

FEBRUARY 2018



Save the Date

- [Grand Rapids Griffins- Purple Community Night](#)
March 2 @ 7 pm
- [VAIGS Commencement Ceremony](#)
March 8 @ 1:30 pm
- [VAIGS Career Day](#)
March 15 @ 8:30 am- 6 pm
- [Purple Community 5k](#)
April 28 @ 8 am
- [Around the World](#)
June 1 @ 6 pm
- [Origins of Cancer 2018](#)
July 20 @ 7 am
- [Grand Challenges in Parkinson's Disease](#)
September 26-27

Congratulations

- **Jason Cooper** successfully defended his dissertation on November 16th.
- **Emily Machiela** successfully defended her dissertation on January 16th.

Why did you choose VAIGS?

"I was drawn to VAIGS based on the overwhelming support they offer their graduate students as well as the translational research focus. I am interested in conducting biomedical research that directly affects patient care and that is something that VAI does very well. No other program offered an opportunity as unique and fulfilling as VAIGS."

- Bailey Tibben, VAIGS First Year Student

Accreditation Site Visit

On Feb. 26 and 27, a team of Higher Learning Commission (HLC) consultant-evaluators will meet with VAIGS faculty, staff, board members and students to see if the accreditation evidence presented in the Graduate School's assurance argument (i.e., self-study) matches what the HLC team members see and hear during the site visit.

USING POWERFUL MICROSCOPES TO UNDERSTAND CANCER AND IMPROVE MEDICATIONS



Zachary DeBruine, a student in the laboratory of **Dr. Karsten Melcher**. Zachary uses powerful, high-tech microscopes to study important molecules called proteins, the workhorses of biology. His work has important implications for understanding cancers and designing improved medications for these devastating diseases. We caught up with Zachary to ask about his work.

How would you describe your area of study to your grandmother?

I use powerful microscopes to zoom in on proteins and see the details of their shapes. The proteins I study are often responsible for driving cancer and resistance to chemotherapy, but also are involved in early steps of how the human body takes its shape and how it heals after wounding. I am also using new

techniques to design drugs that will affect how these proteins work, in ways that stop cancers from growing without causing bad side effects.

What do you want to do with your degree?

I'd like to work as an independent investigator in academia, though I'll be happy to see where else life can take me if other amazing opportunities come within reach.

How do you think earning an advanced degree will change your role in society?

My doctoral studies will help me develop professionally and obtain the qualifications necessary to make a substantial impact on drug development, be competitive for funding opportunities, and aim for success within the scientific community.

Did your past experiences in life or education help prepare you for graduate school or did you have to develop different strategies to succeed?

Grad school feels much more like a job than an education—you get paid to work toward your degree! I spend most of my time doing research, writing about my findings, and discussing data rather than cramming flashcards and memorizing textbooks. So while coursework in my undergraduate was crucial, being professionally diverse during that time has really opened lots of doors for me here in graduate school, and I won't ever regret having juggling extracurriculars, leadership positions, teaching assistantships and tutoring. It's all paid back.

What accomplishment are you most proud of?

My first-author manuscript in *Genes and Development*, next to my other publications, which represent much of my Ph.D. work—minus the failures.

Has your perception of this Ph.D. program changed since you began the program?

It's not quite as scary as I thought. I have a good work life and a good family life, which is already more than I was expecting. Plus, I continue to be amazed by the West Michigan community and the resources at VAI, including financial support and benefits, professional development opportunities, faculty availability and scientific productivity.

If you were asked to put something in a time capsule for each year you have been in the program and this capsule would not be opened for 25 years, what would you contribute?

2015 capsule: I did one thousand mini-preps

2016 capsule: I spent half a year trying to solve a protein structure

2045 response: Oh, it takes 10 minutes to prep DNA, a machine does that

2046 response: No need to solve that structure, they're all solved now