



Training our Students for Success

Story by Marcia Hill Gossard '99, '04 | Photo by Henry Moore Jr.

Keesha Matz wants to understand some of the world's deadliest viruses. Raised in Chehalis, Washington, her love for microbiology began in a molecular genetics high school class taught by WSU alumnus Henri Weeks.

"The class gave me a real feel for research, which I think is unique for a high school class," says Matz.

That experience inspired her to apply to the WSU School of Molecular Bioscience's STARS program. Students Targeted toward Advanced Research Studies, or STARS, accelerates learning and provides hands-on research experience. "They help you get into a research lab right away," she says. For Matz, it meant that she could spend the summers after her freshman and sophomore years conducting research instead of going back home to get a job.

Her first experience in a research lab was with Dr. Hector Aguilar-Carreño in the Paul G. Allen School for Global Animal Health who studies the Nipah virus. First discovered in 1999 in Malaysia and Singapore, the deadly virus was the subject of the 2011 film, *Contagion*, starring Gwyneth Paltrow. In Aguilar-Carreño's lab, she studied how proteins of the virus can spread the disease throughout the body. She also studied Lyme disease with Dr. Troy Bankhead, who has a joint appointment in the Allen School and the Veterinary Microbiology and Pathology department. She is currently conducting research on the Nipah virus with Dr. Alan Goodman in the School of Molecular Biosciences.

"I am able to directly apply what I learned in Dr. Aguilar-Carreño's lab in Dr. Goodman's lab," she says.

In Goodman's lab, rather than trying to understand how the virus spreads throughout the body, they want to know how the virus can evade the body's innate immune response. When a virus enters the body, the immune system typically responds to the foreign invader. But with the Nipah virus, certain proteins signal the body to decrease its immune response.

"Keesha is not afraid to take on new, large-scale, challenging experiments," says Goodman. "She carefully plans every step beforehand to make sure that the experiments are carried out properly and that she can perform them independently."

This summer as an undergraduate research fellow at Mayo Clinic, Matz will study a protein of the Ebola virus that also evades the antiviral response at the cellular level, similar to the work she had done at WSU.

For Matz, the support she has received at WSU to pursue research opportunities and apply for scholarships has made a difference in her academic success. She is 1 of only 240 students nationwide to receive the Barry M. Goldwater Scholarships for 2017–18. She also received two scholarships through the School of Molecular Biosciences—the Alice Lloyd Diers and William E. Diers Microbiology Student Endowment Scholarship in 2016 and the Walter L. & Pauline W. Harris Microbiology Endowment Scholarship in 2017.



Keesha Matz with Dr. Alan Goodman.

"It was a huge honor to be awarded a national scholarship," says Matz, who has maintained nearly a 4.0 GPA while working in the research labs. "Being selected for these scholarships has allowed me to focus more on academics and research and take advantage of other opportunities. It feels like a big pat on the back."

Matz will graduate in the spring of 2018 with a bachelor of science degree in microbiology. From there she plans to go to graduate school. Berkeley, Mayo Clinic, and Cornell are places she is considering applying to, but the dream is Stanford. "You have to try," she says.

Thinking about the future, Matz would eventually like to work in government lab or private industry conducting medical research that can be used to design treatments for infectious diseases, like Nipah. "I would like to be in an organization that works globally, such as the World Health Organization," she says. She also wants to support the university that has given her so much.

"In the future, I definitely want to give back, because I know how much it means to students," she says. "I wouldn't be where I am today without the mentoring I've had at WSU."

Congratulations Graduates!



At spring commencement on May 6, 2017, we had the pleasure of congratulating

43 graduates from our **three** majors

microbiology (**19**),
biochemistry (**13**), and
genetics and cell biology (**11**)



MESSAGE FROM THE DIRECTOR

I am writing this letter the week following our May graduation ceremonies. The sun is shining and all is well with the world! Congratulations once again to all our graduating seniors and doctoral students. During the ceremony, one of our faculty, Jon Oatley, hooded SMB graduate student Aileen Helsel who earned her doctorate after researching sperm stem cell biology in Jon's lab.

It has been a busy few months for Aileen. In the last two months, Aileen not only defended her thesis and published a research paper, but also gave birth to a baby girl. That's what I call productivity! Aileen's growing family reminds me that this summer our SMB family is also expanding. In July, we will be welcoming a new faculty member, Ryan Driskell. Ryan spent the last 10 years in Cambridge

and London, researching various aspects of skin stem cell biology in one of the premier labs in the world. We are excited that he selected WSU to establish his research team and look forward to working with him in Pullman.

— Jonathan Jones,
director of the School of Molecular
Biosciences

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