



Clark Biology

Newsletter Fall 2020



A Note from the Chair...



In these unprecedented times, it is with a sense of pride that I have the opportunity to write the opening note for the inaugural Biology Department newsletter. The new bi-annual Newsletter will highlight the recent events and achievements in our community. The intention is to help connect all our various stakeholders to the Department, including current undergraduate and graduate students, alumni, and past and present staff and faculty.

As might be expected, 2020 has been a significant and challenging year for the Department. The ongoing impact of the Covid-19 pandemic has been felt in our teaching and research activities in a way that most of us couldn't have imagined just a year ago. I have been incredibly impressed by the ability of students and faculty alike to adapt to the new normal of hybrid teaching modalities, whether operating in online classrooms or with reduced capacity in-person courses and labs. I believe this admirable and energetic response is indicative of the strength of our Department and the unifying sense of community that we share. A key question for the Department will be how to effectively carry forward many of the valuable lessons that we have learned by necessity during the last few months into the years ahead.

The year was made unexpectedly more challenging with the retirement of Susan Foster and John Baker at the end of the spring 2020 semester. The immense contributions of these two long-serving and deeply appreciated

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faculty members are detailed later in this newsletter. Needless to say, they will be sorely missed.

We had the opportunity to welcome two new tenure-track faculty to our department at the start of the fall semester. Jackie Dresch joins us as an Associate Professor of Mathematical Biology after previous appointments in Mathematics and Computer Science at Clark and Amherst College. Javier Tabima joins us as an Assistant Professor of Genomics from his postdoc at Oregon State University. We are very much looking forward to them taking the lead as we build up our focus on Quantitative and Computational Biology in the years to come. In addition, Beth Bone was recently promoted to a Lecturer faculty position. Alicia Knudson and Nareg Djabrayan join us as Visiting Assistant Professors and Kali Brandt as a Teaching and Research Postdoctoral Fellow.

(continued on page 2)

The incredibly valuable role of our three existing staff members, Sarah Shampnois, Lauren Cardello and Samantha VanCleave, has been amplified by the pandemic. Their dynamic support has been vital to the transitions in our teaching and research mission this year.

It has also been another successful period for the Department in terms of external recognition. Of particular note are the selection of Philip Bergmann and Néva Meyer as the co-recipients of the inaugural Mary Lekas Endowed Chair in Biology, the award of a \$725,000 NSF grant to Nathan Ahlgren to support his group's research on microbial interactions in ocean waters, and the selection of Dale Stevens (PhD candidate, Foster-Baker group) as the Outstanding Teaching Assistant at the University.

Lastly, but certainly not least, I am also very happy to announce that the Department recently voted to create three new Diversity, Equity and Inclusion Advocate positions. Néva Meyer will take the lead on this critically important endeavor, as the Faculty Advocate. We look forward to appointing two additional Advocates from amongst our Doctoral and Masters students in the near future.

-Rob Drewell

Susan was Chair of the Biology Department for ten years, overseeing successful faculty renewals, the expansion of biology and biology-related majors, as well as the Department's transition to the Lasry Biosciences Center. She also served as the chair of the Environmental Science major for over a decade where she was instrumental in establishing interdisciplinary programs. She was awarded the Warren Litsky Endowed Chair (2008-11) and the Landry University Professorship (2017-20).

Susan, over her 40-year research career, maintained an internationally renowned lab that received consistent grant support. Her lab published more than 60 papers with over 2700 citations to date. Susan's research played a role in integrating ideas of behavioral evolution with physiology and ecological factors on fish populations. In 2015 she was part of a group that won a prestigious Templeton Foundation grant that aimed at developing a new evolutionary synthesis. Susan served on the editorial boards of numerous high-profile journals in her field and was elected President of the Animal Behavior Society from 2008 to 2012.

Dr. John Baker came to Clark in 1996 to teach in the Environmental School. In collaboration with his spouse, Susan Foster, he led a productive and impressive research laboratory at Clark.

John became one of the most popular teachers in the Biology Department after several years as the lab coordinator for *Introductory Biology* 101 and 102 and an upper-level Conservation Biology course. John developed the course Biodiversity, which grew very popular for non-Biology majors. Thirty students have completed a Ph.D. under John's mentorship in addition to the vast number of Master and undergraduate students that have benefited from his willing and enthusiastic mentorship in the lab and summer field seasons.

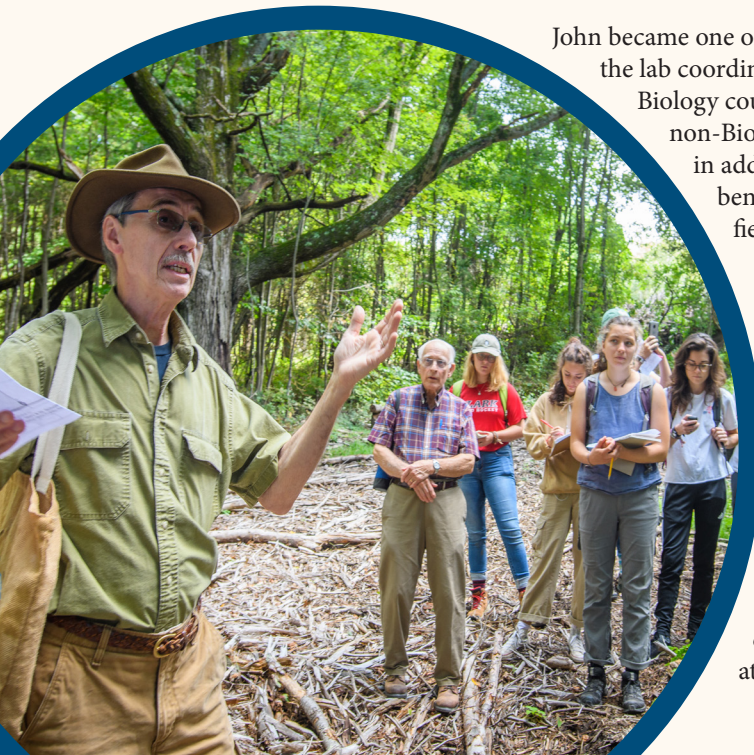
His impressive accomplishments on Clark's campus are immense. In 2001, John was appointed as a Research Assistant Professor. He was then promoted to Research Associate Professor in 2009 and finally Research Full Professor in 2017. John was awarded the Undergraduate Teacher of the Year Award twice, in 2013 and 2018, for his skills and passion as an educator. John was also selected for the Excellence in Service Award in 2002 for contributions beyond the Biology Department.

Over John's impressive 30+ year career he published more than 50 papers and won a grant to support his research from the National Science Foundation (NSF). For over a decade, he served on the editorial board of the *Ecology of Freshwater Fish* journal and as a reviewer for the Population Biology panel at the NSF.

Thank You Drs. Foster & Baker!

The Biology Department would like to wish a heartfelt tribute and thank you to Susan Foster and John Baker. Dr. Foster and Dr. Baker, who retired from teaching this year, made an indelible mark on the Department, their students, and the whole Clark community.

Dr. Susan Foster came to Clark in 1995 as an Associate Professor and became a Full Professor in 2006. Susan taught many courses including: *Evolution*, *Animal Behavior*, and a *Seminar in Conservation Biology*. A destructive 2012 snowstorm gave her the inspiration to design a course that had students map the plants and trees across campus, generating a plan to replace those that had been lost in that storm, as well as future events. Twenty-five students have completed a Ph.D. under Susan's guidance, with countless Master and undergraduate students benefiting from her mentorship as well.



UNDERGRADUATE NEWS

Undergraduate students are an integral part of the Biology research labs at Clark. Students are able to collaborate closely with faculty and others to contribute to the greater body of knowledge in a variety of topics.

There are currently over 20 undergrads working on research in the Biology Labs, including:

| | |
|-------------------|---|
| Ahlgren Lab: | Katie Crowley, Daniel Gaines, Campbell MacKenzie, & Kayleigh Watson |
| Bergmann Lab: | Sarah Charles, Hannah Guss & Mayte Torres |
| Dresch Lab: | Sabrina Hallal |
| Drewell Lab: | Kelsey Joyce, Tyler Vincent, & Savior Watts |
| Foster/Baker Lab: | Chris Aulbach, Emily Michelfelder, & Isabella Reichel, working with PhD student Dale Stevens Elana Matulis, Anneilia Ottey, & Doreen Sampeur, working with PhD student Anika Wohlleben |
| Hibbett Lab: | Michael Fenn & Iris Knowles Natalie Zaba, working with Post-Doc Miguel Naranjo-Ortiz |
| Larochelle Lab: | Isaac Nugent Faverman |
| Mathis Lab: | Josh Canning, Amelia Curry, Brooke Harris, & Emily Maynard |
| Meyer Lab: | Nik Kapoor, Conor Milson, Cristi Oliver, Deanna Scahill, & Vanessa Tischofer |

New Courses

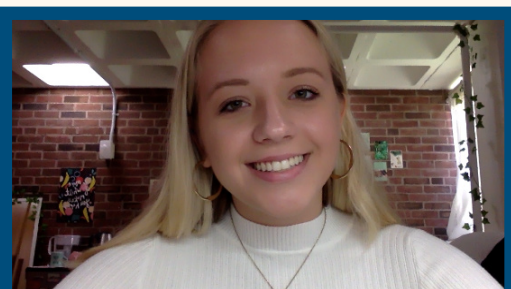
This year Clark will be offering Intercession courses between the Fall '20 and Spring '21 semesters. The Biology Department will be offering two new courses during this session, along with two new courses this Spring.

Intercession Courses:

- *BioFrontiers: Intro to Python for Life Sciences*, taught by Miguel Naranjo-Ortiz
- *BioFrontiers: Introduction to Quantitative Image Analysis*, taught by Nareg Djabrayan

Spring Courses:

- *Biology of Social Insects*, taught by Kate Mathis
- *Conservation Biology*, taught by Elizabeth Bone



Natalie and her research advisor Miguel Naranjo-Ortiz during a recent zoom check-in.

Undergraduate Spotlight: Natalie Zaba

Majoring in Biology and minoring in Spanish, undergraduate junior Natalie Zaba spent the summer conducting research in bioinformatics. Natalie's interest in bioinformatics was sparked in her *Evolution* class when her professor mentioned that a Postdoctoral Fellow, Miguel Naranjo-Ortiz, was looking for a student to work on a project focusing on the CTG mistranslation in yeasts, using a bioinformatic approach. Natalie applied for a Summer Undergraduate Research Program (SURP) stipend, but when COVID-19 sent everyone home, there was uncertainty about whether her project and the funding would be approved. Ultimately, Natalie was able to get her project approved as her computational project could be done remotely.

Natalie's research looked into mistranslations of the CTG codon from leucine to serine in different yeast species. The CUG clade of yeast does not follow the universal genetic code as it is mistranslated into serine, or alanine in some species, instead of leucine. The cause of this mistranslation and the benefits to the organism are unknown. Natalie's research looked at multiple species in this clade and compared them to species that lack this mistranslation. Natalie: "I learned how to work with Linux systems, the Python language, in a research context. Prior to this I had no experience with bioinformatics. One thing that was very exciting was when I first started getting data from different genomes after I had learned to code."

When not doing research Natalie is catching up with friends at STOP Café, painting, or brainstorming ideas for her club, Clarkies for Kindness.

Congrats to the Undergrad Class of 2020!

BIOLOGY: Rafaella Alves Ferreira, Elizabeth Barrow, Marla Bazile, Nicolina Braccio, Lucas Brandao, Emma Bullman, Angelina Carpenter, AnnaRose Carville, Daniel Cohn, Eugenia Cojocar, Hanna Cooper, Tayla Cormier, Victoria Doran, Diva Dreyer-Maruyama, Skyler Duda, Ozgenc Enow, Rebecca Ford, Daribelles Gil, Bailey Glenn, Madison Jones, Emily Kern, Chirstina Kopacz, Jonathan Krauss, Aryana Kubiak, Elizabeth Lohr, Alyssa Manna, Kayla McLoughlin, Quincy Milton, Nicole Minghella, Sadie O'Neil, Katerina Pela, Janika Pevasena, Sean Rice, Marie-Claire Salive, Alison Serrantino, Amir Siminou, Bu Kyung Song, Alania Tabani, Elizabeth Tchantouridze, Isabella Teixeira, Isabel Tonelli-Sippel, Mariah Torcivia, Hope Tula, Nancy Vo, Ruth Weche

BIOCHEMISTRY: Benjamin Desjarlais, Doreen Dormah Boadu, Zi Liang (Jack) Han, Erica House, Anh-Vy Le, Bethany Lee, Henrique Lemos-Brito, Madison Letendre, Estri Miluka, Sean Munroe, Emma Narkewicz, Iryna Onasenko, Ibrahim Ozgenc, Timothy Soldano, Shelby Spohn, Richard Stanton, Phyto Phyto (Vivian) Thu, Tengqing (Jacky) Wang

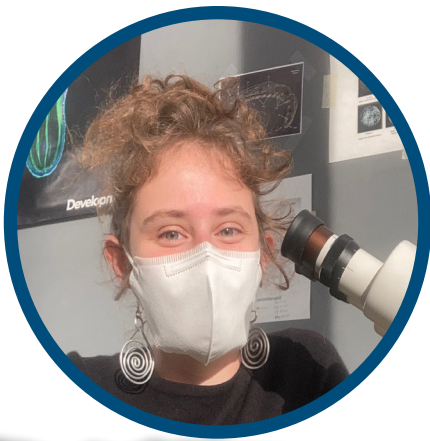
ENVIRONMENTAL & CONSERVATION BIOLOGY: Alex Stever, Yiqing Wei

GRADUATE STUDENT NEWS

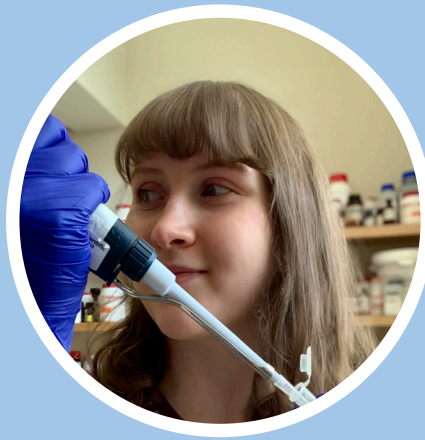
Master's Student Spotlights

Skyler Duda

Between the summer of her senior year and the start of her 5th year program, Skyler Duda was awarded the prestigious Lyerla Fellowship. The Fellowship is a departmental award and stipend available to students in Clark's Accelerated Master's Degree Program in Biology. The award was created in 2014 with the hope of financially supporting student researchers in the summer before their fifth year. The Guilford, CT native had been told about the Fellowship by her lab PI, Professor Néva Meyer. Over the summer, she worked in Meyer's lab, studying evolutionary developmental biology in the marine worm *Capitella teleta*. It was a computational project, where she looked for conserved cis-regulatory elements for specific genes involved in neural development across annelids and molluscs. Skyler continues to work in the lab with Professor Meyer, and is looking at the specification processes involved with very early embryonic development and early cell cleavage.



Tayla Cormier



Tayla Cormier is a 2020 recipient of the Hastings Fellowship and is originally from Nashua, NH. Between her senior year and the start of her 5th year Tayla had the opportunity to conduct some exciting research in the Drewell Lab. Thanks to the Fellowship, Tayla has been able to investigate low-level DNA methylation in *Dictyostelium discoideum*. On campus you can find Tayla working at the Goddard and the Carlson Science libraries. Tayla: "I've always had an interest in molecular biology and genetics in particular." When not hard at work in the lab Tayla is in the art studio. She hopes to use her research skills and specialized knowledge to work in either biotech or clinical research.

Liz Tchantouridze

Liz Tchantouridze is a 2020 recipient of the Biology Department's Mark Tepper Fellowship. She received her BA in Biology this past May, graduating a year early; "So I'm a '4th year' not a '5th year.'" Liz is originally from Winnipeg, Manitoba, Canada, but has been living in Vermont for the better part of the last decade. "Since Vermont is mini-Canada, it wasn't too much of a change". This summer Liz had the opportunity to continue the gene modeling project that she had been working on for the past year. The working title of the project is *Mathematical Modeling of twin of eyeless in Drosophila Melanogaster* (fruit flies). Her current research focuses on using mathematical modeling to predict how a gene crucial in fruit fly development will behave under different circumstances. Liz has been working on this mathematical-biology project under guidance of Professor Jacqueline Dresch.



Welcome to our newest ADP cohort!

Nicolina Braccio, Tayla Cormier, Skyler Duda, Christina Kopacz, Quincy Milton, Sadie O'Neil, Elizabeth Tchantouridze, Isabel Tonelli-Sippel, & Mariah Torcivia

Clark University's Accelerated Degree Program (ADP) gives Clark undergraduates who qualify a pathway to earn both a Bachelor's and Master's degree in just five years. For more information [CLICK HERE](#) or visit the Clark University website. ADP 5th year students in the Biology Department have been conducting some exciting research over the summer. Although COVID-19 has changed the dynamic of student's in person experiences, many ADP students were still able to complete on-line research and virtual internships.

PhD Spotlight: Emily Dart

The Biology Department is thrilled to welcome Emily Dart as the new Graduate Student Representative! The position is responsible for effectively communicating the concerns, needs and input of the graduate students directly to the faculty. Emily serves as a crucial link between graduate students and faculty. She currently works with Dr. Nathan Ahlgren and her research focuses on predator-prey dynamics between bacteria and the viruses that infect them.

This is Emily's fourth year in the Ph.D program. Prior to coming to Clark she received her B.S. in Biology from the University of Utah and then worked as a laboratory technician in a microbial ecology research lab. It was Clark's small size, as well as the responsiveness and helpfulness of the people in the Department that solidified Clark as Emily's top pick. Emily decided to become the Graduate Student Rep because she believes it is crucial to maintain open and productive dialogue between graduate students and faculty. In her time as Grad Student Rep Emily hopes to effectively communicate the collective positions and concerns of the grad students to the faculty. She hopes to continue the progress that has been made under her predecessor, Dale Stevens. When hard at work reading or writing you can find Emily on the top floor of the library and when not working, Emily is taking long walks on the East-West trail here in Worcester. We wish her the best in this new position!



Alumni Spotlight: Abhinav Sur

Abhinav Sur joined Clark University in 2014 and completed his PhD in March 2020. Abhinav received his Master's degree at the National Institute of Science Education and Research, Department of Atomic Energy under the Government of India. During his Master's program he characterized the use of carbon and gold nanoparticles to safely deliver and increase the efficacy of antimicrobial peptides (AMPs) in vitro.

"As an undergrad, I was fascinated with Wildlife Biology and did summer internships with groups working on human-elephant conflict in India and landscape genetics of Cardamom cultivars in the Himalayas". Abhinav was a member of the Meyer Lab and his research focused on understanding the evolution of nervous systems in the animal kingdom by investigating neurogenesis in the annelid *Capitella teleta*. Abhinav now works as a postdoctoral researcher at the Eunice Kennedy Shriver National Institute of Child Health and Human Development at the National Institutes of Health (NIH). During this time, Abhinav hopes to use single-cell RNAseq approaches or single-cell ATACseq approaches to better understand cell-fate specification events during zebrafish development.



"I envision myself as a comparative biologist in the future when I start my own lab. I hope to use systems biology approaches to comparatively explore the developmental biology of invertebrates and vertebrates. This will be instrumental in understanding evolution of developmental patterns as well as better modeling human developmental disorders." It was Clark's small size, the opportunity for interdisciplinary research and the department's keen focus on evolution that solidified it as Abhinav's first choice. "I had a fantastic experience at Clark. I would like to thank the whole Biology department for making this a welcoming and fruitful experience for me."

During his time at Clark Abhinav published, showcased his work, and conducted research. "I am pleased to say I attained different research fellowships and my work led to important publications. I had the privilege of traveling to different conferences to present my work to other established researchers. My research at Clark led to several publications - one in the journal *EvoDevo*, another in *BMC Evolutionary Biology*, and a third under review with *Frontiers in Ecology and Evolution*. The third publication is based on my work of parallelly sequencing the single-cell transcriptomes across all cells in the annelid *Capitella teleta* across two developmental stages. Such a high-throughput study will be one of the first single-cell RNAseq experiments to be done on an annelid and the first to be done on our model *Capitella teleta*. For this project, I received a \$1000 grant from Sigma XI and helped my supervisor apply for and acquire the Beavers grant".

Abhinav presented his research at the Society of Integrative and Comparative Biology (2016, 2019), the Society of Developmental Biology (2015, 2017), and the North-East Developmental Biology, Woods Hole, MA (2018). In 2020, he presented his research at Harvard University, which helped him secure his current job at the NIH. When reflecting on his time at Clark Abhinav was eager to share that his favorite part was "Clark's small size and the benefits of knowing everyone closely. The faculties/professors were approachable. I will miss the pizza and drinks after seminars every Wednesday where we used to hang out together as a department and chat." Congratulations Abhinav! The Department wishes you all the very best!

FACULTY NEWS

Welcome Dr. Tabima!

The Biology Department would like to welcome Dr. Javier Tabima as the Department's newest Assistant Professor. Dr. Tabima is originally from Bogotá, Colombia. He did his B.Sc in Biology and his M.Sc. In Biological Sciences at La Universidad de los Andes, in Bogotá. He said that "the University has a very similar feel to Clark, in the way that it is a research-focused private University that focuses on the education and development of the students, so I feel at home here."



After a few years in research centers in Colombia, he moved to the USA to do a Ph.D. in Botany and Plant Pathology at Oregon State University. He worked in two different labs on two independent projects focusing on fungal genomics and evolution as a part of his postdoc. He has loved the West Coast and his time in Oregon, but he is excited about his new adventure at Clark. Dr. Tabima's most recent article, [*Molecular phylogenomics and population structure of *Phyophthora pluvialis**](#), has been published in *Phytopathology*.

Javier came to Clark because of its focus on thinking differently and focusing on the humanity of the members of the community. He said, "Clark is an oasis of people interested in each other both academically and personally."

This fall Javier is teaching MBB 101: *Introduction to Bioinformatics*, which focuses on providing entry level experience into computational biology to study biological data, specifically DNA and Protein sequences. It is a fun class to teach and he is enjoying how the students are engaging with the course material. He is hoping to keep this momentum going throughout the semester!

Congrats Dr. Bone!

The Biology Department would like to congratulate Dr. Elizabeth Bone on her promotion from Lab Coordinator, a staff position, to a member of the faculty as a Lecturer! She is looking forward to developing the course content and teaching style of her own courses. She is currently teaching the Bio 101 First Year Intensive labs while sharing the Bio 101 lecture with Dr. Thackeray. This Spring she will be teaching *Conservation Biology*, an upper level seminar and will be a part of the teaching team for BIOL 102: *Intro Bio II*.



Her new role as a faculty member in the Biology Department represents an opportunity to be a part of the long-term planning in the Department and the University. She said, "it is an honor and a worthy responsibility to serve on committees and to develop our undergraduate biology curriculum, something that I was not a part of as much when I was a member of the Biology staff."

While this Fall has been a challenge for everyone, Dr. Bone is looking at the good that has come out of the uncertainty. Remote learning has changed her teaching style, creating the need to present more information outside of class. She believes that she will come out of this experience an improved teacher!

Congratulations to all of the students completing Biology graduate degrees in 19/20!

Olivia Anastasio (M.S.)
Christina Bardjjs (M.S.)
Daniel Oliveira (M.S.)
Alicia Knudson (Ph.D.)
Kayleigh McHugh (M.S.)
Sara Mann (M.S.)
Samantha Reed (M.S.)
Regan Conrad (M.S.)
Abhinav Sur (Ph.D.)

TA Award

Towards the end of each Spring semester, the University invites nominations for its annual Outstanding Teaching Assistant awards. Nominees must have been a TA for at least two semesters at Clark with at least one semester during the 2019-2020 academic year. While the focus of the nomination should be excellence in the most recent two semesters, past performance as a TA is also taken into consideration.

The Biology Department would like to congratulate current PhD student Dale Stevens, who is a member of the Foster/Baker Lab, for being chosen as a 19/20 Outstanding TA! The award is a prestigious university wide recognition based in part on undergraduate student evaluations. Here are just a few of the comments from Dale's students: "Dale is always on time and willing to talk about the course, even if I just spotted him from across Lasry"; "Dale was fun, friendly, and helpful leading to a nice learning environment."



The Biology Dept has had quite a few past winners of this award including: 2018 - Gen Morinaga; 2017 - Alicia Knudson; 2016 - Melissa Graham; 2014 - John Soghigian; 2011 - Jamie Fitzgerlad; and 2002 - Madhavi Agarwal

Welcome Dr. Djabrayan

Dr. Djabrayan is coming to Clark from Princeton where he was an Associate Research Scholar at the Lewis Sigler Institute for Integrative Genomics.

He has a background in Developmental Biology and uses Molecular Genetics and Quantitative microscopy and image analysis to understand mechanisms that govern cell behavior at key points in development. He has also studied the metabolic coordination of cell cycle timing and zygotic genome activation in the *Drosophila* embryo.

He is excited to teach at Clark because it is a perfect sized institution to allow for a major focus on undergraduate education while having vibrant research programming for undergraduate and graduate students. Dr.

Djabrayan is a Visiting Assistant Professor and is teaching BIOL 118 *Genetics*, BIOL 218 *Genetics and Disease*, and BIOL 238 *Seminar in Cell Biology* this semester.



POST DOC NEWS

Kali Brandt

The Biology Department is pleased to welcome Dr. Kali Brandt as a Research and Teaching Postdoctoral Fellow. Kali received her undergraduate degree from the University of Washington where she was originally admitted to the Business School but realized that field was not for her.

Her first position after graduating was with an agricultural biotechnology firm working on wheat, which she fell in love with. After a few years, she went back to school to get her PhD so she could help guide the industry. Her PhD program was at Oregon State University in their Wheat Breeding and Genetics program under Dr. Bob Zemetra.

She worked at Oregon State University as a graduate student researching stripe rust resistance, facultativeness in wheat, and CRISPR transformation.

Her current project is developing a novel transformation technique using the electroporation of wheat pollen to introduce CRISPR ribonucleoprotein complexes which edit the wheat in a completely non-transgenic way. She is currently living in Oregon and planning to be on campus at Clark in January 2021. She is currently teaching BIOL 263 *Plant Breeding: The Past, Present, and Future of Agriculture* and continuing to work on the pollen electroporation project.



Additional Faculty Highlights

Nathan Ahlgren:

Funded - *Characterization of Synechococcus-cyanophage interactions across phylogenetic and temporal scales*, Funded by the National Science Foundation for \$746,235.

Philip Bergmann:

Published - Morinaga, G., & Bergmann, P. J. (2020). *The evolution of fossorial locomotion in the transition from tetrapod to snake-like in lizards*. *Proceedings of the Royal Society B*, 287, 20200192.

Funded - *How the evolution of vertebrae affects body form evolution in salamanders*, Funded by Clark University for \$2,868.

Jacqueline Dresch:

The Biology Department has another new face for the 2020/21 academic year, Professor Jacqueline Dresch. Dr. Dresch comes to us from the Math & Computer Science Department. She is currently teaching MBB 110: *Biology Enriched Calculus*.

Jacqueline Dresch:

Funded - *Investigating the molecular mechanisms of transcriptional regulation at Drosophila homeotic genes*, Funded by National Institutes of Health for \$450,900

David Hibbett:

Published - Shingo Miyauchi, Enikő Kiss, Alan Kuo, ... David Hibbett, László G. Nagy & Francis M. Martin (2020). *Large-scale genome sequencing of mycorrhizal fungi provides insights into the early evolution of symbiotic traits*. *Nat Commun* 11, 5125. Two of the articles authors are former Post Docs in the Hibbett Lab, Marisol Sánchez-García (now at the Swedish Agricultural University in Uppsala, Sweden) and László G. Nagy (now at the Biological Research Centre, Szeged, Hungary).

Kaitlyn Mathis:

Published - Mathis, K.A., Bronstein, J.L., 2020. *Our current understanding of commensalism*. *Annu. Rev. Evol. Syst.* 51, 167-89.

Kaitlyn Mathis & Nathan Ahlgren:

Funded - *How does urbanization, including urban gardens, impact ant microbial diversity?*, Funded by Clark's Faculty Development Fund for \$6,123.

Néva Meyer:

Community Engagement - This past summer, Professor Meyer, along with several members of her Lab (Nicole Webster, Skyler Duda, and Johnny Davila-Sandoval), held a virtual workshop for middle school students involved in the the Eureka! Program at Girls, Inc. The theme was "evolution of body plans" and the students were introduced to basic EvoDevo concepts through video. They were then split up into groups and used a take-home set of LEGOs to build their own creations. The students showcased their models and the discussed the idea that even though they each had the same set of LEGOs (genes), because they used their LEGOs in different combinations, the outcomes varied greatly.

Deborah Robertson:

Published - Faktorova, D., Nisbet, R., Fernandez, R., Casacuberta, E., Sudek, L., Allen, A. E., ... Luke, J. (2020) *Genetic tool development in marine protists: emerging model organisms for experimental cell biology*, 17(5), 481-494.

Justin Thackeray:

Published - Lopatto, D., Rosenwald, A. G., DiAngelo, J. R., Hark, A. T., Skeritt, M., Wawersik, M., ... Elgin, S. C. R. (2020) *Facilitating Growth through Frustration: Using Genomics Research in a Course-Based Undergraduate Research Experience*. *Journal of Microbiology & Biology Education*, 21(1).

Faculty

Nathan Ahlgren, John Baker, Philip Bergmann, Elizabeth Bone, Nareg Djabrayan, Jackie Dresch, Rob Drewell, Susan Foster, David Hibbett, **Alicia Knudson**, **Denis Larochelle**, **Todd Livdahl**, **Kaitlyn Mathis**, **Néva Meyer**, **Deborah Robertson**, **Javier Tabima**, Justin Thackeray

PhD Students

Shafer Belisle, Amy Cheu, Emily Dart, Johnny Davila-Sandoval, Mandy Gaudreau, Eun-Mi Jeong, Daniel Klonaros, Toby Manjarres, Xiaoli Mo, Sean Patev, Prabhu Prasanth, Dale Stevens, Anika Wohlleben

Post Docs & Visiting Researchers

Kali Brandt, Miguel Naranjo-Ortiz, Brian Looney, Nicole Webster

Staff

Sarah Champnois - Department Administrator
Lauren Cardello - Program Assistant
Samantha VanCleave - Lab Technician

Student Employees

Heran Abiy, Sarah Bibeau, Jenny Chung, Marina Doukellis, Hanna Guss, Brooke Harris, Amy Jennings, Maisie Kramer, Tereza Lopez, Cammi MacKenzie, Conor Milson, Doreen Sampeur

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Newsletter Credits

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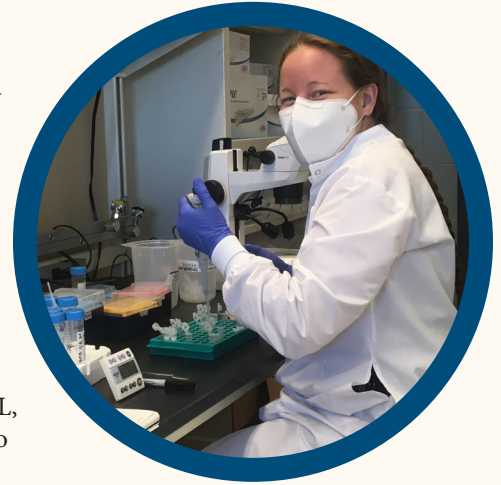
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Photos: Page 1, Page 8 (bottom), John Baker, and Elizabeth Bone photos by Steve King.

Nicole Webster

Nicole Webster is a Postdoctoral Fellow working in the Meyer Lab, where she is studying the evolution of centralized nervous systems (CNSs) from diffuse nerve nets in animals. This important research could lead to treating and preventing various neurodevelopmental disorders. Nicole adds, “in *Capitella*, if you remove the cell responsible for signaling the rest of the embryo, you will still get brain tissue, which is surprising and called autonomous specification. We want to know if the same thing is true in other species, or if its special to *Capitella*. Either way it will tell us a lot about how nervous systems develop and evolved”.

Nicole is studying CNS development in Spiralia, a diverse group of animals including annelids (like earthworms and leeches), mollusks (like snails), and flatworms. Nicole will be collaborating with other researchers, Duygu Ozpolat and Jon Henry, who work on related species. She was awarded a Fellowship from the [Whitman Center](#), which she is using to work at the Marine Biological Laboratory (MBL) in Woods Hole. Nicole will be spending 7 weeks there this fall and another 3 weeks later to repeat some experiments done by former Clark Ph.D student Dr. Allan Carrillo-Baltodano in a different species. She is excited to spend time at MBL, utilizing their high end microscopes, and learning to work with the new species.



STAFF NEWS

The Biology Department Staff has had some new additions over the last couple of years. Samantha VanCleave joined the Department as the Lab Technician in the Spring of 2019. She is a recent transplant from Tennessee, where she received her B.S. in Biological Sciences with a concentration in Microbiology from the University of Tennessee at Knoxville. She is currently serving on the University science department's Safety Committee for campus reopening.

Sarah Champnois, the new Department Administrator, started in the position in the Fall of 2019. She received her B.A. in Environmental Science & Policy from Clark in 1998 and is excited to be back on campus! She spent the last 20+ years as the Managing Director of Company One Theatre in Boston, a nonprofit she helped found with a group of Clark alumni. Sarah also holds an M.P.A. from Suffolk University.

Sarah and Sam join Lauren Cardello, the Department's Program Assistant, who has been at Clark for the past eight years. Lauren works closely with the Department's graduate students, as well as undergraduates doing research in the Labs.



Professor Nathan Ahlgren, PhD student Emily Dart, and Linnea Menin (BA '19, MS '20) collecting research samples at Walden Pond.