Amanda Haage, PhD – Assistant Professor

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Current Position

University of North Dakota **May 2019 – Present**
Assistant Professor – Biomedical Sciences

I am currently an educator scholar track assistant professor in biomedical sciences at the University of North Dakota. This means my primary duty is teaching a large enrollment anatomy and physiology course for pre-health undergraduates. I am passionate about active learning, and have specifically designed my course to address intercultural knowledge in the context of learning the basics of the human body. I have also developed my own research lab focused on microenvironmental regulation of cellular behavior, particularly neural crest and cancer cell migration. Our primary tools are quantitative immunofluorescence and live cell assays for direct observations of behavior, paired with genetic perturbations of the players that both interpret and alter outside stimuli.

Education

Wartburg College **Aug. 2006 – May 2010**
B.A. in Biology

Iowa State University **Aug. 2010 – July 2014**
Ph.D in Molecular, Cellular & Developmental Biology
PI: Ian Schneider
Department of Chemical & Biological Engineering

Previous Research Experience

University of British Columbia **Sept. 2014 – May 2019**
Post-Doctoral Research
PI: Guy Tanentzapf
Department of Cellular & Physiological Sciences
Talin Function in Mammalian Development & Homeostasis – Here I completed the initial characterization of several novel transgenic mouse lines containing different functional mutations in the gene *Talin-1*. This included extensive *in vivo* work, the utilization of various quantitative imaging approaches, and the establishment of several primary cell culture systems.

Iowa State University **Aug. 2010 – July 2014**
Ph.D Thesis Research
PI: Ian Schneider
Department of Chemical & Biological Engineering
Microenvironment Regulation of Matrix Metalloproteinase Activity in Pancreatic Cancer Cells – Here I was able to demonstrate the novel regulation of matrix metalloproteinase activity by extracellular matrix stiffness and cellular contractility. I was able to further show this response is specifically mediated by membrane-tethered proteinases, which in turn activate secreted proteinases in response to mechanical stimuli. This included use of various pancreatic cancer cell lines and extracellular matrix scaffolds in conjunction with live imaging and fluorescent reporter assays.

Wartburg College **Jan. 2009 – Dec. 2009**
Senior Undergraduate Research
PI: J. Keith McClung
Department of Biology
The effects of RNA Interference on Prohibitin in MCF-7 Cells – Here I completed knockdown studies of the cancer-associated gene, *Prohibitin* in human breast cancer cells. This included learning mammalian cell culture, utilizing the then emerging technology of RNAi, and measuring proliferation as a readout for cancerous potential.

Iowa State University **June 2008 – Aug. 2008**
Undergraduate Summer Research Experience
PI: Diane Bassham
Department of Genetics, Development & Cell Biology
A Study of Gene Expression in Arabidopsis thaliana wrky65 Knockout Plants – Here I extracted RNA from mutant and control plant stains under different environmental stress conditions. This helped to create a gene expression profile examining the role of autophagy-related genes in stress response.

Awards

HAPS Conference Award **2021**
Human Anatomy & Physiology Society

Exemplary Course Development **2021**
UND's Teaching Transformation & Development

Best Talk **2019**
University of British Columbia CELLS Retreat

Research Excellence Award **2014**
Iowa State University

Summa Cum Laude **2014**
Iowa State University

Publications – My NCBI – ORCID iD 0001-6305-440X

9. Urtatiz O., **Haage A.,** Tanentzapf G., Van Raamsdonk C.D. Crosstalk with Keratinocytes Causes GNAQ Oncogene Specificity in Melanoma. *eLife.* (2021).

8. **Haage A.,** Wagner K., Deng W., Venkatesh B., Mitchell C., Goodwin K., Bogutz A., Lefebvre L., Van Raamsdonk C.D., & Tanentzapf G. Precise Coordination of Cell-ECM Adhesion is Essential for Efficient Melanoblast Migration During Development. *Development*. (2020).

7. Fernandes J.D., Sarabipour S., Smith C.T., Niemi N.M., Jadavji N.M., Kozik A.J., Holehouse A.S., Pejaver V., Symmons O., Bisson Filho A.W., **Haage A.** Insights from a survey-based analysis of the academic job market. *eLife*. (2020).

6. Fu L., **Haage A.,** Kong N., Tanentzapf G., & Li H. Dynamic protein hydrogels with reversibly tunable stiffness regulate human lung fibroblast spreading reversibly. *Chemical Communications.* (2019).

5. Camp D., **Haage A.,** Solianova V., Castle W.M., Xu Q.A., Lostchuck E., Goult B.T. & Tanentzapf G. Direct binding of talin to Rap1 is required for cell-ECM adhesion in drosophila. *J. Cell Sci.* (2018).

4. **Haage A.,** Goodwin K., Whitewood A., Camp D., Bogutz A., Turner C.T., Granville D.J., Lefebvre L., Plotnikov S., Goult B.T. & Tanentzapf G. Talin autoinhibition regulates cell-ECM adhesion dynamics and wound healing in vivo. *Cell Reports.* (2018).

3. **Haage A.,** Nam D.H., Ge X. & Schneider I.C. A function blocking antibody reveals matrix metalloproteinase-14 as a force-regulated proteinase. *Biochem Biophys Res Commun.* (2014).

2. **Haage, A.** & Schneider I.C. Cellular contractility and extracellular matrix stiffness regulate matrix metalloproteinase activity in pancreatic cancer cells. *FASEB J.* (2014).

1. Zhang Y., **Haage A.,** Whitley E.M., Schneider I.C. & Clapp A.R. Mixed-surface, lipid-tethered quantum dots for targeting cells and tissues. *Colloids and Surfaces, B. Biointerfaces.* (2012).

Grants

Awarded

3. *Faculty Job Market Research.* Agency: Burroughs Wellcome Fund Role: Co-I. Amount: $35,750/ 1 year. 10/18/21

2. *Graduate Research Training Initiative for Student Enhancement Preparation.* Agency: UND Grand Challenges Seed Funding. Role: Co-I. Amount: $10,000 / 1 year. 5/8/2020

1. *ND-ACES: New Discoveries in the Advanced Interface of Computation, Engineering, and Science.* Agency: NSF:EPSCoR. Role: Funded Participant. Amount: $20,000,000 / 5 years. 4/20/20202

In Preparation

- NSF:IUSE – Intercultural Knowledge and Skills in Pre-Health Curriculum July. 2022
- R03 – Microenvironmental Regulation of Neural Crest Migration Feb. 2022

Teaching Experience

Courses Taught **University of North Dakota**

Spring 2021 – Present	**Med Elective HeLa: The Mother of Modern Science**
Fall 2020 – Present	**Human Anatomy and Physiology I & II with labs.**
Fall 2019 – Present	**Pulmonary Lectures Medical Curriculum**
Fall 2019 – Present	**BIMD 492 Peer Teaching**
Summer 2020 – Present	**Integrating Basic Sciences Medical Curriculum**
Fall 2020	**BIMD 494 HeLa: The Mother of Modern Science**
Fall/Spring 2019/20	**Human Anatomy Lecture & Lab**

As part of my assistant professor position, I delivered a large enrollment human anatomy lecture series for undergraduate students in both the fall of 2019 and the spring of 2020. This lecture series was accompanied by

several smaller sections of a cadaver based human anatomy lab, which alumni students helped peer teach as part of the BIMD 492 course. Starting in fall 2020 I began teaching a combined human A&P sequence that I designed (see below). I also do a series of lectures in year one of our medical curriculum covering the topics of gas exchange and transport, pulmonary mechanics, and respiratory insufficiency. As part of the effort to redesign our medical curriculum since spring 2021 I have also served on the committee responsible for integrating basic science into clinical years more efficiently. For this effort, I help teach and refine a monthly workshop as part of a team.

Courses Developed **University of North Dakota**

Human Anatomy and Physiology I&II + Labs
I have developed a new two semester undergraduate course sequence in human anatomy and physiology, with corresponding labs. Total, this represents 8 credits. These courses have been designed from scratch, based on the HAPS learning objectives, and using complete best practices including, active learning, team-based learning, and digital badging. These courses are also unique in their designation as "diversity of human experience" courses fulfilling part of UND's Essential Studies mission. As part of their diversity of human experience content, learning objectives on social determinants of health, cultural views of health, race as a social construct, and non-binary gender, are included. I am also currently developing Self-Paced Enroll Anytime online versions of these courses to launch Spring 2021.

BIMD 494 - HeLa: The Mother of Modern Science
I have developed a 1 credit online elective course for undergraduates centered on reading "The Immortal Life of Henrietta Lacks" by Rebeccea Skloot. This course reinforces basic biological concepts of cell theory and how cancer develops, while examining Henrietta Lacks life and how HeLa cells have been essential for modern science. This course will launch over holiday break 2020-2021.

Phase I Medical Elective - HeLa: The Mother of Modern Science
In response to a call for short electives for medical students in the newly redesigned curriculum, I have proposed and been approved to teach a short online elective centered on reading "The Immortal Life of Henrietta Lacks" by Rebeccea Skloot. This course reinforces basic biological concepts of cell theory and how cancer develops, while examining Henrietta Lacks life and how HeLa cells have been essential for modern science. It also aims to have medical students explore the relationship between the ethics of human experimentation, public trust, social determinants of health, and health disparities. Lastly, students will write a position paper on what they see the role of science journalism as, comparing the story of HeLa cells to the modern Covid-19 pandemic. This course will launch January 2021.

Integrating Basic Sciences Medical Curriculum
In spring 2021 the faculty of Biomedical Sciences volunteered for various curriculum redesign teams as part of the effort to revamp our medical curriculum. Though I volunteered for two other teams, I was recruited to "integrating basic sciences" for my general A&P and teaching expertise. As part of a team with other biomedical faculty and clinicians, we have developed a monthly active learning workshop for clinical year medical students. We implemented these workshops starting in July 2020.

Prior Lecturing Experience

Aug. 2019 – May 2020, University of North Dakota
Oct. 2018 – University British Columbia
March 2014 – Iowa State University
Oct. 2013 – Iowa State University

Prior to my current position, I lectured for large undergraduate courses several times; twice at the invitation of my supervisors and once as the practical experience required for my certificate in graduate student teaching (see below). I gave two lectures as part of a Human Microscopic Anatomy course during my post-doctoral training and lectured for a Principles of Molecular Cell Biology course and a Biomedical Engineering course at Iowa State University during my PhD.

Scientists Teaching Science Course **Summer 2018 – New York Academy of Sciences**

I independently sought additional training in teaching during my post-doctoral work in preparation for my applications to primary undergraduate institutions. This online course offered by the New York Academy of Sciences was extremely relevant and insightful. With this experience I feel very prepared to tackle designing my own course or implementing active learning strategies in existing course. See full course description here: https://www.nyas.org/events/2018/scientists-teaching-science-online-course/

Graduate Student Teaching Certificate **2012 – 2014 – Iowa state University**

Through this certificate program I took 3 courses on teaching pedagogy including, Educational Psychology, Foundations of Digital Learning, and College Teaching. I also completed a practicum where I lectured for a large Principles of Molecular Cell Biology course. See program description here: http://www.celt.iastate.edu/graduate-students-postdocs/graduate-student-teaching-certificate

Teaching Assistant **2013 – 2014 – Iowa state University**

I independently taught two sections of a Principles of Biology Laboratory course intended for first year undergraduates. This included mini lectures, setting up activities/dissections, demonstrating activities/dissections and grading.

Secondary Science Education Major **2006 – 2009 – Wartburg College**

I started my undergraduate career at Wartburg College as a secondary science education major, intent on teaching high school science. I completed much of the major requirements before deciding to go to graduate school in my 4th year.

Supplemental Instruction Leader **2007 – 2008 – Wartburg College**

This position combined the duties of a teaching assistant and a tutor for an introductory biology lecture course. I completed one-on-one tutoring sessions when requested by students. I also held weekly review sessions on course material and extra review sessions prior to exams.

Mentoring Experience

UND ASPET SURF **2021 – Present**

University of North Dakota
Total number of students = 1

Here undergraduate students apply for a 10-week summer research fellowship with mentorship from faculty at the UND School of Medicine & Health Sciences. Students are housed on campus and receive a stipend. To date, I have mentored one student in a project on neural crest migration and development.

Directed Studies Students **2015 – 2019**
University of British Columbia
Total number of students = 5

Here students can registered for a one or two semester course to carry out an individual research project in a faculty member's research lab. Through my postdoc, I mentored 5 students in completing independent projects that fit under the overall umbrella of my research interests. Some of these students will be were on publications and have presented their work at international conferences (see below).

Undergraduate Research Experience Program **2017 – 2019**
University of British Columbia
Total number of projects = 2

This program matches undergraduate students with little to no research experience, typically in groups of 2-4, with a graduate student or postdoctoral fellow in their field. Under their guidance, they develop a theoretical research project that is presented at the University of British Columbia's Multidisciplinary Undergraduate Research Conference. I have participated as a mentor for two years, supervising two groups of 5 students each. A description of the program can be found here: http://www.uroubc.ca/rex/

Undergraduate Student Presentations **2016 – Present**

2. Mitchell C., **Haage A.,** Wagner K., Goodwin K., Bogutz A., Lefebvre L., Van Raamsdonk C.D. & Tanentzapf G. Talin autoinhibition regulates primary melanocyte cell-ECM adhesion. Poster presented at: Northwest Developmental Biology Meeting, March 2018, Friday Harbor, Washington, USA.

1. Webster R., **Haage A.,** Goodwin K., Bogutz A., Lefebvre L. & Tanentzapf G. Lack of talin autoinhibition increases cell-extracellular matrix adhesion. Poster presented at: Northwest Developmental Biology Meeting, March 2016, Friday Harbor, Washington, USA.

Presentations

Invited Panelist or Speaker – Outside University:

7. American Society for Cell Biology CellBio Annual Meeting – Searching for a Faculty Position and Starting a Lab at a Primarily Undergraduate Institution. Role: Panelist. Decemeber 2021.

6. CPhyGS of University of British Columbia – Career Conversations. Role: Panelist. October. 2021.

5. C2 Summit for Pedagogical Advancements in STEM – Integrating the Diversity of Human Experience with Human Anatomy & Physiology. Role: Keynote Speaker. October 2021.

4. PanAmerican Society for Pigment Cell Research – Cell Adhesion Regulates Melanoblast Migration During Development. Role: Speaker. September 2021.

3. #FeedbackASAP – Growing Preprint Review. Role: Panelist. July 2021. https://asapbio.org/feedbackasap

2. TopHat Webinar – Active Learning With Tophat Virtual Textbooks. Role: Panelist. April 2021.

1. WashU PostDoc Society – "Demystifying the Life-Sciences Academic Job Market". Role: Speaker. October 2020.

Invited Panelist or Speaker – Inside University:

3. Teaching, Learning and Scholarship SMHS – Integration of Basic Sciences into Clinical Experiences. Role: Speaker. November 2021.

2. Teaching, Learning and Scholarship SMHS – Active Learning With Tophat. Role: Speaker. May 2021.

1. The Future of Higher Education Task Force – Badging in Higher Education. Role: Panelist. February 2021.

Applied Conference Talks:

4. **Haage A.** Integrating the Diversity of Human Experience in A&P. Human Anatomy and Physiology Society Annual Meeting. May 2021, Virtual.

3. **Haage A.**, Mitchell C., Wagner K., Goodwin K., Bogutz A., Lefebvre L., Van Raamsdonk C.D. & Tanentzapf G. Cell-ECM adhesion regulates melanoblast migration during development. Society for Developmental Biology Annual Meeting. July 2018, Portland, Oregon, USA.

2. **Haage A.,** Goodwin K., Bogutz A., Lefebvre L., Plotnikov S. & Tanentzapf G. Talin autoinhibition regulates cell behavior and migration in vivo. Northwest Developmental Biology Meeting. March 2017, Friday Harbor, Washington, USA.

1. **Haage A.,** Goodwin K., Bogutz A., Lefebvre L. & Tanentzapf G. Modulation of integrin-based cell-matrix adhesion via talin autoinhibition regulates cell behavior and migration in vivo. Gordon Research Seminar: Fibronectin, Integrins & Related Molecules. February 2017. Ventura, California, USA.

Applied Conference Posters:

10. Fernandes J.D., Sarabipour S., Smith C.T., Niemi N.M., Jadavji N.M., Kozik A.J., Holehouse A.S., Pejaver V., Symmons O., Bisson Filho A.W., **Haage A.** Insights from a survey-based analysis of the academic job market. American Society for Cell Biology Annual Meeting. December 2019. Washington, DC, USA.

9. **Haage A.,**, Wagner K., Goodwin K., Mitchell C., Bogutz A., Lefebvre L., Van Raamsdonk C.D. & Tanentzapf G. Cell-ECM adhesion regulates melanoblast migration during mammalian morphogenesis. American Society for Cell Biology Annual Meeting. December 2018. San Diego, California, USA.

8. **Haage A.,** Goodwin K., Whitewood A., Camp D., Bogutz A., Turner C.T., Granville D.J., Lefebvre L., Plotnikov S., Goult B.T. & Tanentzapf G. Talin autoinhibition regulates cell behavior and migration in vivo. Biophysical Society of Canada Annual Meeting. May 2018. Vancouver, British Columbia, Canada.

7. **Haage A.,** Goodwin K., Bogutz A., Lefebvre L., Plotnikov S., Goult B.T. & Tanentzapf G. Talin autoinhibition regulates cell behavior and migration in vivo. American Society for Cell Biology Annual Meeting. December 2017. Philadelphia, Pennsylvania, USA.

6. **Haage A.,** Goodwin K., Bogutz A., Lefebvre L. & Tanentzapf G. Modulation of integrin-based cell-matrix adhesion via talin autoinhibition regulates cell behavior and migration in vivo. Gordon Research Conference: Fibronectin, Integrins & Related Molecules. February 2017. Ventura, California, USA.

5. **Haage A.,** Goodwin K., Bogutz A., Lefebvre L. & Tanentzapf G. Talin autoinhibition is important for regulating integrin-based cell-ECM adhesion in vivo. American Society for Cell Biology Annual Meeting. December 2016. San Francisco, California, USA.

4. **Haage A.** & Tanentzapf G. Talin autoinhibition in mammalian development and homeostasis. Northwest Developmental Biology Meeting. March 2016, Friday Harbor, Washington, USA.

3. **Haage A.** & Schneider I.C. Cellular contractility and ECM stiffness regulate matrix metalloproteinase activity in pancreatic cancer cells. American Society for Cell Biology Annual Meeting. December 2013. New Orleans, Louisiana, USA.

2. Zhang Y., **Riddle A.,** Whitley E.M., Schneider I.C. & Clapp A.R. Mixed-surface, lipid-tethered quantum dots for targeting cells and tissues. University of Minnesota Developmental Biology Symposium. March 2012. Minneapolis, Minnesota, USA.

1. Zhang Y., **Riddle A.,** Whitley E.M., Schneider I.C. & Clapp A.R. Mixed-surface, lipid-tethered quantum dots for targeting cells and tissues. American Society for Cell Biology Annual Meeting. December 2011. Denver, Colorado, USA.

Departmental Talks:

8. **Haage A.** Interculturally competent human A&P. UND Biomedical Sciences Departmental Seminar, 2020.

7. Fernandes J.D., Sarabipour S., Smith C.T., Niemi N.M., Jadavji N.M., Kozik A.J., Holehouse A.S., Pejaver V., Symmons O., Bisson Filho A.W., **Haage A.** Insights from a survey-based analysis of the academic job market. UND Biomedical Sciences Department Retreat, 2019.

6. **Haage A.,** Wagner K., Mitchell C., Goodwin K., Bogutz A., Lefebvre L., Van Raamsdonk C.D. & Tanentzapf G. Cell-ECM adhesion regulates melanoblast migration during development. UBC CELLS Program Retreat May 2019. Loon Lake, British Columbia, Canada.

5. **Haage A.,** Wagner K., Goodwin K., Mitchell C., Bogutz A., Lefebvre L., Van Raamsdonk C.D. & Tanentzapf G. What can spots tell us about animal development? UBC Post-doctoral Association Research Day. December 2018. Vancouver, British Columbia, Canada.

4. **Haage A.,** Goodwin K., Bogutz A., Lefebvre L., Plotnikov S. & Tanentzapf G. Talin autoinhibition regulates cell behavior and migration in vivo. UBC CELLS Program Retreat May 2017. Loon Lake, British Columbia, Canada.

3. **Haage A.,** Goodwin K., Bogutz A., Lefebvre L., Plotnikov S. & Tanentzapf G. Talin autoinhibition regulates cell behavior and migration in vivo. UBC Post-doc Slam January 2017. Vancouver, British Columbia, Canada.

2. **Haage A.,** Goodwin K., Webster R., Bogutz A., Lefebvre L. & Tanentzapf G. Talin autoinhibition in mammalian development and homeostasis. UBC CELLs Student-Led Seminar Series. April 2016. Vancouver, British Columbia, Canada.

1. **Haage A.** & Schneider I.C. Cellular contractility and ECM stiffness regulate matrix metalloproteinase activity in pancreatic cancer cells. UBC Cellular and Physiological Sciences Departmental Seminar Series. May 2014. Vancouver, British Columbia, Canada.

Departmental Posters:

5. **Haage A.,** Goodwin K., Whitewood A., Camp D., Bogutz A., Turner C.T., Granville D.J., Lefebvre L., Plotnikov S., Goult B.T. & Tanentzapf G. Talin autoinhibition regulates cell behavior and migration in vivo. Cellular and Physiological Sciences Research Day. January 2018. Vancouver, British Columbia, Canada.

4. **Haage A.,** Goodwin K., Bogutz A., Lefebvre L., Plotnikov S., Goult B.T. & Tanentzapf G. Talin autoinhibition regulates cell behavior and migration in vivo. Cellular and Physiological Sciences Research Day. January 2017. Vancouver, British Columbia, Canada.

3. **Haage A.,** Goodwin K., Webster R., Bogutz A., Lefebvre L. & Tanentzapf G. Talin autoinhibition in mammalian development and homeostasis UBC CELLS Program Retreat May 2016. Loon Lake, British Columbia, Canada

2. **Haage A.,** Goodwin K., Webster R., Bogutz A., Lefebvre L. & Tanentzapf G. Talin autoinhibition in mammalian development and homeostasis. Cellular and Physiological Sciences Research Day. January 2016. Vancouver, British Columbia, Canada.

1. **Haage A.,** Bogutz A., Lefebvre L. & Tanentzapf G. Talin autoinhibition in mammalian development. UBC CELLS Program Retreat May 2015. Loon Lake, British Columbia, Canada

Press & Interviews

General Interviews:

2. https://med.und.edu/nd-medicine/holiday-2021/flipping-anatomy-and-physiology.html

1. https://prelights.biologists.com/news/prelights-talks-to-amanda-haage/

UND Today:

3. http://blogs.und.edu/und-today/2021/07/mentoring-program-welcomes-new-faculty/

2. http://blogs.und.edu/und-today/2021/03/flexibility-affordability-and-practicality/

1. http://blogs.und.edu/und-today/2019/10/job-hunting-in-academia/?fbclid=IwAR1oHrDycvhCvtf-2tTnEne-KvL-CVdnYfmsbSZNA1gp1CEowh_ha7SV4uU

Job Market Survey Press Coverage:

8. https://www.natureindex.com/news-blog/how-to-land-a-faculty-job?fbclid=IwAR2hEKR7Qza1enm54myWaP9ixth-QtmYQZo80GbsS-PizJY7MsIN0dfv97Y

7. https://socialsciences.nature.com/posts/55118-the-path-to-professorship-by-the-numbers-and-why-mentorship-matters?fbclid=IwAR3pmfIt3Nn-IRGuSiQDPIwXzOqcuK6J3nEEO-sOK4JH9VyLd19IfxaBpkA

6. https://prelights.biologists.com/highlights/insights-from-a-survey-based-analysis-of-the-academic-job-market/?fbclid=IwAR1o3IEVjk6QwO-8AdXNqCvioudw8zVsvOdX-Sf9Xs5jiko2dz2ndtdXj8s

5. https://mailchi.mp/48ad0e2ac971/this-week-in-mathematical-oncology-655717?fbclid=IwAR1BILgx_qu1LX3mXv7VlhqO4PerMjz9USQeYej4SLE9Ezgf5NuKcH-08Ok

4.
https://www.insidehighered.com/advice/2020/06/01/given-uncertainty-about-faculty-hiring-fall-job-seekers-should-actively-seek?fbclid=IwAR2wuRPjqTTXzU3oUn95L_V5TNhBSAj6ORq3iEXoVW8aUDlm4tUVOh-5Flc

3.
https://www.nature.com/articles/d41586-020-02224-5?fbclid=IwAR0v93PIuW_cOjZuV4TN9Y81YI9rZDpLrATToKejRH7ijMpvxFY0bHfzdyM

2.
https://www.sciencemag.org/features/2020/08/daunting-doable-job-searching-after-postdoc?fbclid=IwAR2kb3SIRyQML-n6OHcxJ8DeUF3buWQthAo8zMUx_IlVHEIq-qI2xU0psoA

1.
https://www.thenakedscientists.com/articles/interviews/getting-your-professorship?fbclid=IwAR2BiN5brm-zDJdDBX6hLsGYRm6nxC782fkf0ZpkPYWoqRSub8I1DF-0vKk

Professional Service & Development

Human Anatomy and Physiology Society (HAPS)

- **Member** **2019 – Present**
- **Communications Committee – Social Media** **2019 – Present**
- **Diversity, Equity, and Inclusion Committee** **2020 - Present**
- **HAPS Leadership Academy** **2022 – Present**

I am an active member in HAPS, the most relevant professional society for my teaching efforts. I currently run the HAPS twitter account @HumanAandPSoc as part the Communications Committee. I also serve on the DE-I committee and am working on planning programing for the entire membership in this area. In spring of 2021, I was also accepted into the inaugural cohort of the HAPS Leadership Academy, a professional development program to grow HAPS members personal and professional growth.

American Society for Cell Biology (ASCB)

- **Member** **2014 – Present**
- **Ambassador – University of British Columbia** **2017 – 2019**
- **COMPASS Member** **2017 – 2020**
- **COMPASS Communications Co-Char** **2019 – 2020**

I actively participate in the ASCB organization. I was a member of COMPASS, the ASCB Committee for Postdocs and Students. COMPASS serves as the voice for young scientists within the ASCB organization. During my time as a COMPASS member I served on two important sub-committees: 1) Outreach and 2) Communications. The outreach committee strives to involve the general public and the next generation of scientists in cell biology. To this end, they award competitive outreach grants to ASCB members all over the world to fund activities involving their local communities. I also helped organize events and initiatives to discussion science with the public and show the diverse representation of different groups in the scientific community. I also served as the communications committee co-chair. I wrote and edited pieces for the ASCB blog, called the ASCB Post (https://www.ascb.org/ascb-post/) Below you will find a list of posts I have written for this blog:

- Four ways to use social media to get people to your poster (or talk) – November 22nd, 2019
- What's it all about? Single-Cell Sequencing – August 16th, 2019

- 5 tips for surviving the academic job market – April 19th 2019
- What's it all about? 3D Bioprinting – October 26th, 2018
- Spotlight: COMPASS Outreach Grant Recipients Spring/Summer 2018 – September 14th, 2018
- preLights: Preprint highlights for biology – July 13th, 2018
- What's it all about? Microfluidics – June 15th, 2018
- Six ways to start something new in the lab – April 13th, 2018
- Lego Grad Student: Stepping one brick up in academia – March 1st, 2018
- What's it all about? Super-Resolution Microscopy – February 9th, 2018
- The Best of the ASCB Post: 2017 Edition – December 27th, 2017
- Spotlight on 2017 Fall COMPASS outreach grant recipients – December 1st, 2017
- What's it all about? Organoids – October 6th, 2017
- What's it all about? CRISPR/Cas – August 11th, 2017
- Spotlight: COMPASS Outreach Grant Recipients – June 2nd, 2017
- Keeping your enthusiasm up when science gets you down – May 5th, 2017

preLights: The Company of Biologists **2018 - Present**

I was invited to participate as a writer for a new and exciting community initiative organized by The Company of Biologists at the beginning of 2018. preLights (https://prelights.biologists.com/) launched in February 2018 as a service to highlight preprint manuscripts in biology. As a writer, I select preprints in my field on a regular basis and write summaries of their work, including commentary on how I think this work furthers the field. To date I have written 8 preLight pieces:

- Molecular Motion and Tridimensional Nanoscale Localization of Kindlin Control Integrin Activation in Focal Adhesions – September 18th, 2020.
- Cancer Associated Talin Point Mutations Disorganize Cell Adhesion and Migration – August 3rd, 2020.
- Vinculin Mediated Axon Growth Requires Interaction with Actin, but Not Talin – April 8th, 2020.
- Calpain-2 Regulates Hypoxia/HIF-Induced Ameoboid Reprogramming and Metastasis – January 29th, 2020
- A Rap1 binding stie and lipid-dependent helix in talin F1 domain cooperate in integrin activation – January 20th, 2019
- Molecular organization of integrin-based adhesion complexes in mouse embryonic stem cells & Superresolution architecture of pluripotency guarding adhesions – November 2nd, 2018

- Protein Kinase A Activity is Regulated by Actomyosin Contractility During Cell Migration and is Required for Durotaxis – September 17th, 2018
- A Transition From SoxB1 to SoxE Transcription Factors is Essential for Progression From Pluripotent Blastula Cells to Neural Crest Cells – August 2nd, 2018
- Clathrin Plaques Form Mechanotranducing Platforms – June 6th, 2018
- Spatial Self-Organization Resolves Conflict Between Individuality and Collective Migration – April 24th, 2018
- Tunable Molecular Tension Sensors Reveal Extension-Based Control of Vinculin Loading – March 4th, 2018
- GSK3 Controls Migration of the Neural Crest Lineage – January 30th, 2018

The Node: The Company of Biologists **2018**

In response to an opinion piece posted in Nature discussing the possible dangers of preprinted manuscripts in biology, several of my preLighter colleagues and I decided to pen a response. Here we highlight the potential of preprints to drive scientific understanding and innovation, while promoting the idea that preprints do not threaten good journalism, but supports it.

- Preprints Promote Transparency and Communication – August 12th, 2018

Intestinal Organoid Training Course **April 2017 – Stem Cell Technologies**

I was able to participate in a hands-on training course for the establishment of intestinal organoid cultures. The course was offered by Stem Cell Technologies, located in Vancouver, British Columbia, Canada. A description of the course can be found here: https://www.stemcell.com/products/product-types/training-and-education/intestinal-organoid-training

Canadian Journal of Undergraduate Research **2017 – 2019**

I served as a reviewer for the Canadian Journal of Undergraduate Research (http://cjur.ca/).

Iowa State University Graduate Student Organization

- **Member** **2010 – 2014**
- **Senator** **2012 – 2013**
- **President** **2013 – 2014**

I actively participated in the graduate student organization for my Ph.D major at Iowa State University. I served as our representative senator for the greater Graduate and Professional Student Senate for one year. This council presided on university wide policy that affected all graduate student programs. It also awarded competitive funding to various student groups. Under my term as Graduate Student Organization president I initiated several new programs including a monthly interdisciplinary journal club, a family-orientated science night held at a local elementary school, and an interdisciplinary poster competition. Since my Ph.D major was very interdisciplinary and spread-out across the entire campus, my goal as president was to bring a sense of cohesion to our group and get more graduate students talking to each other.

BioRxiv Affiliate **2020 - Present**

I was invited to participate as a bioRxiv affiliate in late 2019, starting in 2020. BioRxiv Affiliates are members of the scientific community who provide feedback on the service, act as advocates, and help in screening material submitted. https://www.biorxiv.org/about-biorxiv

American Association of University Women Grant Review 2021 – Present

I continually serve as a reviewer for the Selected Professions Fellowship organized by AAUW.

University Service & Development

Alice T. Clark Faculty Mentoring Program 2019 - 2021

I chose to participate in this program that provides orientation and collegial support to first and second year faculty. The program consists of monthly meetings, as well as year-long one-on-one mentorship.

Teaching Academy through TLAS at the SMHS 2020 – 2021

I applied to and was accepted in the inaugural class of the teaching academy program through the teaching, learning, and scholarship center at the SMHS. Through this program I participated in workshops and other programing to develop my educational scholarship. In particular, I hope to use it to develop an evaluation approach for the novel approaches I use in my new A&P courses. I was also invited to present several workshops on my teaching methodologies through this program.

UND Inclusion Ambassadors 2021 – Present

The main goal of the Inclusion Ambassadors Program is for faculty and staff members to serve as trainers for College/School/Areas as it relates to diversity, equity, and inclusion (DEI) efforts. I am the sole representative from the School of Medicine and Health Sciences at UND.

UND workshops attended – Acclaim Profile

- SMHS Education Resources Book Read 2021
- TTADA Inclusive Excellence Book Read 2021
- TTADA Course Development 2020
- TTADA Anti-Racism Book Read 2020
- Ally Training 2020
- TTADA Inclusive Excellence Book Read 2020
- TTADA Universal Design Book Read 2020
- SMHS Education Resources Book Read 2020
- Having Difficult Conversations 2020
- Developing Your Voice to Advocate for Others 2020
- Pronouns & Gender for Academic Writing 2020
- SMHS Education Resources Book Read 2019
- SMHS Educator Scholar Sessions 2019 - Present
- Implementing High Impact Practices Across Modalities 2019
- Qualtrics Creating Surveys Introduction 2019
- New Faculty Orientation 2019

UND Committee Participation

- Pre-Optometry Club Advisor 2019 – Present
- BIMD Undergraduate Education Committee Volunteer 2019 – 2021
- BIMD Undergraduate Education Committee Chair 2021 – Present
- Medical Curriculum: Integrating Basic Science Volunteer 2020 - Present
- Medical Curriculum: Medicine in Society Volunteer 2020 - 2021

● Medical Curriculum: Hearts & Lung	Volunteer	2020 - 2021
● Biomedical & Health Sciences Curriculum Committee	Elected	2020 - Present
● Biomedical & Health Sciences Curriculum Committee	Chair	2021 - Present
● Phase 1 Medical Curriculum Committee	Appointed	2021 - Present
● HLC Accreditation Criterion 2: Integrity Committee	Elected	2021 – Present