRENT POSITION:

From Feb 2022 **Assistant Professor & Group Leader**
Max Perutz Labs/University of Vienna
Vienna, AT

EDUCATION AND TRAINING:

- 09/2014-2022* **Post-Doctoral Fellow**
Laboratory of Mammalian Cell Biology and Development
Rockefeller University, NY, USA
Supervisor: Dr. Elaine Fuchs
- 01/2009-05/2014* **PhD, Cell and Developmental Biology**
University of British Columbia, Vancouver, Canada
Thesis: The role of Talin, a master regulator of integrin-dependent morphogenesis, in the *Drosophila* embryo.
Supervisor: Dr. Guy Tanentzapf
- 09/2003-05/2007* **Bachelor of Science, Cell Biology and Genetics**
University of British Columbia, Vancouver, Canada

COMPLETE LIST OF PUBLICATIONS:

1. **Ellis, S.J.**, Fuchs., E. (2021) Stem cell progeny liaisons in regeneration. *Nature Cell Biology*, **23**, 932-933.
2. **Ellis, S.J.**, Gomez, N.C., Levorse, J., Mertz, A.F., Ge, Y., and Fuchs, E. (2019) Distinct modes of cell competition shape mammalian tissue morphogenesis. *Nature*, **569**, 497-502. **(Previewed in Developmental Cell, Recommendation on F1000)**
3. Goodwin, K., * **Ellis, S.J.**, * Lostchuck, E., Zulueta-Coarasa, T., Fernandez-Gonzalez, R., Tanentzapf, G. (2016) Basal Cell-extracellular matrix adhesion regulates force transmission during tissue morphogenesis. *Developmental Cell* **39**, 611-625. ***equal contribution (Recommendation on F1000)**
4. **Ellis, S.J.**, Lostchuck, E., Goult, B.T., Bouaouina, M., Fairchild, M.J., Lopez Ceballos, P., Calderwood, D.A., Tanentzapf, G. (2014) The talin head domain reinforces integrin-mediated adhesion by promoting adhesion complex stability and clustering. *PLOS Genetics* **10**, e1004756.

5. **Ellis, S.J.**, Goult, B.T., Fairchild, M.J., Harris, N.J., Long, J., Lobo, P., Czerniecki, S., van Petegem, F., Schoeck, F., Peifer, M., Tanentzapf, G. (2013) Talin autoinhibition is required for morphogenesis. *Current Biology* **23**, 1825-33. (**Recommendation on F1000**)
6. Bouaouina, M., Jani, K., Long, J.Y., Czerniecki, S., Morse, E.M., **Ellis, S.J.**, Tanentzapf, G., Schoeck, F., Calderwood, D. (2012) Zasp regulates integrin activation. *Journal of Cell Science* **125**, 5647-5657.
7. Pines, M., Das, R., **Ellis, S.J.**, Morin, A., Czerniecki, S., Yuan, L., Klose, M., Coombs, D., Tanentzapf, G. Mechanical force regulates integrin turnover in *Drosophila* in vivo. (2012) *Nature Cell Biology* **14**, 935-943 (**Contributed the cover image**)
8. **Ellis, S.J.**, Pines, M., Fairchild, M.J., Tanentzapf, G. (2011) In vivo functional analysis reveals specific roles for the integrin binding sites of talin. *Journal of Cell Science* **124**, 1844-1856.
9. Franco-Cea, A., **Ellis, S.J.**, Fairchild, M.J., Yuan, L., Cheung, T.Y.S., Tanentzapf, G. (2010) Distinct developmental roles for direct and indirect talin-mediated linkage to actin. *Developmental Biology* **345**, 64-77.
10. Perkins, A.D., **Ellis, S.J.**, Asghari, P., Shamsian, A., Moore, E.D., and Tanentzapf, G. (2010) Integrin-mediated adhesion maintains sarcomeric integrity. *Developmental Biology* **338**, 15-27.
11. **Ellis, S.J.**, Tanentzapf, G. (2010) Integrin-mediated adhesion and stem-cell-niche interactions. *Cell and Tissue Research* **339**, 121-30.

THIRD PARTY FUNDING AWARDS:

- 2019-2024 **NIH/NIAMS Pathway to Independence Award**
 2019-2020 **NYSCF Druckenmiller Postdoctoral Fellowship**
 2015-2018 **Human Frontiers Science Program (HFSP) Long-Term Fellowship**
 2015-2018 **Canadian Institutes of Health Research (CIHR) Fellowship**
 (ranked 1st of 1119 applicants; declined to accept HSFP)
 2014-2015 **Rockefeller University Women & Science Post-Doctoral Fellowship**
 2011-2014 **NSERC Alexander Graham Bell Canada Graduate Scholarship**
 2010-2011 **NSERC Alexander Graham Bell Canada Graduate Scholarship**

OTHER AWARDS:

- 2019 **Best Trainee Talk, Gordon Conference in Epithelial Differentiation/Keratinization,**
 2016 **Graduate Student Researcher of the Year, UBC Dept. of Cellular & Physiological Sciences**
 2015 **ASCB Kaluza Prize for Excellence in Graduate Student Research, Semi-Finalist,**
 American Society for Cell Biology
 2014 **Ray Pederson Award for Best PhD Student Seminar in 2013**
 Department of Cellular and Physiological Sciences, UBC
 2011-2014 **Four Year Doctoral Scholarship, UBC Faculty of Graduate Studies**
 2013 **Best Trainee Platform Presentation, Canadian *Drosophila* Research Conference**

SCIENTIFIC TALKS:

- 07/2019 **Epithelial Differentiation/Keratinization Gordon Research Conference, Newry, ME**
 06/2019 **Developmental Biology Gordon Research Conference, South Hadley, MA**
 02/2019 **Keystone Symposium: Cell Competition in Development and Disease (also session chair);**

Lake Tahoe, CA

- 12/2018 **American Society for Cell Biology/EMBO Meeting**, San Diego, USA
 03/2018 **Tissue Self Organisation: Challenging the System EMBL Symposium**, Heidelberg, Germany.
 12/2017 **American Society for Cell Biology/EMBO Meeting**, Philadelphia, USA
 07/2017 **Human Frontiers Science Program Awardees Meeting**, Lisbon, Portugal.
 06/2017 **Developmental Biology Gordon Research Seminar**, South Hadley, MA.
 06/2013 **Canadian Drosophila Research Conference**. Vancouver, BC
 02/2013 **Fibronectin, Integrins, & Related Molecules Gordon Research Seminar**, Ventura, CA.
 03/2012 **Drosophila Genetics**. Chicago, IL.
 10/2011 **EMBO/FEBS European Cytoskeletal Forum**, Stresa, Italy.
 06/2009 **Canadian Drosophila Research Conference**, Jasper AB.

SERVICE, LEADERSHIP AND OUTREACH:

- 2019-present Panelist, Tri-Institutional NIH Grant Writing Workshop, MSKCC
 2017-present Rockefeller University Highschool Outreach Program (RockEDU), selection committee for summer students and journal club leader
 2014-present Member, Women In Science at Rockefeller (WiSeR)
 2011-present Peer referee for primary research considered for *Cell Communication and Signaling*; *Science*, *Nature*, *Cell*, *Nature Communications* (with E. Fuchs); *Nature*, *Nature Cell Biology*, *PLOS Genetics*, *Development*, *Developmental Biology* (with Guy Tanentzapf)
 2018 Scientista Foundation Symposium, poster judge
 2015 Guest blog contributor, Huffington Post Canada
 2011-2014 Founding co-organizer of “Cells” student-led seminar series, UBC

MENTORSHIP:

- Elizabeth Thompson – Fuchs Lab PhD student – December 2020 - present
 Therese Eilertsen – Thesis Project Student – January 2019 – February 2020
 Katie Goodwin – Master’s student, May 2012 – August 2014 (now PhD student @ Princeton)
 Emily Lostchuck – Master’s student, June 2013 – August 2014 (now in Medical School)
 Sabrina Wistorf – Bachelor’s Thesis Project, Jan 2013 – May 2013 (now PhD student, Barcelona)
 Alexander Morin – Research assistant, September 2012 – August 2013 (now PhD student, UBC)