

# BioMass



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## Introducing Jo Tran!

Abby Jones '17

I first met Jo Tran last spring—I had come to her office with a simple question about obtaining a key to the second floor biology stockroom, where I work. She was spunky and approachable, and after chatting with her for a bit, I felt very excited to have her as my supervisor. She quickly resolved my issue with clear directions and provided answers to all of my questions. To me, this interaction perfectly embodies Jo and the organization, simplicity, and fun she brings to St. Olaf's stockrooms.

Jo maintains the various stockrooms found in the Regents Hall of Science, in addition to a larger backup supply storage room. Her responsibilities include carefully handling and monitoring each stockroom's and laboratory's chemicals and waste, keeping supplies stocked and easily accessible, maintaining protective and emergency equipment found in the stockrooms and laboratories, and managing the student workers. This is no easy task, but Jo's organization and perseverance are the driving forces that successfully get the job done.

Jo has made dramatic positive improvements since she started managing the stockrooms. She has implemented many systems that insure safety and

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simplicity in the handling of chemicals and supplies. In addition to keeping the stockrooms neat and organized, Jo is always looking for ways to make the stockrooms as straight-forward as possible, by making user-friendly inventory lists and organizing helpful instruction manuals and training sessions for student workers.

Jo's success at St. Olaf can be attributed to her extensive experience working in labs. During her undergraduate years at the University of Minnesota, she worked closely with a professor in a lab research setting. After graduating in 2011, Tran worked as a Laboratory Assistant at Inver Hills Community College. These experiences greatly prepared Jo for her work here at St. Olaf, as she learned valuable skills and gained knowledge about proper lab equipment use and practice.

You can usually find Jo either in her office (located in Regents 323) or working hard in the various stockrooms around Regents. Jo is a wonderful asset to the St. Olaf science departments and her hard work is appreciated!



Images: (L) RNS 253 Stockroom, (R) Jo Tran

## Life as an Ole Athlete

Rachel Lee '15

If you're ever down in the natural lands on autumnal afternoons, you might catch glimpses of the cross country runners beating out workouts across the prairie, through the woods, and over the soccer fields. But you might also see those same people scribbling notes in front of you in class, chowing down on food in the Caf, and hauling around textbooks, because their days don't end when the intervals are over—they are balancing the two identities of student and athlete.

Sophomore Noelle Olson runs for the St. Olaf Cross Country and Track teams and embodies the life of a student athlete on the Hill. Noelle has been a runner since her sophomore year of high school, when her friends convinced her to join their school's team. Coming from runs around her hometown, Big Lake, MN, Noelle has developed into a phenomenal runner, complementing the dedication to the sport inherent in the St. Olaf team. In return, the team has provided a close-knit group of people that support each other in all of their pursuits.

Practices and meets bite large chunks out of Noelle's day, but she believes that having practice helps her create a schedule for the day and "be focused when [she has] to be."

"You have to plan ahead to work around meets, and if you can't get everything done one day, that's okay," says Olson.

For Noelle, it's more about spending time doing what you love to do—in her case, that means tackling the numerical challenges of chemistry and math and the physical challenges of intense training.

Running has also become a way for Olson to enjoy and come to know the places she inhabits. Noelle wakes up early to go for an easy jaunt out toward the Carleton arboretum or windmill, and it starts the day off right.

“It’s simple,” she says. And in the midst of everything whirring around in our lives, finding that simplicity is something special.

Whether it’s the accomplishment of finishing a hard workout, a chemistry lab, or baking that perfect loaf of banana bread, Noelle demonstrates the importance of pushing yourself to develop in multiple directions, all while sharing your life with those around you.



*Image: Noelle Olson '17 (second from right) at the 2013 NCAA Division III Cross Country Championships*

## Not Just a Swamp

Nora Flynn '15

If you’ve taken a walk down to the natural lands recently, you may have noticed the low water level in the Big Pond. Every couple of years the Big Pond is drained as part of a natural, restorative process for wetlands. During dry periods, emergent plant species have a chance to grow, and this extra plant growth supplies food for migrating waterfowl. When the wetlands recharge with water in the spring, the production of algae and invertebrates increases to supply food for other wetland species.

Like other wetlands, the pond catches and holds runoff from impervious surfaces like buildings and parking lots. There is simply too much runoff from campus for the pond to ever dry out on its own. This wetland and other holding ponds at St. Olaf are able to keep about 90 percent of rainwater on campus. Wetland maintenance is part of an important effort that St. Olaf has made to reduce our environmental impact. Without these wetlands, runoff from campus would rush off the hill and overwhelm the city system. The unnaturally high volume and rate of runoff erodes riverbanks, which causes irreversible damage to the shape and structure of rivers.



Today, the value of wetlands is well understood, but that has not always been the case. Since the beginning of development and agriculture in the U.S., 50 percent of wetlands have been destroyed. For many years, as a part of the Federal Swamp Lands Act, citizens were actively encouraged to drain wetlands and convert them to useful farmland. The Big Pond—which was previously under corn cultivation—was reconstructed as a wetland because of funding provided by the U.S. Fish and Wildlife Service. The pond is now a conservation easement; that means that the uses of the land are permanently limited to conservation purposes. Although St. Olaf no longer receives money for renting the land to farmers, the added ecological and aesthetic value of the wetlands are well worth it.

*Image: Kate Myhre '16 in front of the Big Pond (Photo by Professor Kathleen Shea)*

# Tips for Requesting Letters of Recommendation

By the St. Olaf Biology Faculty

(The full version of this document can be found at <http://wp.stolaf.edu/biology/letters-of-recommendation/>)

## 1. Choose faculty who know you well

Ask a professor who'll be able to say more than just what grade you got in their course.

## 2. Give potential recommenders the opportunity to say "no."

For example, ask whether or not they feel comfortable writing you a strong reference

## 3. Complete the appropriate FERPA forms.

A professor cannot write for you unless you have completed the appropriate FERPA forms (see the FERPA page on the Registrar's site).

## 4. Complete the mandatory Google form

A professor also cannot write for you unless you complete the mandatory Google form with information about the programs that you are applying to.

## 5. Supply each recommender with:

1. a signed FERPA form
2. a clear and thorough list of all program sites, names, deadlines, and instructions (like whether an additional form is required, or whether the recommender should expect an email with a link to that program's reference form, etc.)
3. stamped and addressed envelopes (for programs that require a mail-in recommendation)
4. a resume, personal statement, and/or a degree audit copy (if requested by your recommender)

## 6. Give your recommenders enough time to submit your LORs on time.

Recommenders usually request about 2-3 weeks (after receipt of all pertinent information)

## 7. Have all program information compiled for your recommenders together at one time.

Faculty are often writing for so many people that they do not have the extra time to keep continually returning to one student.

## 8. Write a thank-you note to each recommender.



# Congratulations Professor Cole!

Professor Eric Cole was recently awarded a grant from the National Science Foundation. He and members of the Ciliate Genomics Consortium will organize workshops to train cell biology teachers in the use of *Tetrahymena thermophila* in the classroom. Give him a "pat on the back" when you see him.



<http://wp.stolaf.edu/blog/biology-professor-earns-nsf-grant-to-enhance-course-based-research/>

# Meet Lisa Drewry '12:

## Graduate Student in Molecular Microbiology

Brenna Peterson '17

Lisa Drewry '12 came to St. Olaf with a vast array of educational interests. She loved political science, German, and biology, and thought she wanted to be a lawyer. However, after performing summer research with Professor Eric Cole and taking a microbiology course from Professor Ted Johnson, Drewry switched her focus from studying law to studying microbes.

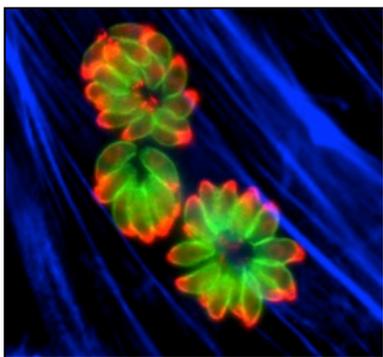
As a senior, Drewry was accepted to both the Fulbright scholars program and the Ph.D. program in Molecular Microbiology at Washington University in St. Louis. Drewry decided to defer her enrollment at WU-St. Louis, and in September 2012 she left for Würzburg, Germany to study post-transcriptional RNA regulation in *Salmonella* at the Würzburg University's Institute for Molecular Infection Biology.

Drewry is currently in her second year at Washington University in St. Louis, where she is working toward a Ph.D in Molecular Microbiology and Microbial Pathogenesis. At school, Drewry spends most of her time in the lab, where she studies *Toxoplasma gondii* (*T. gondii*), an opportunistic pathogen that causes disease in people with weakened immune systems. It is related to the malaria-causing parasites *Plasmodium*, but is much easier to grow and work with in the lab. Because of this, many studies that are not feasible to do with *Plasmodium* can be relatively easily done with *T. gondii*. For biological processes that are similar in *Plasmodium* and *T. gondii*, studies done in *T. gondii* can thus serve as a fast track to begin answering challenging questions about malaria biology.

After graduate school, Drewry would like to continue studying infectious diseases, particularly those of relevance in the developing world. She's also interested in gut microbiology, and how a person's gut microbiota has an effect on their physiology.

"One of my labs during my first year rotation was focused on understanding the many ways gut bacteria impact human health; the project I worked with was excitingly able to identify a bacteria that helps defend against cholera infection," Drewry says.

In the future, Drewry can see herself running a lab and advising graduate students at a research university. She'd like to encourage St. Olaf students that are interested in graduate school to apply where they're interested in, not just where they think they'll get in.



"When I applied to grad school, I thought I wouldn't be a competitive student because I didn't go to a big research university. But that wasn't true," she says.

When she's not working in the lab, Drewry enjoys playing tennis, ice skating, trying out new restaurants, and running in the park near her apartment. If you have any questions for Lisa or would like to talk to her about her graduate experience, feel free to contact her at: [lisa.drewry@wustl.edu](mailto:lisa.drewry@wustl.edu).



Image: Top: Lisa Drewry, Bottom, *Toxoplasma tachyzoite rosette*