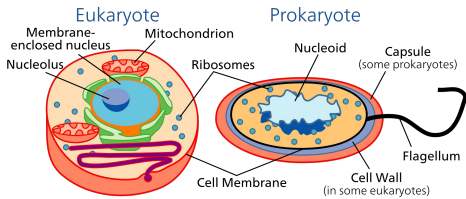


Southwestern University

DEPARTMENT OF BIOLOGY

Welcome to another exciting and fun academic year. We are thrilled with the opening of the Phase II of Fondren Jones and hope you will take advantage of all that we have to offer. Come and visit us in our brand new offices and use the new common spaces! We hope the new building inspires you to learn and discover the wonders of science.



Dr.
Martín
Gonzalez

2019-2020 Biology Faculty



Dr.
Christina
Bowers



Dr.
Kim McArthur



Dr. Wheeler

Join our FB group! And visit us on our webpage
<https://www.facebook.com/groups/SUBIOLOGISTS/>
<http://www.southwestern.edu/departments/biology/>



Fall 2019
Issue #28

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Message from the Department Chair:



Dr. Romi Burks,
(Department Chair,
January 2017 - May 2019)
burksr@southwestern.edu
512-863-1280,
Room#212

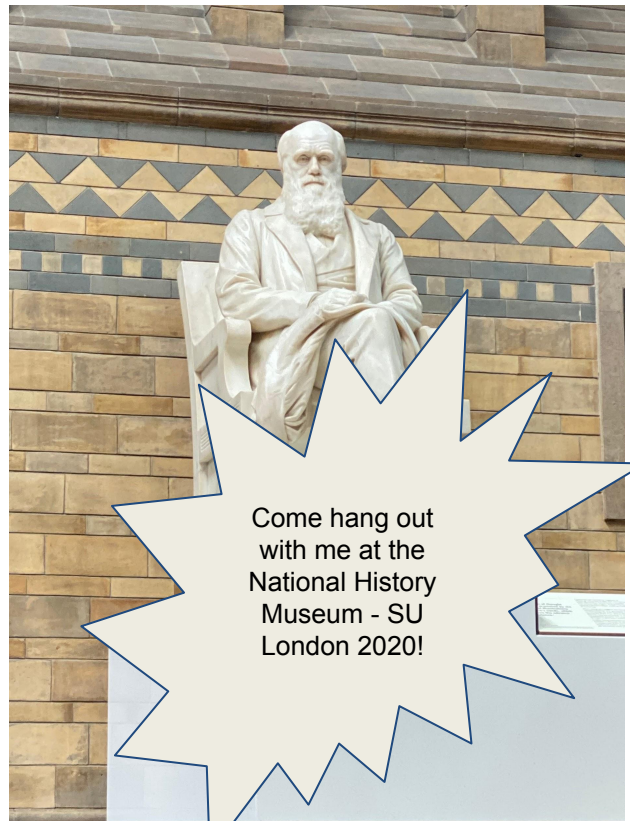


Greetings Biologists,
Crazy that it's already November! The Department feels excited about welcoming the largest first year class in SU History. Seems we have been crazy busy with the move into Phase II of Fondren Jones. This move brings all of the Biology Department into one hallway on the second floor. I encourage you to come check out where you can find ALL the biology faculty and get answers to any questions asked. We really want all of our biology students to get involved in our community, attend social events, go to office hours and to keep on the look-out for opportunities to work with us.

When you get a chance, drop by and also congratulate Dr. Maria Cuevas on her recent appointments as Chair of the Pre-Med Committee and as our inaugural Garey Endowed Chair in Biology.

My door's always open and I'm a quick emailer so don't hesitate to shoot off any questions. Lastly, I want to just make sure that everyone knows the opportunity for Biology majors to study abroad in London 2020 - next Fall! Still plenty of time to plan so feel free to schedule an appointments to chat. Thanks for being a part of our biology community and best wishes for the rest of the Fall Semester.

Dr. Burks



Come hang out
with me at the
National History
Museum - SU
London 2020!

Meet our newest faculty
member
Dr. Kim McArthur



Dr. McArthur grew up in Garland, TX, where she loved reading, writing, and math ... and kinda hated science. In high school, she started learning about the brain, and she was hooked. She attended Gustavus Adolphus College in St. Peter, MN (another liberal arts institution), where she double-majored in biology and religion. Her dream was to become a college professor - achievement unlocked! At Southwestern, Dr. McArthur's teaching will focus on cellular, systems, and organismal biology, including a new course in developmental biology. In her lab, students will have the opportunity to use a combination of techniques (including microscopy, transgenics, behavior, and electrophysiology) to study the fundamentals of brain development and function in larval zebrafish. (Ask her for a tour of our new fish facility!) In her spare time, Dr. McArthur enjoys visiting the public library and reading for fun. She's looking forward to mentoring students, improving as a professor (we're always learning!), and coming up with more wacky ideas for incorporating magic wands and funny hats into her courses.



Left: Zebrafish!

Right: Dr. McArthur modeling her larval zebrafish costume on Halloween!



Alumni News

Jenna Gaska '2014 successfully defended her Ph.D. thesis at Princeton this past August. Congratulations Dr. Gaska!!!!

Recent Biology Publications:

Pierce, B. A. and D. R. Gonzalez*. 2019. Frequency and ecology of tail loss in populations of the Georgetown Salamander (*Eurycea naufragia*). *Journal of Herpetology* 53:81-86.

Glasheen, P. M.*, **R. L. Burks**, S. R. Campos*, and K. H. Hayes. 2019. First evidence of introgressive hybridization of apple snails (*Pomacea* spp.) in their native range. Accepted and forthcoming. *Journal of Molluscan Studies*.

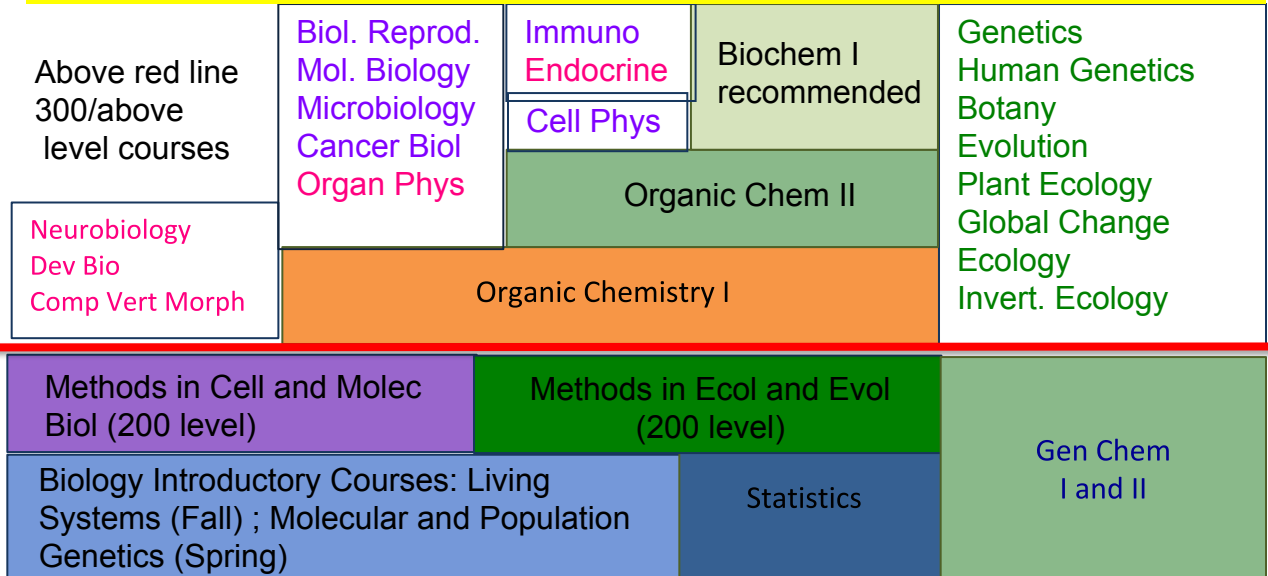
· Emery, N., A. Hunt, **R. Burks**, M. Duffy, C. Scoffoni, and A. Swei. 2019. Students as ecologists: Strategies for successful mentorship of undergraduate researchers. *Ecology and Evolution*: <https://rdcu.be/btaia>.

Majoring in Biology: Biology Curriculum

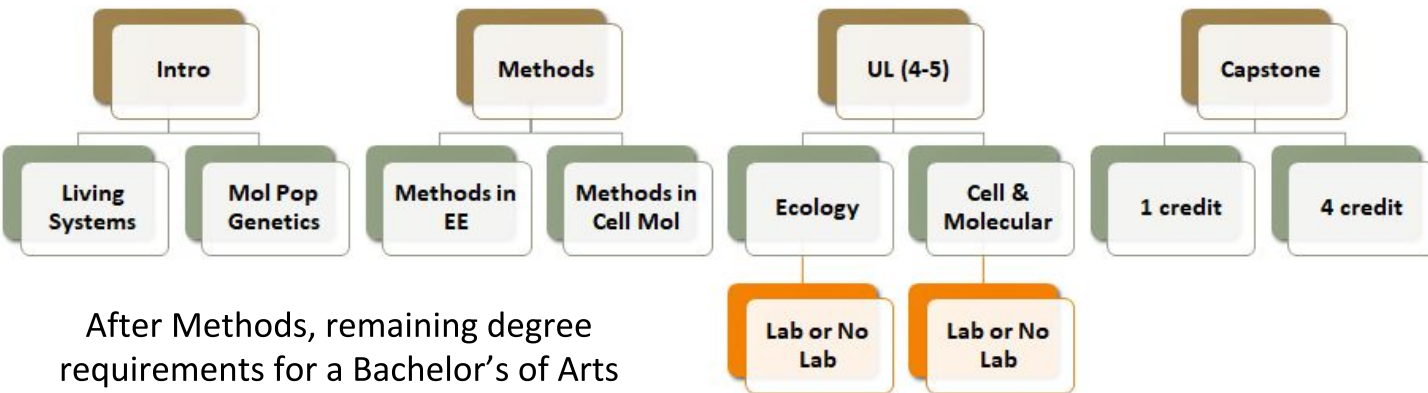
(BA = 4 UL courses + Capstone; BS = 5 UL + Capstone)

Gen Ed + Stats + Chemistry (I - BA; I & II BS) + Physics I & II/Calc I (BS)

BIOLOGY CAPSTONE - Option 1: 4 credits - for all students completing a BA or a BS degree that seek an integrative experience. Option 2 : 1 credit - for all students (BA or BS) that have successfully completed at least 3 hours of Research in Biology.



● Cellular and Molecular Biology ● Ecology and Evolutionary Biology ● Other areas



Talk to your adviser, lately?



After Methods, remaining degree requirements for a Bachelor's of Science



Student Groups

Beta Beta Beta

2019-20 BBB officers

President: Chance Winters

VP: Sydney Scott

Treasurer: Shellsea Miller

Secretary: Karen Rativa

Community Engagement: Lauren Muskara

Pre Health: Lou Leman

Pre Grad: Maryam Ali and Jessica Peterson



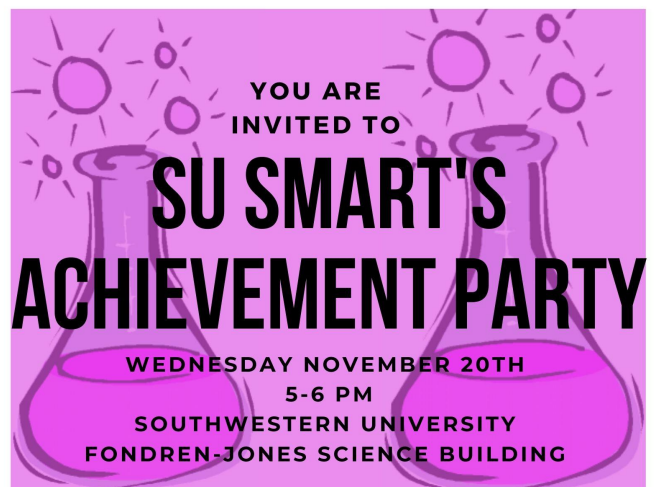
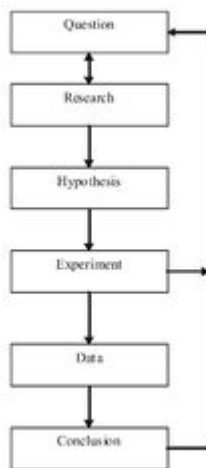
Beta Beta Beta (TriBeta) is an honor society for students, particularly undergraduates, dedicated to improving the understanding and appreciation of biological study and extending boundaries of human knowledge through scientific research. In the past at Southwestern, we have brought in guest speakers, hosted local environmental clean-ups, and held events to get to know your SU biology department. If you are interested in becoming a member of TriBeta, make sure to keep an out for flyers around FJS throughout the semester!

Anyone interested in Biology, including first year students, can join $\beta\beta\beta$ as an associate member. Membership can be upgraded to "full" as students progress in their studies of biology. For more information visit the national $\beta\beta\beta$ website: <http://www.tri-beta.org/aboutbbb.html>

Join SMARt! Recruiting Mentors for the Spring semester!

If interested in volunteering, contact the SMARt Day Coordinator :
Fiona Burmeister-Burton (burmeisf@southwestern.edu)

Thanks to a generous grant from the WD Kelly Foundation, SMARteams now represents an endowed Civic Engagement Opportunity geared towards science majors.



Building our Biology Community

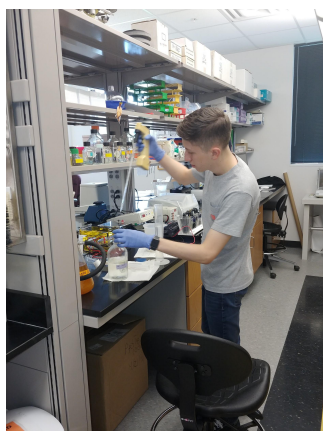
Come join us for food, fun and games! We periodically host social events as great opportunities to meet other biology majors, get to know the faculty and staff in an informal setting. Watch for flyers and emails with more info!



SCOPE NEWS!

(*Summer Collaborative Opportunities And Experiences*)

SCOPE students Esther Nyaberi '21 and Kaitlin Galassini '19 had the opportunity to test out a new piece of equipment - an eDNA backpack! This backpack includes a pump that sucks up water through a filter which captures the particular matter. From there, the research students extract the environmental DNA. Kaitlin and Esther used the backpack in suburban Houston to collect samples that targeted apple snails and also helped demonstrate its capabilities on a research trip to Texas Tech University to work with collaborator and SU alumni, Dr. Matthew Barnes.



This summer Vanessa Jones, Antonio Mendez and Dr. Gonzalez continued their work on the Integrating Conjugative Element 391 (ICE391). Their research focused on understanding how the mutagenic response, mediated by the ICE391 RumAB proteins, was regulated post-translationally. They determined that regulation of the ICE391 RumAB proteins differs from what is known about the orthologs responsible for the mutagenic response in *Escherichia coli*. They are currently constructing the gene knockouts necessary to further this research.

Biology Faculty/Staff Directory

LAST NAME	FIRST NAME	EMAIL (@SU)	EXT	ROOM	LAST NAME	FIRST NAME	EMAIL (@SU)	EXT	ROOM
Bowers	Christina	bowersc	1431	FJS 241	McArthur	Kim	mcarthuk	1830	FJS 207
Brown	Stacie	brown22	1776	FJS 209	Pierce	Ben	pierceb	1974	FJS 208
Burks	Romi	burksr	1280	FJS 212	Schaller	Christy	schallec	1544	FJS 205
Cuevas	Maria	cuevasm	1698	FJS 210	Taub	Max	taubd	1583	FJS 213
Gonzalez	Martin	gonzalez2	1621	FJS 206	Todd	Maria	toddm	1983	FJS 209
					Wheeler	Karen	wheelerk	1686	FJS 240

**B-Biology
E-Education
T-Teaching
A-Assistants**

**Want to earn money while reinforcing
your own learning?**



Need a great recommendation letter?

Contact Dr. Burks (burksr@southwestern.edu) if you are interested in becoming a **BETA student** for the Living Systems Lecture or Lab classes! Several time slots available for all science majors who have previously taken **Living Systems!**



**Interested in
Medical/Osteopathic/Dental/
Veterinary School?**



Contact: Dr. Maria Cuevas-Pre-Med Chair
phone number 512- 863-1698, Office:FJS 210

Check out our new Website!!

All you need to know and more

<https://www.southwestern.edu/pre-health/>



Visit the Pre-Med Suite FJS 117

It has relevant information regarding applications, post-baccalaureate programs, deadlines and much more!!

Fall Events

Co-sponsored with Center for Career and Professional Development

November 20th 12:30-1:30 Internship Information Session Prothro Center for
Life-Long Learning 147

Sponsored by the Pre-Health Organization-Meetings in FJS 403

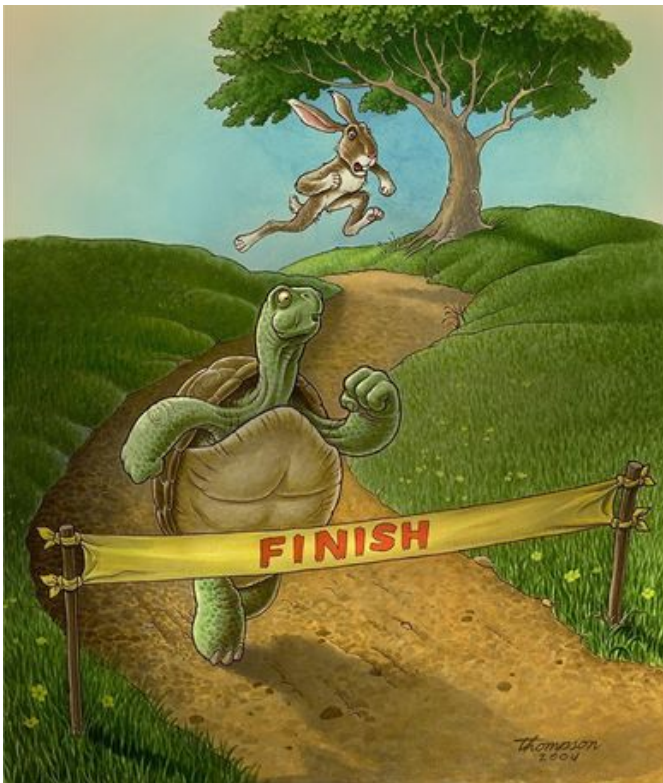
November 20th 7 pm What should you be doing outside of class

November 25th at 8:30 pm Studying for the MCAT/CASPER

December 02 at 8:30 pm How to write your personal statement

Tips for Success!

- * Go to EVERY class (80% of success is showing up!) ENGAGE in class participation!
- * Take notes directly on slide handout, if available. Leave laptop at home to avoid distractions.
 - * Study a little bit EVERY day, rather than cramming in one long session.
- * Read actively before class; slow down and aim for understanding by asking questions such as: “What did I learn on this page?” and “What on this page is new to me?”
 - * Use flashcards to learn key vocabulary!
- * Answer the “end-of-chapter” questions BEFORE and AFTER reading a chapter to help connect new information to what you might already know about the topic!
 - * Make friends and study groups; participate in BETA sessions!
- * Write down all syllabi dates on your calendar; test dates, projects due, etc.
 - * LOOK at your calendar at least weekly to plan ahead!
- * Get at least 6 hours of sleep a night. Sleeping is critical for ensuring that memories are successfully stored in long term memory!
- * Get some exercise! Going on a walk in nature can enhance your ability to focus.
 - * Check your email at least once a day
- * Visit office hours (We are here for YOU!) Ask questions if you do not understand a topic.
 - * Take advantage of our open door policy!



Advising 101: We want all students to move toward successful graduation in four years. However, filling the degree requirements for graduation may not necessarily get you to the next step of your journey. That’s okay! Think about the state you want to be in when you get to the next leg of your journey:

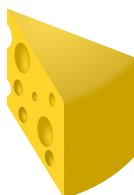
- Consider how you get to the “Finish Line”
- It’s not necessary the fastest who wins
- Consider taking your time
 - Finding your pace
 - Doing your best
 - Seeing the sights along the journey

Link to Biology Writing Guide:

<http://www.southwestern.edu/live/files/4637-biology-department-writing-guide>

Biology Faculty Summer Work and Fun!

Dr. Taub gave a talk on his research on "Peer-Reviewed Biological Literature for General Audiences" in August at the annual meeting of the Intl. Society for Evolutionary Medicine and Public Health in Zurich, Switzerland. He is seen here eating cheese fondue.



Dr. Maria Cuevas attended the SAAHP Regional meeting in Memphis, where she learned the latest on medical school admissions. She also attended a week long workshop on high impact experiences sponsored by AACU. She ended her summer with a road trip helping her two kids move out of state!



Dr. Brown spent time with family this summer. The highlight of her summer was an Alaskan cruise where she saw whales, played with sled dog puppies, and enjoyed unlimited coffee and breathtaking scenery.



JUNE: Dr. Burks went to New Jersey & New York City for a chocolate adventure. Passed IICCT Tasting Level 2 on her birthday!



JULY: Spent a lovely weekend in San Diego celebrating the wedding of former apple snail researcher, now EPA lawyer Matt Trawick '10,



AUGUST: Escaped the heat to venture to Colorado to do some chocolating and celebrate acceptance of a manuscript with UC Denver medical student Paul Glasheen '16

Dr. Todd spent the first half of the summer conducting endometrial cancer research with her two talented students, Anthony Seek ('20) and Shi Solis ('20) and the second half introducing family and friends from the UK to the sights and fabulous food of Texas!



Maria, Sean, their son, Aidan, their niece Lauren and her fiancée, Seb at the Grist Mill, Greune, TX

Lauren, Seb and Aidan at Barton Springs



SU Homecoming Professor 2019: Dr. Romi Burks



In case you missed it, Dr. Burks represented Biology well as the 2019 Homecoming Professor as chosen by alumni. She enjoyed the festivities with her two favorite sets of twins: nephews Bennett & Brady & the puptarts, Twinkie & Cupcake.

