ALUMNI PROFILE: JUSTIN KENNEMUR (RU CHEMISTRY ' 02)

Describe your current position.

Currently I am a 4th year graduate student under Dr. Bruce M. Novak at North Carolina State University. My research focuses on polymer chemistry, more specifically we synthesize a unique helical polymer known as a polycarbodiimide. To my knowledge we are the only research group in the world that makes and studies the properties of these polymers. My particular carbodiimides exhibit optical properties which change under the influence of solvent and temperature. These changes result in a large scale "switching" of the specific optical rotation measurements. With further understanding of these systems, they could represent a breakthrough for the optical display industry.

Briefly describe the path that led you to your current position after graduating from RU. In what areas of chemistry did you specialize?

After graduating from Radford in '02, I worked in industry for a few years as an entry level chemist at Polymer Solutions Incorporated (PSI) which was then located in the research park of VA Tech. After three years there I was promoted twice, achieving the job title of Senior Chromatography Analyst. Although my time there was enjoyable and I loved the people I worked with, I came to the decision that I had to strive for more. I began to apply to graduate schools in the Spring of '05 and accepted my invitation to NCSU starting the next fall. I have been here ever since.

In what ways did your RU chemistry degree help you achieve your goals?

First of all, I could not have asked for a better undergraduate level chemistry education. Being at NCSU, which is a very large university of over 30,000 students, it can sometimes be difficult for individual students to receive personal attention from their instructors. At Radford, the chemistry program was a family where students could go to any faculty member to get the help they needed. This personal level of education was instrumental in my growth as a chemist since, let's face it, this major can often be very difficult.

"At Radford, the chemistry program was a family where students could go to any faculty member to get the help they needed"

Do you use chemistry on a daily basis? Describe what you do on a day-to day basis.

Absolutely, at this point as a graduate student I am surrounded by chemistry. My research involves synthetic organic chemistry to make a variety of asymmetric carbodiimide monomers. I also do organometallic chemistry since we polymerize these monomers with electron deficient d^0 titanium(IV) catalysts. Lastly my work involves the study of polymeric materials, which often require a myriad of new analysis techniques when compared to small molecules.

Describe the personal skills that have played an essential role in your present position.

I like to find positives in almost any situation. Chemistry is not easy at times, but nothing truly rewarding ever is. My approach has always been to do my best and just relax and enjoy it. A positive, confident, light-hearted attitude has been rewarding throughout.

What advice do you have for those who wish to pursue this career path?

Explore your options, there is a lot of great chemistry going on out there. If there is an area of chemistry that you aren't so sure about, then I encourage you to explore it a little further. Don't let one class or one test grade dissuade you from an area of research that you may later love.