

## August 2017 Member Highlight Interview for ASN Nutrition Notes eNewsletter

### *Interview with Elizabeth J. Parks, Professor at the University of Missouri and Past Chair of the ASN Publications Committee*

Since 2013, Dr. Parks has been a Professor in the Department of Nutrition & Exercise Physiology and Associate Director of the Clinical Research Center in the Institute for Clinical Translational Science at the University of Missouri (fondly known as Mizzou). Previously, she was Associate Professor in Clinical Nutrition at the University of Texas Southwestern Medical Center. Recently, she received the University of Missouri School of Medicine's 2015 Award for Excellence in Junior Faculty Research Mentoring and the 2016 Robert I. Levy Award from the Kinetics and Metabolism Society.



#### **1. How did you first get involved in nutrition epidemiology and research? What made you interested in the field of nutrition science?**

The genetics of heart disease strongly affects the health of my family, and influenced my academic path. Early in my career, I worked as a technician in a lab with cardiovascular researchers who stressed the importance of nutritional strategies in treating chronic diseases. I was impressed with how a prudent diet could improve health.

#### **2. When and why did you first join ASN? What convinced you to join the organization?**

ASN was the scientific organization that my mentor, Barbara Schneeman, was active in. Like many other graduate students, my first scientific presentation was at EB and over the past 27 years, membership has benefited my career in many ways. I learned early on that being involved in professional associations was the key to success, and that's true for any career. These organizations provide essential networking opportunities – even simply talking to someone at a conference poster presentation can change the course of your academic or career trajectory.

#### **3. What aspects of ASN membership have you found most useful, professionally? What other aspects of your membership do you find useful as your career has progressed?**

Attending the scientific meeting has been the most rewarding. Aside from the excellent science presented there, this is the venue I attend to mentor and to be mentored. It is very rewarding to follow colleagues as their careers advance and to witness how a scientific life can have such a positive impact on others. At conferences, we have the chance to speak with people who are in a similar life stage as you, and we're surrounded by others who understand the difficult life of a scientist. If you're struggling to solve a problem, you have an audience of experienced researchers who can offer many possible solutions.

#### **4. What aspects of your research do you foresee being most important for ASN members?**

I study how the body's metabolism changes when we are fasting and then eat a meal. Food consumption is the physiologic challenge that our bodies are exquisitely designed to manage. In health, right at the beginning of a meal, a complete 180 degree shift in metabolic flux occurs. The body switches from burning stored nutrients (body fat and glycogen), to absorbing, burning and

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storing the nutrients in the meal. Importantly, in chronic disease, this switch is not well regulated and it is this inefficiency that causes disease pathologies.

### **5. Can you tell us more about your current position and the research activities in which you are involved?**

At Mizzou, I am fortunate to be surrounded by some of the best human physiologists in the U.S. working in state-of-the-art facilities. We have many collaborative projects that investigate the effects of over-eating and sedentary behavior on metabolism. One NIH-funded study focuses on the benefits of diet and exercise to treat nonalcoholic fatty liver disease. We hypothesize that weight loss and improved fitness, both shown to reduce liver disease, do so through a mechanism of enhanced mitochondrial activity. This project would not be possible without the collaboration of faculty in the Department of Nutrition and Exercise Physiology.

### **6. What do you feel are the biggest challenges facing nutrition researchers today? Are there any areas where you would like to see more research?**

One of the biggest challenges facing us is that the power of the scientific approach is currently under-appreciated in our culture. Some people want to believe that a particular nutritional strategy will solve all ills. Since nutrition messages in the press have appeared to be contradictory (this week, "Coffee is good for you," next week, "coffee is bad for you."), this has led many in the public to just tune us out. Our discipline has the same attributes of other sciences - information is ever evolving. Thus, dietary advice may also change over the years. We need to do a better job of communicating how nutrition science leads to discoveries that can benefit individuals and improve the health of citizens.

Nutrition science is also by nature interdisciplinary, and we must cross disciplines in order to be effective. We must work in teams: animal researchers can collaborate with human researchers to make sure their results will apply to the human condition, and epidemiologists can get more mechanistic with data collection. It doesn't make sense these days for any one person to attempt a novel discovery, and we will be more effective once communication across disciplines improves.

### **7. Is there anything else you'd like to tell ASN members, especially students and postdocs?**

I have four concepts for mentees to mull over. First, bring energy to your training environment. You need energy, self-motivation and organization to flourish in an academic setting. Trainees must reach out and grab a hold of the experiences that are presented to them. If a mentor is writing a grant or review paper, ask to participate in the process. If another trainee needs assistance in acquiring data, volunteer to help them. Keep your eyes open for opportunities to assist others. Give your time to a professional organization and mentor those around you. The time spent in a doctoral program or postdoctoral fellowship will go by quickly and these environments provide once-in-a-lifetime opportunities to learn.

Second, give your mentors a break. Mentees frequently do not know all the pressures and responsibilities their mentors are up against. In a research lab setting, because your mentor has built that environment, you get to learn in it. Spend some time to learn what your mentor has gone through to get where they are. The worst situation to be in is when we don't know what we don't

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know – it is much better to be wrong and know why. So find out what your mentor's job is really like: what are their current challenges, and how can you help them be successful?

Third, set goals, but enjoy your work along the way. In academics, our paths are frequently like being on a treadmill, forever going up hill. The feeling can be, 'you have not succeeded until you've finished your doctoral degree.' Then, you've not succeeded until you've completed postdoctoral experiences. Next, you aren't a success until you get your first job. And then there's the goal of promotion and tenure. If you wait until you have achieved a promotion to be happy, you will have been unhappy a good portion of your career. It is important to find a way to enjoy the everyday work of science...even when it means repeating that experiment a third time!

Lastly, embrace the complexity of your science. Despite the huge gains that have been made in understanding the molecular control of gene expression, much less is known about the individual responses of human physiology to nutrients and dietary patterns. Understanding the factors that contribute to individual responses will be key to future developments in precision medicine. This field is complex but it represents one avenue of nutrition science that is wide open for discovery.

*Dr. Parks' research interests include cephalic phase of food intake and sensory effects on absorption of lipids, the effect of dietary macronutrients on the development of obesity-related disorders, non-alcoholic hepatic steatosis, liver inflammation, and postprandial metabolism, and modeling of non-steady state kinetics in metabolism.*