

WINTER 2022

the

SECOND MESSENGER

St. Olaf Biology Alumni Newsletter



Photo by Kari Riley, '13

Happy New Year!

2022 is here! We hope that this letter finds you and yours well, looking ahead with hope and expectation of better times to come.

With the unprecedented circumstances of the last two years, we believe it has added to our resiliency and made us better...stronger. We have grown and changed as we have adapted to college life post-Covid. From collapsable microscopes, basement labs, and kitchen counter offices to resuming in-person classes this fall: we continue our commitment to our students and colleagues. Cheers to a productive year ahead!

Wes Braker ('18) assumes position as Natural Lands Manager (click photo below for St. Olaf News full story)

Professor of Biology and Environmental Studies Charles Umbanhowar Jr. is serving as the new Director of the Natural Lands, a position previously titled Curator of the Natural Lands. The Natural Lands Manager position is being filled by Wes Braker '18, a current graduate student at the University of Minnesota-Twin Cities. Classes in biology and environmental studies make frequent use of the space, and both faculty and students conduct research on the campus lands. Braker conducted research on the lands while majoring in biology and Japanese, and he served as a student naturalist and land technician during his time on campus. Members of the St. Olaf community also use the Natural Lands to exercise and refresh. "The desire to continue improving this special resource that is the Natural Lands is what really drew me back to St. Olaf and this job," Braker says. "As a student, my interactions with the Natural Lands were very much job and research-oriented because I was a biology student, but one of my goals is to improve that access and understanding and make the Natural Lands feel like a more welcoming place to the greater campus community."



Professor of Biology and Environmental Studies Charles Umbanhowar Jr. (left) is serving as the new Director of the Natural Lands, and Wes Braker '18 (right) is the Natural Lands Manager.

“Increasing biodiversity and reducing invasive species are our main goals...I would really like to improve community interactions with the Natural Lands.

~Wes Braker”

Dr. Norman Lee, Assistant Professor of Biology, publishes research on natural noise cancelling abilities in frogs (click [HERE](#) for the full St. Olaf News story)



Photo: Norman Lee

Active noise-cancelling headphones are a high-tech favorite of many college students, but as it turns out, frogs have had the technology for millions of years. In a new paper featured in the journal *Current Biology*, St. Olaf College Assistant Professor of Biology Norman Lee describes new findings that frogs' lungs act like noise-cancelling headphones to help frogs filter out certain sound frequencies that may be part of the calls of other frog species.

The work is attracting widespread attention, with features in [The Atlantic](#), [Smithsonian Magazine](#), [Science News](#), and [New Scientist](#). Lee also discussed his work with Canada's premiere science radio program, [Quirks and Quarks](#). It was even highlighted on *The Late Show With Stephen Colbert* (the mention begins at 5:39 in [this clip](#)).

For decades, scientists have known that the lungs in some species of frogs vibrate in response to sound, and that those vibrations can be transmitted to their eardrums.

"The precise function of this lung-to-ear sound transmission pathway has been a puzzle for several decades," explains Lee. "Now we know that the lungs may function to cancel the eardrum's response to noise produced by some other frog species in a noisy mixed-species breeding 'chorus'. What the lungs are doing is called 'spectral contrast enhancement' because it makes the frequencies in calls from their own species stand out — compared to the noise at adjacent frequencies that are often part of other frog species' calls."

Lee is excited to continue this line of research, and he hopes to figure out exactly how this process works and how widespread this ability is. This research comes out of the "[Lee Lab](#)" on the St. Olaf campus, where Lee recruits biology students to study the acoustic communication of insects and frogs. Last year, Lee collaborated with students in the lab to publish an [article](#) in the journal *Frontiers in Ecology and Evolution* on cricket song recognition by parasitic flies that hunt for crickets. When he's not on campus, Lee may be found teaching "Island Biology in the Bahamas," a popular Interim course at the Gerace Research Center on San Salvador Island.

"Our results stand as a reminder of the importance of basic research in integrative organismal biology, because evolution has a knack for hitting upon strategies for solving problems that human engineers discover only much later."

Assistant Professor of Biology Norman Lee



Photo: Norman Lee

Tom Cartwright ('72) recently retired from a full-time medical practice. "After graduating from St. Olaf, Harvey Scott and I were the only two St. Olaf graduates to attend Northwestern School of Medicine. Following medical school, I did an internal medicine residency at Southern Illinois School of Medicine, fellowship in hematology and oncology at Emory University and then practiced hematology oncology for thirty-five years in Ocala, Florida. While at St. Olaf, Dr. Daniel Palm and Dr. Arthur Buikema stimulated my interest in research. As a result, I have published over 100 peer reviewed publications with over 10,000 citations. Since retirement from full-time practice, I'm still an Associate Professor of Medicine at the University of Central Florida School of Medicine spending time mentoring medical interns and residents, speaking, volunteering, and doing mission work. Now that I'm semi-retired, I also have more time to travel, spend time with family, play golf and serve as an officiant for family weddings."



Medical mission trip to Honduras



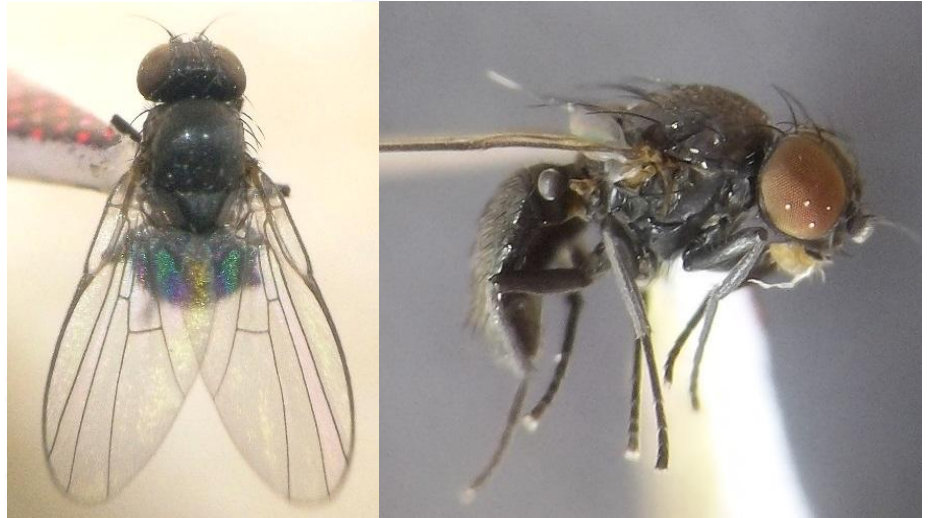
Officiating a family wedding

Collecting wild insects gets personal!

John van der Linden ('10)

In 2021, I continued collecting previously unknown immature stages of wild insects from the woods and fields of northeastern Iowa in order to photograph them and rear them to adulthood. Several species I've reared have turned out to be new to science including one that my collaborators named after me in a recent paper.

I do not have a photo of *Melanagromyza vanderlindeni*. However, here are a couple photos of a closely related, similar-looking fly that I reared that is also new to science. My colleagues named this one *Ophiomyia osmorhizae* after the host plant, *Osmorhiza* (aka sweet cicely or aniseroot), on which I discovered it here in northeastern Iowa.



Ophiomyia osmorhizae



Jon's children's book published in 2021.

Jon Foss ('87) "I was an All-American swimmer and captain of St. Olaf's Men's Swim team. After St. Olaf, I worked in Minneapolis and coached a few hours each night. I used my Science background to develop a new system of competitive training called KADS. My swimmers and teams have had great success since 1987 using these techniques with two American record holders."

Jon and his wife Susan founded the FOSS Swim Schools in 1993 with just 12 students using KADS. Since then they have grown to 22 locations in 6 Midwest states, teaching 2 million lessons per year. He is an inventor as well with 5 U.S. patents ranging from the point of sale Software that runs their schools to the hand paddles used for swim training.

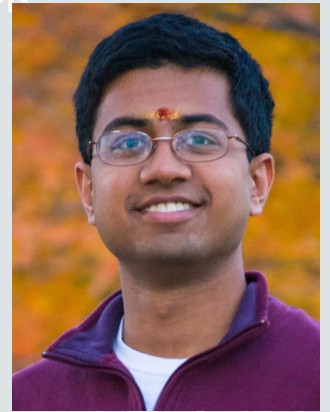
On the topic Biology and physiological research, Jon runs a 300 member Aquatic Adaptations Forum. There, Biologists from around the world discuss the many yet-to-be explained swimming adaptations in humans.

Don Garvey ('79)

I was an assistant safety officer for the Coast Guard during Hurricane Ida response. "This was the first time in a 40-year safety career that my worksite safety assessment included alligators, water moccasins and boats about to fall back into the Mississippi River."



Neetij Krishnan ('20) received a Fulbright to conduct research in Madrid, Spain at the Spanish National Cancer Research Center (CNIO). Krishnan majored in biology and concentrated in biomolecular science during his time at St. Olaf. As a Fulbright fellow, he'll be conducting research in the field of telomere biology — telomeres are sequences at the ends of chromosomes that are used in the replication and division of cells, and are highly connected to the aging process. Krishnan originally applied to work on a project focused on telomeric RNA, which was discovered by Dr. María Blasco, the researcher he'll be working with for the project. His plans for research have shifted to also include studying how the presence or absence of telomerase affects susceptibility to SARS-CoV-2, the virus that causes COVID-19 infections. Looking forward, Krishnan is currently applying to Medical Scientist Training Programs (MSTP) to begin after his Fulbright research concludes.



Ellen Schuldt ('87)

I am still a traveling occupational therapist. I recently finished an assignment in Albany, Oregon and now I'm on an assignment in the Tri-Cities, Washington. On that note: A lot of occupational therapists left their OT careers during the pandemic lockdown because facilities, agencies and companies were letting them go. The market is picking up now, and a lot of places are desperate for OT's. Although the rehab industry is more money-driven than it used to be - and OT's (and PT's) have productivity expectations - it is still such a great career! When I entered the OT field a master's degree was optional (I got an entry-level master's because I already had my bachelor's from St. Olaf), but now a master's is required to be an OT (but not to be a certified OT assistant). I pass this along in the event that someone out there may be interested in Occupational Therapy.



Here is a picture from Crater Lake National Park...one of the perks of being a traveling OT is everything I see along the way! I'm not sure where I'm going next. I might come home to Minnesota and just hang out with my family and friends for a little while.

St. Olaf Biology Alumni Updates

Phuong Tran ('12)



Phuong recently obtained her PhD in Microbiology from the University of Iowa. She will be starting as Postdoctoral Fellow at New York University in January studying *Mycobacterium tuberculosis* host defense mechanisms.

Katie Bauer ('11)

Introducing Samuel Paul Bauer! Sam was born at 5:27am on 12/31/21 weighing 8 lbs 10 oz and was 21.5 inches long. Sam was even considerate enough to make sure we were all awake for midnight on New Year's Eve to ring in 2022.



Linda Olsvig-Whittaker ('75)

I continue with landscape archaeology, now working on a transect across lower Galilee from Beit Shean to Atlit, including the Jezreel Valley. I'm eight years retired now; archaeology is my encore career, and I continue working and publishing and hoping to get to the SNELA conference in Istanbul, of which I am an organizer.



Annie Brownlee ('11)

I'm back in grad school again, this time in a Masters of Arts and Teaching program to become a high school science teacher. Student teaching has been amazing -- it's the best job I've ever had and I'm not even getting paid (yet)!

Kristina Stoermer Burrack ('08)

"We welcomed Rebecca Danielle into our family this past October. Her brothers, David (4) and Nathan (2.5), adore her! I'm an Investigator at Hennepin Healthcare in Minneapolis and an Assistant Professor at the U of MN. My lab researches the immune response to malaria infection, and we're assisting with some COVID research now, too. Life is full!



Kelsey Johnson (Gothier) ('08)

Dr. Kelsey Johnson will be performing mobile veterinary dentistry in the Twin Cities, in addition to her general practice in Albertville, MN. This allows her to serve a broader area of patients while also spending more time in her favorite area of veterinary medicine.



After graduating from St. Olaf College in 1952, Marland was drafted and served for two years in the United States Army. From 1955 to 1964, Marly taught in the Alexandria Public School system (Alexandria, Minnesota). During this time, he married Grace Carlstrom and together they had three sons and one daughter. During the next five years he received two Masters Degrees and a Ph.D. and returned to St. Olaf in 1969 where he taught in the Department of Biology until his retirement in 1993. Every summer, the Madson family lived on Lake Darling in Alexandria where he designed and built golf courses and managed all outdoor recreational activities at the Darling Dude Ranch. He and Grace spent each summer on Lake Darling until 2016. His family shares that "Marland always considered himself a sinner saved by grace and attempted to direct his life around three principles: Continue to develop spiritual growth and love for his Savior Jesus; continue to provide opportunities that would increase merited love and respect from his wife and children; and, in the eyes and minds of his many students, be an excellent teacher and an example of living a Christian life."

In Remembrance



Marland Madson ('52)
Professor of Biology
1969-1993