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Serving the Worldwide Community

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Serving the Worldwide Community

BRAIN-BASED RESEARCH CONNECTED TO MALNUTRITION

BY MELODIE ROSCHMAN

Klynda Bauer has been accepted by the University of British Columbia (UBC) to study for a doctorate in microbiology. A 2014 Andrews graduate with a double major in biology and music, Kylynda claims that the ultimate goal of her doctoral project will be to develop microbial therapies that halt or reverse cognitive impairments in malnourished communities.

As a J.N. Andrews Honors student, Kylynda was able to do her undergraduate thesis theory on the role of diet on the gut microbiota. This new project that Kylynda is preparing to commence takes elements from her past research and explores them on a deeper level. Kylynda is beginning a project that examines the complex relationship between the gut microbiota (the trillions of microbes that reside within the digestive tract) and the brain. These microbes produce neurotransmitters and cytokines (cell-signaling proteins) that modulate

brain development and behavior. Starvation alters the gut microbiota, contributing to the neurological consequences of malnutrition. This research has potential to lead to interventions for malnourished children by fostering healthy gut microbiota in addition to providing nutrition.

“Brain-based research will be a new experience and a challenge for me,” she admits.

In the time since her graduation, Kylynda has remained busy in her field. First, she took time after graduation to apply to and visit potential graduate schools and prepare mentally for her next step. In March 2015, she accepted a post-baccalaureate research position at the U.S. Army



Kylynda Bayer's undergraduate work at Andrews University allowed her the opportunity to do research in the FAS Center for Systems Biology at Harvard University, where she worked in Peter Turnbaugh's Lab doing brain research.

Medical Research Institute of Infectious Diseases, where she is working in an immunology lab examining how the Ebola virus enters cells during infection.

Kylynda gained acceptances to four doctoral programs: UBC, University of California San Francisco, University of Chicago and Duke University. Although other schools offered more money, such as the James B. Duke Fellowship from Duke University, Kylynda choose the school that best fit her research and career interests.

After she finishes graduate school,

Kylynda plans to continue doing research, but also has interests in writing and teaching. “The strong educational foundation I received from Andrews University will help facilitate the transition from undergraduate to doctoral studies,” she says. “And graduate studies will help me choose my career path.”

Kylynda is motivated by her fascination with microbiology, immunology, neurobiology, nutrition and anthropology. But, more importantly, Kylynda is motivated by wanting her work to honor God and serve the worldwide community.

Melodie Roschman is a graduate student writer for the Division of Integrated Marketing & Communication at Andrews University.