

## Honors Senior Spotlight



### **Alexandria Ross, '21**

**Major:** Forensic Science

**Minor:** Chemistry

**Thesis Title:** *Laser Induced Breakdown Spectroscopy (LIBS) analysis of Manila Envelopes*

**Thesis Advisor:** Dr. Brooke Kamrath

### **What is your thesis about?**

I am using LIBS on different brands of manila envelopes in order to determine if it is possible to differentiate between the brands. LIBS works by ablating the surface of a sample and creating a plasma. As this plasma cools, the electrons fall from an excited state, to their ground state. This process emits light which is then

collected and processed in order to produce a spectra that contains information about the elements present and their concentrations. This could potentially provide evidentiary value when used on manila envelopes because different manufacturers use varying ratios and substances during production of the envelopes.

### **What motivated and/or inspired you to select this as your research topic?**

During my time at UNH I became interested in chemistry and decided to do my research in forensic chemistry. The LIBS is very versatile and has many potential applications. Manila envelopes are also encountered in forensic casework for things such as ransom letters, threat letters or when harmful substances are sent to victims through the mail. For these reasons, this research could be beneficial to the field and gained my interest.

### **Do you have any advice for future Honors students thinking about writing an Honors Thesis?**

My advice would be to get the process started as soon as you possibly can so you can stay on top of deadlines but to make sure to still enjoy the process and to do things outside of your comfort zone.

### **After graduating, what are your plans?**

I will be attending the University at Buffalo for a Masters in Genetics, Genomics, and Bioinformatics.