



**Q&A with Jessica A. Clark, Ph.D.,
2007 K-12 Minority Outreach Fellow**

Who are you?

Jessica Clark

Where were you born?

Albuquerque, New Mexico

What childhood experiences led to your interest in science?

For as long as I can remember, I have always been interested in science. My high school marine biology teacher was the one who really encouraged me to think about doing science as a career. When I would get excited about something, he would take the time to give me extra information and keep me curious.

Why did you decide to study science?

It was the one thing I felt truly passionate about- I was comfortable studying science, and I enjoyed learning anything and everything about it. I like to ask the question "why?" and science is a great field where we get to explore why every day!

Where did you attend school/university?

University of Arizona, Tucson, AZ

How did you decide on the school?

I moved to Tucson when I was 5 and was very close to my family. I wanted to stay close for college, and the U of A had a great Veterinary Science program that I was interested in.

How did you become interested in physiology specifically?

As a pre-vet major, I took my first anatomy & physiology course my junior year. I became interested in physiology while taking an animal reproduction course where we did hands-on lab work. I was fascinated with how the body worked and knew that regardless of my career choice, I wanted to study physiology. I had always been interested in medicine, and taking the physiology course helped me realize that the reason why I liked medicine so much was because I loved learning about how our bodies work.

What is your current position?

Postdoctoral Research Associate

Department of Surgery, Washington University School of Medicine

How did you decide on your current career path?

I became involved with biomedical research the summer between my freshman and sophomore year in college through the undergraduate biology research program. I started working in a lab over the summer and continued there throughout my college career. I worked as a research technician for a year after I graduated, and then chose to stay in that lab while getting my doctorate in physiology. Although I started out wanting to be a vet, I realized that I really enjoyed research. As a graduate student, I also came to realize how much I enjoy academia- I get to do research and teach! Working with students is a great benefit for me because I love getting others excited about science.

How did you get there?

Same as above. Specifically, got a B.S. in Veterinary Science, and a PhD in Physiological Sciences, both from the University of Arizona. Now I am doing a postdoc at Washington Univ. School of Medicine.

What do you do within that position?

I am doing research in the lab, writing grants and publications, and working with high school, college, and medical students in the lab.

Describe your work

Currently, I am studying the role of the intestine in the pathophysiology of sepsis. Sepsis is the leading cause of death in critically ill patients, and it is thought the intestine acts as a "motor" of the systemic inflammatory response. I am studying how treating septic mice with a protein called epidermal growth factor prevents cells from dying in the intestine and also keeps the animals alive. This may be an exciting therapeutic agent for treating septic patients.

What are your outside interests?

I love baseball (go Cardinals!!!)

What do you do for fun?

I like to scrapbook, go for walks in the forest, take my dog to go swimming in the lake, spend time with my husband.

Volunteer work?

I volunteer for the Young Scientist Program at Washington University School of Medicine. Through this program, I get to do a lot of community outreach with high school students and high school science teachers. This summer, I am working with a high

school junior for 8 weeks in the lab. Also like to volunteer to be a science fair judge- I love seeing what kids come up with!

What advice would you give?

- **a pre-college student considering a career in physiology?**
 - *I would advise them to strive to get a sound background in the basic sciences early on because it help you so much when you get to upper division physiology courses. I would also say that physiology is a great avenue to pursue as you enter college because it encompasses so many disciplines in the sciences. It really allows you to explore medicine, biochemistry, immunology, molecular biology, etc.*
- **an undergraduate student considering a career in physiology?**
 - *I would advise an undergrad to really spend time thinking about what area they like in physiology. There are so many career choices available in the field- interdisciplinary research, industry, academia, etc. It pays to find out what you truly are passionate about by taking a variety of physiology courses.*
- **a graduate student in physiology?**
 - *I would advise a grad student to focus on a specific field within physiology but at the same time continue to appreciate all other areas. It is so important to remain curious about the entire body and make connections with others in the field. You never know when an opportunity to collaborate might pop up! I can't stress enough the importance of networking!!!*
- **a postdoctoral fellow?**
 - *As a new postdoc myself, I would say it is very important to stretch beyond your comfort zone and learn about something completely different. Find a good advisor- one who will be a mentor to you and be supportive in your career goals. It is also very important to communicate with you mentor to make sure you stay on track.*
- **a new investigator?**
 - *Not there yet!*

Please list any recent publications you have had published in APS journals.

Clark JA, Lane RH, MacLennan NK, Holubec H, Dvorakova K, Halpern MD, Williams CS, Payne CM, and Dvorak B. Epidermal growth factor reduces intestinal apoptosis in an experimental model of necrotizing enterocolitis. *Am. J. Physiol. Gastrointest. Liver Physiol.*, 288(4): G755-762, 2005.

Halpern MD, **Clark JA**, Saunders TA, Doelle SM, Molla Hussein D, Stagner AM, Dvorak B. Reduction of experimental necrotizing enterocolitis with anti-TNF-alpha. *Am J Physiol Gastrointest Liver Physiol.*, 290(4):G757-64, 2006.

Clark JA, Halpern MD, Doelle SM, Saunders TA, Holubec H, Dvorak K, Boitano SA, and Dvorak B. Intestinal barrier failure in experimental necrotizing enterocolitis: Protective effect of epidermal growth factor treatment. *Am. J. Physiol. Gastrointest. Liver Physiol.*, 291:G938-G949, 2006.