

# Aspiring Scientists Gain Hands-On Laboratory Experience

Fellowships provide opportunity to explore research and career goals.

This past summer two aspiring research scientists had the opportunity to perform research in Dr. Koenraad Van Doorslaer's laboratory which culminated in presenting their findings during a poster session. These promising scientists were sponsored by two different fellowship programs offered through the University of Arizona. Dr. Van Doorslaer is an Assistant Professor in the School of Animal and Comparative Biomedical Sciences. His research focuses on human papillomaviruses (HPV) and uses a combination of biochemical assays and computational analyses to understand why evolutionarily related viruses differ in their ability to cause cancer in humans.

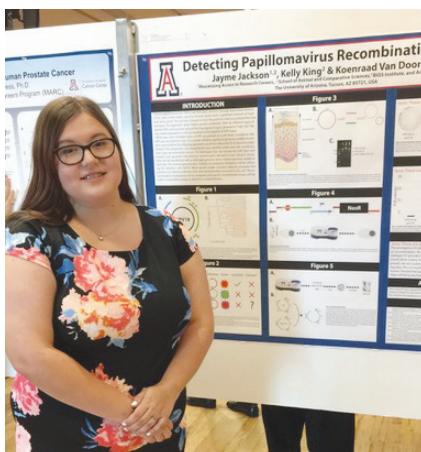
## Jayme Jackson - MARC Fellowship

Jayme Jackson is entering her fourth year at the University of Arizona. She is majoring in Microbiology and is fascinated by how much of human health and lifestyles are dictated by such tiny organisms. She will complete five years at the UA to meet the requirements of the MARC program and then intends to go directly to graduate school to work towards her doctorate in either microbiology or immunobiology. Jayme's goal is to attend either UCLA or UC Berkeley and study the human microbiome and its impact on human health.

In Dr. Van Doorslaer's lab, Jayme is looking at Human Papillomavirus (HPV) recombination and investigating the ability for HPV18 to readily recombine with other versions of its own genome and potentially other HPV types. About her experience Jayme says, "It has introduced a plethora of techniques that I'd previously never even heard of. Even as my specific interests diverge, the training

I've received from Dr. Van Doorslaer will prove valuable throughout my scientific career."

The MARC Fellowship, which stands for Maximizing Access to Research Careers, provides unique research, mentoring, financial and academic opportunity for undergraduates belonging to a group considered underrepresented in biomedical research and who have the interest and potential to pursue a PhD or combined PhD (e.g. MD/PhD) degree. The expectation



Jayme Jackson presenting her research "Detecting Papillomavirus Recombination in vivo" Jackson, J., King, K., Van Doorslaer, K. Photo provided by K. Van Doorslaer

is that students who participate in the MARC program will be well-prepared to take the next step in pursuing their graduate education and a future research career in the biomedical sciences.

Jayme is honored to have been selected to receive a MARC Fellowship and feels that without it she would not have had the opportunity to gain laboratory experience.

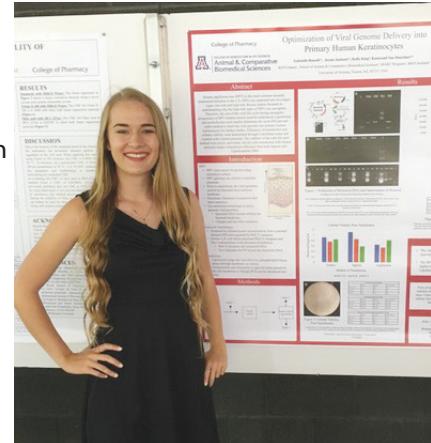
For more information on the MARC Fellowship  
<http://cbc.arizona.edu/education/undergrad/research/marc>

## Gabrielle Russell - KEYS Fellowship

Gabrielle Russell is a senior at Empire High School in the Vail School District just east of Tucson. Gabrielle was selected to participate in the KEYS Fellowship Program. The KEYS program is a 7-week long internship sponsored by the UA BIO5 Institute and the College of Pharmacy, which gives high school students the opportunity to work in a university lab and conduct research that has real world application.

In Dr. Van Doorslaer's lab, Gabrielle worked on optimizing protocol for viral genome delivery. She focused on the production of minicircle DNA, and determined the most efficient and viable method of cellular transfection. Her work will become a foundational component of Dr. Van Doorslaer's lab as he pursues his studies of the viral life cycle in the oncongenic progression of HPV related cancers.

After graduating from High School, Gabrielle plans to attend the University of Arizona and major in microbiology. She has known from an early age that she was interested in research and feels very fortunate to have discovered the KEYS program and been able to begin her hands-on laboratory experience early in her career. She was matched with Dr. Van Doorslaer through her research interests and an interview process.



Gabrielle Russell presenting her research "Optimization of Viral Genome Delivery into Primary Human Keratinocytes" Russell, G., Jackson, J., King, K. and Van Doorslaer, K. Photo provided by K. Van Doorslaer

About working with Dr. Van Doorslaer, Gabrielle says "I cannot imagine my KEYS experience without Dr. Van Doorslaer in it. His kindness, patience, and willingness to help me in whatever ways I needed to ensure my success in the program made my KEYS experience as memorable as it was. It was a privilege and pleasure to work in his lab."

For more information on the KEYS Fellowship Program:  
<https://keys.arizona.edu/content/about>

*Being a part of the KEYS Program was an absolute blessing. It has furthered my aspirations to be a young scientist, and because of the program, I am so excited for what my future holds.*

*— Gabrielle Russell  
Senior, Empire High School*