

## Symposium: ASAS Graduate Student Symposium: Academia, Industry, Government, or None of the Above: Graduation is Coming, What Next?

**398 Applying for an academic position.** T. Etherton\*, *Penn State University, University Park.*

Graduate students with an interest in pursuing an academic position in higher education are confronted with many challenges, as well as exciting opportunities. Getting positioned to be a strong candidate for a tenure-track faculty position begins with having the requisite abilities needed for success. These include “high intellect”, strong work ethic, great written and oral communication skills, being mentally tough, and understanding and putting the greater good of the team ahead of self-interests. In many beginning faculty positions, especially those that involve a basic science research component, a post-doctoral fellowship is a requirement. It is critically important that it be done in a strong program. This is not only a key period in a young career to learn new research techniques but also to grow one’s “brand name”. It is an expectation that several high-quality papers be published (in a timely manner) from the thesis and post-doctoral fellow experience.

With respect to the application process, there are a number of important considerations. A surprising number of letters of applications and resumes are not well written or organized. This is trouble. When you get the “big” interview prepare. It can be a pressure-packed situation. Not only is there is the seminar to prepare (and it has to be great) but you need to do a lot of homework. Learn about the faculty/staff and programs - be prepared for the “exit interview” with the Chair/Head. You might be asked about salary expectations, be ready. You will undoubtedly get questions for which you do not know the answer. Don’t guess. And, be precise. I have sat through more than a few exit interviews, and listened to a lot of talk but not much effective communication. If you get a job offer then you should get guidance about the salary and startup package- how the process works. Remember this is your point of greatest leverage. Be professional, seek a second visit to look at the program to better determine what your needs are for the startup package. When you sign the letter of offer you will have entered the “academy”. Enjoy the experience. It is a fabulous job filled with opportunity to do the greater good.

**Key Words:** Faculty Positions, Application, Interviews

**399 How a career in animal science can help save endangered wildlife species.** J. L. Brown\*, *National Zoological Park, Conservation and Research Center, Front Royal, VA.*

This presentation highlights how techniques I learned as an Animal Sciences graduate student are being used to study and preserve endangered species. Wildlife populations all over the world are disappearing at an alarming rate, mostly due to destructive human activities. Reversing this trend will require protecting animals and their habitat. For many, it also will involve managing captive populations as hedges against extinction in the wild. Decades of experience have shown that successful animal management relies on a thorough knowledge of species biology through studies of nutrition, genetics, reproduction, behavior, immunology and health. While we are careful to maintain that “a cheetah is not a cow”, there are many aspects of domestic animal science that can be applied

to wildlife species. This especially is true for the reproductive sciences where much of our basic physiology knowledge and ability to develop assisted reproductive techniques (e.g., AI and IVF) stem from studies using domestic animals as research models. My area of expertise, endocrinology, has benefited tremendously by techniques developed for livestock. One major challenge is that, with rare exception, most wild animals are intractable. Thus, our laboratory has developed non-invasive approaches to monitoring hormones excreted in urine, feces and saliva. Many of the assays I used to study dairy cattle have proven applicable to a variety of endangered species. As assisted reproductive techniques become increasingly important for managing zoo species, endocrine tools are key to developing appropriate hormonal therapies. The ability to assess endocrine status of animals managed by different husbandry strategies also has profound implications for enhancing our limited understanding of how social and environmental cues modulate reproductive fitness and success. Thus, an Animal Sciences background can well prepare an individual for a career in wildlife research. Given that almost nothing is known about >90% of extant species, there is more than enough work to go around.

**Key Words:** Wildlife Species, Endocrinology, Conservation

**400 Careers in government.** R. D. Green\*, *Pfizer Animal Genetics, Sutton, NE.*

The landscape for animal science careers has evolved substantially over the past decade and is likely to continue changing for the foreseeable future. With increasing regulatory demands related to animal agriculture, and a decrease in the number and general scope of animal science programs in academia, a higher proportion of those with graduate training in the animal sciences are finding their professional home in one of the several government agencies tied to animal agriculture. The principal federal agencies employing animal scientists are USDA’s Agricultural Research Service (ARS); Animal and Plant Health Inspection Service (APHIS); Food Safety Inspection Service (FSIS); and Agricultural Marketing Service (AMS); as well as the Food and Drug Administration (FDA) and to some degree the National Institutes of Health (NIH). Increasingly, these agencies are finding it more difficult to identify suitable candidates for positions who are well trained in the most up-to-date science (e.g. molecular biology, genomics, proteomics, synthetic biology, etc.) while also being conversant in and sufficiently knowledgeable of production animal agriculture and husbandry. As a result of this trend coupled with the need to better educate potential employees regarding the culture and nature of government service, more agency post-doctoral fellowship opportunities are being offered as a means of transitioning from graduate school to career civil service. Government careers bring the opportunity to be at the “front lines” of solving problems for animal agriculture and the public good with perhaps the most telling job satisfaction statistic being the very high percentage of civil service animal scientists spending their full careers in the government ranks.

**Key Words:** Animal Science, Careers, Government Agencies

**401 Graduate student career opportunities in the animal science industry.** J. F. Stika\*, *Certified Angus Beef LLC, Wooster, OH.*

Globalization, consolidation, technological advancement, and a more vocal consumer have each contributed to dramatic changes within animal agriculture during the past decade. Concurrent with these changes has been an increase in the breadth of employment opportunities available to graduate students. Agriculture in the 21st Century is becoming more precision based, technology driven, and more focused on providing solutions to customer issues. Demand for technical service, research, and development positions has increased. Both masters and doctoral graduates are being sought for these positions as companies emphasize hiring more science-oriented, technical savvy specialists to replace or compliment bachelor level sales-oriented positions. As the complexity of our industry has increased, so has the expectation companies place on new graduates entering the workforce. While discipline specific technical expertise is the basis for many new positions in animal agriculture, the business environment requires that graduate students move beyond a specific discipline and into the realm of systems thinking and multi-disciplinary problem solving. Two types of graduate training programs are still needed. One focusing the student toward a career in basic research while another focuses on applied science. However, becoming an exceptional candidate for employment takes extra effort. Those most valued in the industry must be able to successfully merge biological, financial, public policy, and marketing awareness with an appreciation for the value of time and efficiency. Necessary skills beyond technical expertise include time management, effective communication, relationship building, goal setting and prioritizing, organization, and independent thinking. The opportunities for graduates of animal, dairy, and poultry science programs will continue to diversify as the issues facing animal agriculture become more challenging and the solutions more technical with broader implications across the entire industry.

**Key Words:** Graduate Education, Careers, Animal Science

**402 Opportunities for graduate students in American Society of Animal Science.** A. E. Radunz\*, *The Ohio State University, Columbus.*

The American Society of Animal Science (ASAS) has a strong commitment to graduate students and providing opportunities for involvement in the organization. Several opportunities are available including serving on the board of directors and society committees and participating in graduate student activities. The ASAS membership annually elects one graduate student to the board of directors for a two-year term. Graduate student directors represent graduate students in the organization, develop networking contacts, and learn how ASAS operates. In 2007, the first graduate student symposium was incorporated in the national meeting program and a committee comprised of graduate students and professionals was appointed to organize this symposium. The organization encourages graduate students to serve on committees within the organization and students can be nominated for a committee by an ASAS member. Furthermore, graduate students presenting research at the meeting can apply for travel scholarships. Networking opportunities are offered to graduate students at the meetings including the graduate student mixer and job placement center, which is organized by graduate students. Involvement in the society can reap many rewards such as networking contacts, career opportunities, and knowledge of the society. More information on these opportunities can be found on the graduate student website at <http://www.asas.org/gradinfo/index.asp>.

**Key Words:** Graduate Students, ASAS