



# BIOGEEK: The Northwestern College Biology Departmental Newsletter

Volume 3, Issue 2

Spring/Summer 2018

## Inside this issue:

New Mexico SSP	2
2018 Graduates	2
IM Bowling	2
Tag along with Dr. T's students	3
Student and Faculty Research	4
Alum Joins OCAHS	4
Bio Department Goals	4
Activity corner	4

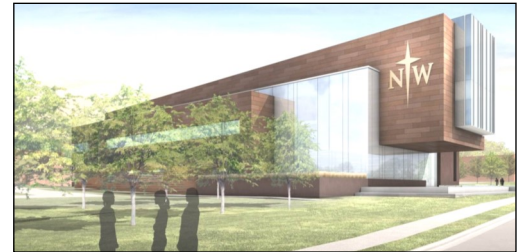
## New Science Center Nears Completion

After 13 months of construction, anticipation runs high as the work on Northwestern's new Jack and Mary DeWitt Family Science Center nears completion. With painting and flooring finished, workers are now installing the lab cabinets, counters and fume hoods while also wrapping up work on the exterior of the building, which is being covered with metal panels wherever there aren't windows and glass walls. In mid-June, crews will move in furniture and science equipment. The summer will also see sidewalks poured, grass planted, the parking lot installed, and brick pillars and low walls built.

"The biggest part of June and July will be devoted to getting systems up and running," says Doug Beukelman, vice president for financial affairs. "It's a very high-tech and complex building." More than 20 fume hoods are tied into the facility's heating, ventilation and air conditioning "When a fume hood turns on and starts evacuating air, that air needs to be replaced," explains Beukelman. "There's a whole system that monitors the air quality in each room."

The center's eco-friendly, ice-driven air conditioning system will also be commissioned during those months. Water in three tanks partially buried in the ground will be turned into ice at night when electricity is cheap, then used to cool the building's air during the day.

Dedication of the science center is scheduled for Friday, Sept. 28, at 4 p.m. during Raider Days homecoming, parents' weekend, and the fall Board of Trustees meeting. Tours of the building will follow the dedication.



Artist's rendering of the finished science building (top), and current view (May 21, 2018), as seen from the southwest. This will be the first view of campus as visitors approach on Highway 10 from the west.



Several members of the biology department were able to tour the new facility. Dr. Byron Noordewier and Chad Miller admire the ductwork and wiring, while Dr. Laurie Furlong strikes a pose.

If you want to see what the new science building looks like right now, check out our webcam: <https://construction.nwciova.edu/>





## Bio students do SSP in New Mexico

by Sarah Meyer

The Mescalero, New Mexico Spring Service Partnership (SSP) was one to remember. Nine other students and I traveled seventeen hours to an Apache reservation in New Mexico. Our main task while in Mescalero was to paint the entire sanctuary of the Mescalero Reformed Church. Pastor Mark Vellinga and his wife Miriam have been doing tremendous work for the kingdom of God in this church. Their love and compassion are so tangible and sincere. They pour out all of themselves into their community and truly embody what it means to be a servant for Christ. It was an honor being able to serve them by painting the sanctuary for them. That was a project they had been wanting to do for a long time but needed the man-power to accomplish. In addition to painting, my team led many youth and children's events. We made an impromptu worship team and created services on the fly. It was definitely a lesson in flexibility, but everything was worth it to see the smiles on

those kids' faces. They just wanted to be loved, and we gladly gave them all the love we could give. Mescalero, NM will always be in my heart, and I'm so thankful Northwestern gave me the opportunity to go on this SSP.



*The Mescalero team consisted of Bethany Muyskens (bio), Lily Peschau (bio), Elli Wagner (bio), Jacob Jenness (bio), Austin Blankespoor (bio), Sarah Meyer (bio), Ian Hofer, Megan Willroth, and Makayla Tjernagel. Mark DeJong was the adult leader for the group.*

## 2018 Biology Graduates

Congratulations to our twenty 2018 biology graduates! These alumni will now represent Northwestern as graduate students at many schools, including University of Iowa Medical School, University of Minnesota, University of Chicago, and Des Moines University. Others will head off to teach outdoor education, help refugees in Greece, study Spanish in Guatemala, work at a rehab hospital, and teach high school science. Good luck, grads!



## #Ebowlaforthewin!



Congrats to Team Ebowla (Drs. David Arnett, Elizabeth Heeg, and Todd Tracy) on their spring 2018 IM bowling victory. They defeated Team I Can't Believe It's Not Gutter (biology majors Noah Gritters, Joey Lohse, and Micah Wittenberg) in the finals. In the individual finals, 4th-seed Tracy narrowly defeated 3rd-seed Arnett to take home the individual trophy. The tournament was held on March 24 at Sweet 16 Lanes in LeMars.





## Let's tag along with Dr. T's students!

Here are scenes from this spring's Avian Ecology and Environmental Science courses. Avian Ecology activities included bird banding, field trips, and research on the effects of Midwestern wind farms on avian diversity. Environmental Science activities included the 15th year of our food wastage study, as well as trips to the water treatment plant and wastewater treatment ponds.



## Bio Students and Faculty Present Research

The biology department was well-represented at this year's NWC Celebration of Research forum on April 13 and at the Iowa Academy of Science annual meeting at Buena Vista University on April 20-21. More than 25 students and several faculty members presented research on forest invertebrate diversity, conformation in nitric oxide synthase, soil mycobacteriophages, and anti-mycobacteriophage protein antibodies.





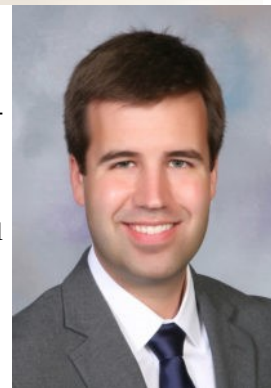


Northwestern College  
Department of Biology  
101 7th St SW  
Orange City, IA 51041  
Phone: 712.707.7000  
<https://www.nwciowa.edu/biology>



## Biology Alum Joins Orange City Area Health System

Jesse Nieuwenhuis, originally of rural Primghar, Iowa, has found his way back to Orange City after attending medical school in Chicago and residency training in Sioux City, Iowa. He attended NWC and graduated in 2009, majoring in Biology-health professions and minoring in Chemistry. He was involved in the Honors Program and completed research with the Biology Department, working with several professors including Drs. Ralph Davis, Laurie Furlong, and Todd Tracy. In his senior year at NWC, he also served as a teaching and laboratory assistant in the Biology and Physics Departments, mentoring students in several courses. In addition, he worked as a science tutor through the Peer Learning Center. His time at NWC solidified his decision to pursue further training in the health sciences through medical school.



Nieuwenhuis attended medical school at the Chicago Medical School at Rosalind Franklin University. While there, he grew more passionate about serving a variety of populations of all ages and being able to diagnose and treat a variety of medical problems. He completed rotations in several specialties in inner-city, suburban, and rural locales. He initially was interested in pursuing Ophthalmology, but eventually realized he wanted to have more variety in his day-to-day practice of medicine. This led him to pursue training in Family Medicine after graduation from Rosalind Franklin. During his 4<sup>th</sup> year of medical school, he realized he was also passionate about practicing medicine in a rural area after completing several rotations back in Iowa.

To complete his training, Nieuwenhuis applied to several residency programs and accepted a position in the Siouxland Medical Education Foundation Family Medicine Residency Program in Sioux City, Iowa. While back near his stomping grounds in Northwest Iowa, he realized his interest in staying in Northwest Iowa to practice medicine and ultimately, when the opportunity presented itself, chose to practice at Orange City Area Health System, where he practices Family Medicine at the clinic as well as Obstetrics and Emergency Medicine at the hospital.

## Activity Corner

Every spring, BIO116 students are tasked with finding all of the anatomical inaccuracies on this bird skeleton that Dr. T bought at a Halloween store. How many inaccuracies can you find?



### Goals of the Department of Biology

- 1. Communicating.** To be an effective biologist, one must possess the ability to communicate with other biologists in a meaningful way. Students will acquire language skills necessary for communicating the world of biology.
- 2. Foundational Understanding.** To be an effective biologist, one must have a working knowledge of the fundamental concepts of biology. Students will possess a foundational understanding of biochemistry, biological structures, biological processes, biological diversity, and theories of biological origins that form the framework of biology.
- 3. Depth of Understanding.** The field of biology encompasses multiple areas of knowledge. Beyond a foundational understanding of biology, students will develop depth of understanding in an area of biology appropriate to their professional goals.
- 4. Critical Thinking.** Advances in biological knowledge are based upon careful experimentation and critical analysis of the data obtained. Students will develop analytical skills which will allow them to derive thoughtful solutions to biological problems. As a practical application of critical thinking, students will be able to design experiments, obtain meaningful data, and interpret those data appropriately to arrive at meaningful conclusions.
- 5. Faith and Learning.** The integration of our Christian faith with the discipline of biology is central to being an effective Christian biologist. Students will begin to develop their own integrative worldview, which incorporates their understanding of biology with their theology and experiences of God and His Creation.

Match the biology faculty and support staff member with his/her graduate school research organism and favorite movie:

- |                     |                         |                                       |
|---------------------|-------------------------|---------------------------------------|
| A. Ralph Davis      | a. African clawed frog  | 1. <i>The Life Aquatic</i>            |
| B. Laurie Furlong   | b. Postmenopausal women | 2. <i>Book of Eli</i>                 |
| C. Tyrone Genade    | c. <i>Ascaris suum</i>  | 3. <i>Lego Movie and Little Women</i> |
| D. Elizabeth Heeg   | d. House finch          | 4. <i>Lord of the Rings</i>           |
| E. Chad Miller      | e. Golden hamster       | 5. <i>Alice in Wonderland</i>         |
| F. Byron Noordewier | f. Mayfly               | 6. <i>Hacksaw Ridge</i>               |
| G. Sara Tolsma      | g. Sheep and cattle     | 7. <i>The Mission</i>                 |
| H. Todd Tracy       | h. Rat                  | 8. <i>The Goonies</i>                 |
| I. Randy Van Peurse | i. Redtail notho        | 9. <i>Chariots of Fire</i>            |