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Andrew Conroy: Professor at the Thompson School of Applied Science, UNH - Durham

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Drew Conroy is a professor at the Thompson School of Applied Science at the University of New Hampshire, where he has been since January 1990. Below is a correspondence with Dr. Conroy about his own research and his mentoring experiences with undergraduate students.

**Inquiry**: What is your current research? Did your undergraduate studies point you toward it? What interests you most about it?

Sometimes people have a hard time relating to the fact that I teach agriculture courses related to cows on the UNH campus, yet also do research in Africa. In Africa, cattle are currency. African farmers take protecting their cattle, their grazing lands, and their crops very seriously. This protection of their investment in cattle and crops often comes at the expense of wildlife, wild lands, and conflict with both. My Ph.D. was done in Tanzania with the Maasai people who lived just outside wildlife parks. The greatest challenges Maasai farmers face from wildlife is elephant damage to their crops and wildlife corridors for elephants set up at the expense of their grazing lands. Tanzania refuses to put up fences to restrict the movement of elephants. As a result, Tanzania in the last five years has lost 45,000 elephants in part due to people being in direct conflict with the animals (from Maraya Cornell, *National Geographic*, July 13, 2015.)

My job at UNH is primarily teaching, and as a Thompson School professor I do not have any graduate students. However, since my Ph.D. work, during summers and sabbaticals I have conducted small research projects in Africa, mostly related to agricultural practices and livestock with pastoral people in Tanzania, Namibia, and Rwanda. The work related to wildlife conflict generates the most interest in UNH students, primarily pre-vet majors. The students I have worked with have influenced my research, as they come with lots of interest and energy related to understanding the reasons certain wildlife species are in decline in Africa.
Human population pressure is a big issue in Africa, so as the number of people grows, they are at odds with all wildlife. What most interests me is how we might protect wildlife and at the same time grow the crops and animals necessary to feed the fastest growing populations of people on earth.

**Inquiry:** What is the purpose of a mentoring relationship? What should the student and you gain from it?

As a professor at UNH I spend a lot of time mentoring students, whether this is offering advice for a student who wants to start a farm, improve the farm practices on their family operation, or simply choose the best courses given their interests. Students come to me with all sorts of ideas and plans for the future. After twenty-seven years at UNH, it has been very gratifying to help students achieve their goals and see them years later doing what they had hoped to do when they were nineteen or twenty years old. The students interested in working on a research project in Africa often seek me out after having heard a lecture I gave where I integrated some examples from my research in Africa.

Mentoring students is largely about helping students understand what research is and what kind of research I do. I emphasize that I do not have a lab they can work in, nor do I have graduate students they can work with. The opportunities I can offer students involve traveling overseas and working with wildlife or people exploring ways that farmers and pastoralists in Africa can manage conflict with wildlife. Whenever I travel to a new country, I try to seek out and visit places that do wildlife conservation, specifically those that offer undergraduate students opportunities to get involved with their work. These visits have helped me find places that are suitable for students to conduct their own small projects. The student benefits from working under the supervision of someone who can assist them and provide the infrastructure needed for that student to be successful in conducting research in a short time period, such as a summer or semester abroad.

**Inquiry:** Please describe one or two memorable mentoring experiences or mentees.

I have had some incredible UNH students work with me on projects in Africa and other countries. They usually have to convince me that they are truly interested in working independently, as many of them will not have the benefit of me working by their side in the field.

The first two who come to mind are Alicia Walsh and Galina Kinsella, two students I advised and mentored and who received an IROP and SURF Abroad, respectively. Both were featured in 2014 on the main pages of the UNH website for their work.

Alicia worked with me for months in the fall of 2013, putting together a research project to work at the Cheetah Conservation Fund (CCF) in Otjiwarongo, Namibia. She wanted to focus on using the skills she had gained at UNH in numerous laboratory classes at CCF. Alicia was given the opportunity to conduct a study on predator diets, based on scat analysis. I saw a determined side of Alicia in developing her project that was nothing short of amazing. It became the highlight of my week to help Alicia work on her research project. Our meetings, planning discussions, and editing sessions were a fun and inspiring collaboration. Alicia did a stellar job performing original research and writing a senior thesis and *Inquiry* article. She presented that work in numerous venues, including the IROP
Symposium and during several classes at UNH. Alicia also was featured on a UNH video for promoting IROP and international study at UNH. (See http://www.unh.edu/unhtoday/2014/10/wildcat-studies-big-cats.) She is now attending veterinary school at the University of Minnesota.

That same year, Galina Kinsella also wanted to conduct a research project in Namibia, at the Harnas wildlife rehabilitation center. She initiated her communications with Harnas and developed a research plan. As we were developing her final proposal, her parents said there was no way she was going to Africa. She was simply devastated. However, a few days later she came to me with the idea of a Koala project. I had no connections in Australia, but Galina came to my office day after day with additional news and ideas, and communications with Dr. Melzer, who would be her foreign mentor. I must admit this proposal took more work on her part than other students I have worked with. I asked many questions and forced her to dig deep into the literature on Koalas and the type of research methods being used by the group she proposed to work with. At every juncture she surprised me and inspired me to get behind her and completely support her project.

Galina Kinsella also wrote an honorsthesis, an Inquiry article, and presented her work in numerous venues, including the COLSA URC and the IROP-SURF Abroad Symposium. Her photos won awards and will likely continue to be featured in promoting the IROP and SURF Abroad programs. Galina is now in veterinary school at Auburn University. She was recently commissioned as a second lieutenant in the US Army and accepted an Army scholarship to serve in the Veterinary Corps. (See: https://colsa.unh.edu/meet-alum/galina-kinsella and https://colsa.unh.edu/nhaes/article/2016/04/kinsella.)

Inquiry: Please describe any difficulties or problems you have had in mentoring undergraduates.

When students approach me with the idea of working on an undergraduate research project, there are a number of things I make very clear. First, I tell them that Africa is not an easy place to work. For example, personal security is an issue in many countries. There are disease risks, like malaria, and different cultures can be quite surprising, if not shocking, for students who have not traveled abroad.

One UNH student came to me over ten years ago with a desire to work with the Maasai people to explore strategies for dealing with elephant conflict. I told the student that working with the Maasai was not easy, as they live in cow dung huts, drink sour milk, and like to eat a lot of meat. This particular student was a lactose-intolerant vegetarian. I knew it would be a real cultural shock for her if she attempted field research with the Maasai people. I tried to talk her out of the project simply based on the challenge I knew she would face regarding food in the field. However, she was persistent.

Despite my reservations and suggestion to ease into her experience in Africa by taking a safari with a professional guide, she went straight into the field with my former Maasai research assistant. The culture shock of how Maasai people live, the language barrier, and the food challenges were almost too much to bear. With much communication and reassurance, she ended up completing her project, but it was a challenge for all parties involved. The lesson I learned was not to send a student who had never traveled abroad on a field project without some of the comforts of home and the supervision
of a mentor who understands American undergraduate students on their first trip to Africa. Since this experience, I recommend students conduct research only with organizations in Africa that have a successful history working with American or European undergraduate students.

**Inquiry:** What advice or tips would you give a faculty member new to undergraduate mentoring?

First, when students receive good advice and mentoring, they exhibit incredible energy that can really help motivate a faculty member to explore research in new areas. If someone had told me fifteen years ago that I would be helping undergraduates conduct research on koalas, cheetahs, lions, or black rhinos, I would not have believed them.

Second, it takes a lot of time to mentor students who have never conducted research, especially when you do not have a lab or graduate students to assist in this endeavor. The research proposal alone can take a lot of effort and time both for the student and the faculty mentor. While UNH has numerous programs supporting undergraduate research, the application and all supporting documents add to the time and mentoring needed to make them successful.

Finally, I would offer that students sometimes have unrealistic expectations about what research is. Most have never done research and do not know all that it takes to complete an undergraduate project successfully. It is important to make clear what is involved and that there are easier ways to do research than conducting a project in an unfamiliar place like Africa.

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