

LSU WOMEN IN SCIENCE

Volume 2 Issue 6



March 30, 2018

In This Issue

Editorial Letter	2
Now What?	3
Mentor Q&A	4
Member Highlight	5
Night at Museum	6
Outreach Update	8
Resources	9

"I was always told women are stronger. So I believed it."

Diane Von Furstenberg

Leadership Team Notes

It's spring time in Louisiana! Before the humidity gets too high, join us for some patio sitting and conversation at one of our socials. Or come help at one of the outreach events we've got planned for April – see page 7 for more details. Need more networking this month? Join us for our 2nd annual Meet A Mentor on April 3rd! We'll have mentors from academia and industry to give career advice no matter your future goals. In this issue we also have tips for what to ask your current mentors and ideas for how to build a relationship with a new mentor.

We've got even more on the Resources page and a whole calendar of events, socials, and things to do on our Facebook page. Need anything else? We're just an email away:

WomeninSci@lsu.edu

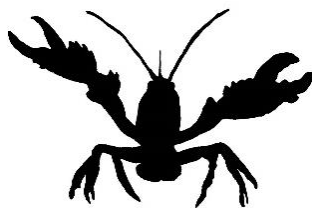
Announcements



February 6 th	Union - 303	5pm
March 6 th	Union - 304	5pm
April 3 rd	Union - 304	5pm

All meetings occur on the first Tuesday of the month

Socials



April 6 th	Barcadia	4:30pm
April 14 th	Chimes	5pm
April 24 th	Sci. Café Varsity	5pm

Outreach

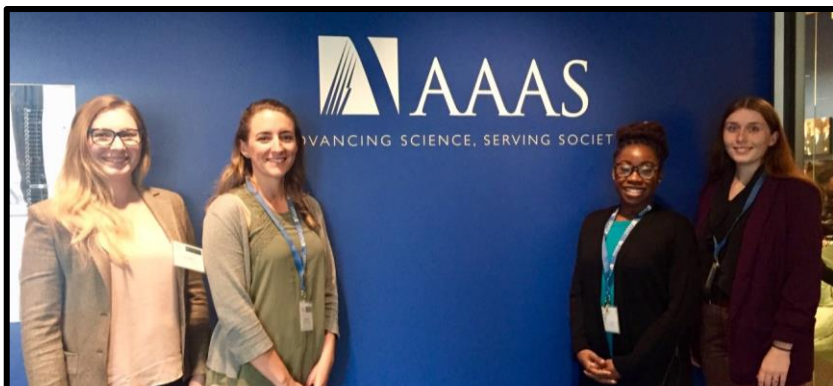


April 19 th	Spring Greening	varies
April 21 st	BioBlitz	2pm
April 29 th	LA Earth Day	12pm
May 5 th	BR Relay for Life	5pm

Editorial: Science is Political

Kelcee L. Smith

Sometimes, while I'm scrolling through Facebook, I stop at a post that effectively says, "science shouldn't be political." The argument continues, something along the lines of: "science is science and it's indisputable, so it can't be political." Now don't get me wrong, I'm super impressed by any of my non-scientist friends sticking up for science on social media – very brave – but of course science is political! Last month I got the opportunity to travel to Washington, D.C. for a science policy workshop offered by AAAS with three other WIS members. The workshop featured the Director for the Office of Government Relations for AAAS, the VP for policy from the Association of American Universities, a Specialist on Congress, representatives from NSF, NIH, and USGS, a House Representative from Illinois, and many others. What was the main message? Science is political.



LSU WIS members attend the CASE Workshop by AAAS in Washington, D.C. Left to right, Erin Good (Physics), Kelcee Smith (RNR), Jessica Simpson (Chemistry), and Kelsie Krafton (Astronomy).

Let's start with the federal government's budget (see FY19 [here](#)). About 2/3 of taxpayer dollars are used for items in the Mandatory Spending category, which includes things like Social Security, Medicare/Medicaid, and reducing the National Debt. The remaining 1/3 of taxes go toward Discretionary Spending. This is the "fun money" category of the budget, and is split into defense (*all* military spending) and non-defense spending (Department of Commerce, Department of Interior, Department of Energy, USDA, NIH, NSF, NASA, and others). If you don't remember from your last civics class, Congress is responsible for writing checks to these agencies once a final budget is approved by both the House and Senate and signed by the President. Also, if you didn't know, many of these agencies pass on government funds to state universities (like LSU) to conduct research – in fact, many of you reading this are probably funded by at least one of the agencies I mentioned above. Science is political.

Now all this political talk has either put you to sleep or made you worried about the current President's effect on science funding. While the President does *propose* a budget to Congress and has the power to veto any changes they make to it (pushing the govt. into a C.R.), it is Congress that has the final say in who gets what. Money is divvied up by Appropriations Committees, of which every member of Congress participates (find out what committees your [senators](#) and [reps](#) are on). For example, the Senators and Representatives in the Commerce, Justice, & Science Appropriations Committee will decide how much to budget for NASA, FBI, NOAA, and NSF. Therefore, the elected officials that sit on these committees are far more important than the President when it comes to science funding. Science is political.

Lastly, I'd like to point out that some of the most influential and arguably most beneficial policies are science related. The Clean Water/Air Act, the Endangered Species Act, the Marine Mammal Protection Act, the National Environmental Policy Act, and many others are in place because convincing science (and constituents) influenced elected officials to create them. Please advocate for the science you think is important – check out [Capital Call](#). Science is political.

So you found a Mentor - now what?

Leadership Team

Having an excellent leader guide you through the ins and outs of scientific research is invaluable for young scientists. And it seems like actually finding a female mentor is the hardest part. There's often not a clear place to look, making the whole process time consuming and intimidating. (If you're still searching for a female mentor, definitely attend Meet A Mentor next week). But there's an additional problem: once you find a great mentor, what do you do next? This next step often gets neglected in our discussions about the importance of female mentors even though it's a critical point in the relationship. You might be nervous about asking for help for the first time or not know how to approach her: "Should I send an email? Am I asking too much? She probably is annoyed with me already." After you find a mentor you have to work to build the relationship, which takes time. Here are some excellent tips for establishing and maintaining the relationship with your newly found mentor.

Hone your relationship building skills:

1. Break the ice: get to know each other with small talk, discussion about current events, movies you've seen recently, or other common interests. She's not in the lab *all* the time.
2. Have patience: let relationships unfold naturally – if you don't, it can seem fake or be off putting.
3. As things grow, stay curious: continue to ask questions about personal stories of overcoming obstacles, how she handled certain situations, tips for how to do better etc.
4. Make it a priority: like other relationships, the more you put it, the more you'll get out.

Establish communication boundaries:

1. Clarify preferences: what is the best mode of communication? Email? Phone? Text?
2. Set expectations: how often should you communicate (weekly, monthly, quarterly), how often do you want to meet, and what are some basic goals.
3. When you meet, have a game plan: what do you want to be mentored on, what are your objectives, what should you be preparing for? Always bring questions.
4. Be respectful: of time, boundaries, and opinions.

Work as a team:

1. Give structure: work through a book, paper, or course to establish teamwork.
2. Do something together: attend a seminar, create a monthly lab lunch, go to conferences, etc. You'll learn how she presents herself, handles situations, or speaks to other colleagues.

Invest in helping each other:

1. It's a two way street: ask about her problems and offer to help, if you can.
2. Add more value: be a reference, invite her to speak or attend a workshop, inform her of a potential grant, interview her for a publication/blog, introduce her to others in the field.

Maintain the relationship:

1. Be in it for the long haul: update a few times a year, if you're in town – meet up.
2. Been out of touch: offer new info about what you've recently accomplished, recognize her accomplishments/awards, offer something that may be useful to her (paper, article), ask a quick question.

In Case You Missed It: Mentor Q&A

Leadership Team

At our March meeting, we had a great discussion about what it is to be a good mentor or mentee. Because it was an OPEN meeting, the opinions and viewpoints came from both mentors and mentees, men and women, and from a variety of departments on campus. If you missed it, no worries, we've summarized the answers to the questions we discussed below.

How do you define “mentor”?

A mentor is a person with relevant experience who is trustworthy; they are someone you aspire to be like.

What makes someone a good mentor?

Open-mindedness, encouraging, challenging, and motivating; willing to stand up for the mentee; approachable; gives mentee freedom to make mistakes without harsh criticism; supports the aspirations of the mentee even if they are different from their own.

What makes someone a good mentee?

Willingness to be mentored, ability to accept help and guidance from the mentor; good communication skills; is not afraid to ask questions but also realizes when they need to be self-sufficient (i.e., find a balance of independence); willing to grow professionally and personally; is self-motivated; is enthusiastic and interested; is not afraid to fail and learn from mistakes; recognizes that the mentor has other obligations and cannot be there all of the time; is capable of challenging the mentor or has something to bring to the table.

What are some concerns or common problems you observe when it comes to mentor/mentee relationships?

Common problems include: not establishing communication preferences, understanding of expectations, or project/goal timelines; lack of clarity, leadership, or common goals.

Communication is key. What tips/suggestions/habits do you use to ensure effective communication between yourself and your mentee/mentors?

Addressing problems as soon as they happen; establish regular lab meetings and updates; tailor those meetings to the person- understand that each mentor/mentee is different and adapt meetings and updates accordingly; establish formal and informal meeting times; if possible, institute an open door policy; find regular hours that overlap to allow for open door policy; have a to-do list ahead of meeting times.

Member Highlight: Renee Dale

Kelcee L. Smith

Math is everywhere in our lives, just ask Ph.D. student Renee Dale. She studies biological mathematics and biostatistics and is our featured member this month. She previously completed a BS in biology, a BA in philosophy, and an MS in biology. Renee also studies educational methods for mathematical biology education and recently obtained the CIRTl Associate certificate. This girl is not afraid of the stereotypes that go with studying math! In her free time she takes care of a cat, a tarantula, a water dragon, and a few hundred hissing cockroaches descended from an undergraduate student groups' research project on memory in cockroaches. Read on to learn more about this inspiring member!

Explain your research in one sentence.

I use math, statistics, and computer science to study biological systems.

Is there a female biologist that inspired you? How so? Please provide their name and a short blurb about their work and why they inspired you.

She isn't a biologist, but Margaret Hamilton made a big impression on me. I really bought into the idea that math/computer science is "for men", and when I saw that famous picture of her dwarfed by the code she wrote I realized how stupid those beliefs were and refocused my efforts to study those fields.

Do you have a favorite memory of being in the field or in the lab?

No, but when I was an undergrad a CO₂ tank fitting flew across the room while I was working with it. I think that pushed me to do "dry lab" research!

What do you enjoy most about being a scientist?

I love problem solving and the constant opportunities to challenge myself.



Margaret Hamilton next to the mountain of code she wrote in 1969.

If you were given a million dollars to conduct any research project you wanted, what would it be and why?

I'd probably use it to develop an algorithm that lets you make some biological inference based on how you think a system behaves. I'm curious if there's a method that could actually produce realistic predictions.

What is the most interesting thing you have learned from your research?

Probably that you can get realistic estimates of how biological processes work from equations, even though you made the equations up and then used some data fitting algorithm to get the estimates. It's pretty incredible.

What are three things you think women need in order to be successful in STEM?

I think we need to be aware of how gender stereotypes affect how we believe we ought to behave and decide if that is something ultimately beneficial or harmful. Research also shows that women tend to put more value on their skill or performance – so perhaps it's worthwhile to spend some time ignoring those doubts. *Want to read more? Check out the rest of our interview with Renee on the LSU Women in Science Facebook Page. As a featured member, she'll be posting more about her research and the questions we asked throughout the month of April.*

Girls Night at the Museum

Sonu Shrestha

The LSU Museum of Natural Science and College of Science, as well as the entire organizational team and volunteers, has my sincerest appreciation and admiration for hosting and successfully orchestrating the first ever Girls Night at the Museum! When my friend Amie Settlekowski, the outreach coordinator for WIS, called for a volunteer to help out at the Strawberry DNA extraction table for this event, I immediately jumped in. For someone who extracts genomic DNA from fruit flies routinely in her research lab, an opportunity to demonstrate such a basic, but important molecular biology technique, to groups of enthusiastic young girls was a perfect blend.



Sonu and Amie from LSU WIS demonstrate how to extract DNA from strawberries at LSU's Girls Night at the Museum in March 2018.

Eight groups of 4-5 girls visited our Strawberry DNA extraction table where Amie and I showed them how to isolate genomic DNA from a whole strawberry. We used easily accessible ingredients: table salt, dish soap, and rubbing alcohol. During the demonstration, we let the girls get hands on, each completed one of the



Girls participating in LSU's Girls Night at the Museum look on as strawberry DNA foams in a beaker.

extraction steps: dropping a strawberry into a Ziploc bag, pouring extraction solution into the bag, crushing the strawberry and mixing it with the extraction solution, and draining the solution through a strainer. After adding rubbing alcohol, the girls keenly watched a white foamy clump of DNA separate into top alcohol layer, and each girl took a turn picking up the DNA with a pair of forceps. During the entire demonstration, and especially the last step where they could see DNA with their naked eyes, the girls were

absolutely stunned. Joyful sounds of laughter and chatter filled the hallway, and there were continued expressions of wonder from each one of the girls as they dangled the foamy clump of DNA around. The sight of these girls getting excited to see what makes all forms of life unique was priceless.

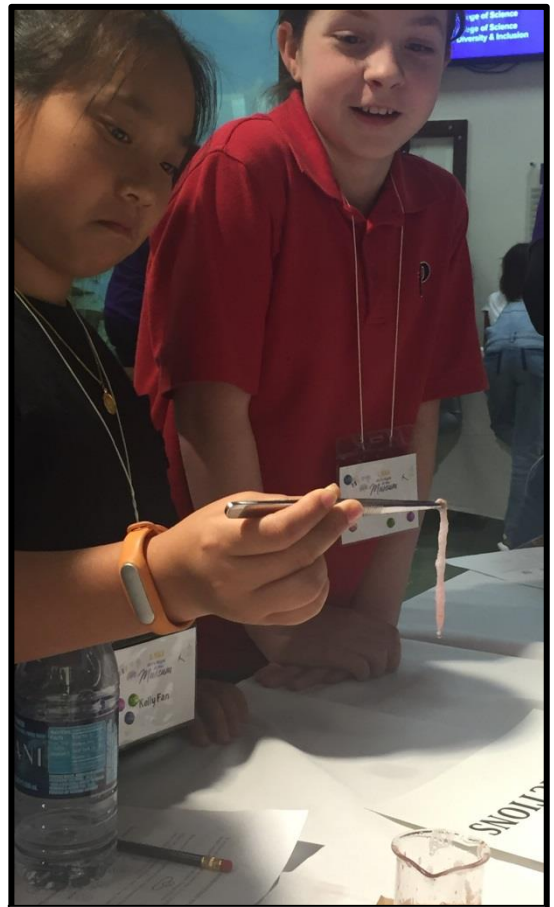
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Following this was a series of questions that arose in these young and curious minds which we did our best to address. One little girl looked up to me and said, “I know DNA is in a cell, but I don’t know where DNA lives inside a cell.” This question shows that the activity made her really think about what was being done. Once she saw the DNA with her own eyes, she wanted to know where one could find this DNA.

The fact that she had this question in mind is evidence that science activities like this actually work. I immediately grabbed a blank paper and sketched a simple diagram of a cell, a nucleus within it, and some wiggly lines representing DNA. I showed this to her and briefly explained the diagram. Her curiosity was fulfilled, and she was pleased to know where DNA lives inside a cell. Overall, the inquisitiveness we witnessed in these girls was remarkable. Amie and I were both blown away by the level of excitement and eagerness shown by the girls. Even the few parents who accompanied their children to our table were equally invested and excited about the activity. Throughout the demonstration, we also asked the girls several questions to get them thinking about the science behind the activity, and this one-on-one interaction gave us an opportunity to really show how exciting and intellectually stimulating science can be.

Encouraging young minds to freely explore all realms of nature and their surroundings, while simultaneously guiding them in the right direction as they begin asking questions, is the key to promoting interest in science among children. This is exactly what Girls Night at the Museum accomplished on March 9th, 2018. It is through events like these that we have a chance to directly reach out to individuals in our community and to make an impact, however small or big. This event was one of the best outreach events that I have had the opportunity to participate in for all the good reasons I hope I was able to express in this piece. I applaud the initiative made by the LSU Museum of Natural Sciences and College of Science for all the effort invested in putting together such a great event and I am happy that I was a part of it. On behalf of the LSU Women in Science team, I thank you for revealing the doors of endless opportunities in science to not only those who participated this year, but to many more girls who will participate in this event in the future as well.



Girls participating in LSU’s Girls Night at the Museum successfully extract strawberry DNA!



LSU WIS members demonstrate strawberry DNA extraction steps to girls attending LSU Girls Night at the Museum

Interested in learning more? Want to participate in other outreach events with WIS? Read on and contact Amie (asettl1@lsu.edu)!

Outreach Update

Amie Settlekowski

OPEN

[Spring Greening Day](#): April 19th, 10:30-1:30pm at LSU Free Speech Alley

WIS event leader – Amie Settlekowski

Event description – Volunteer to plant and green the campus. LSU Sustainability organizes volunteers from across LSU departments and ranks to participate in campus beautification. All volunteers will be planting in Memorial Oak Grove behind the Student Union. T-shirts and lunch will be provided for all volunteers. Volunteer for 1 hour or all 4 hours.

WIS Involvement – Must [register](#) to attend. If 10 members sign up under Women in Science at LSU, we will get \$250!



[BR Bioblitz](#): April 21, 2 - 4 pm at Greenwood Community Park, Baker LA

WIS event leader – Ashley Booth

Event description – Bioblitz is an annual citizen-science event that facilitates public engagement in collecting baseline species distribution data for the BREC Conservation program and promotes awareness of BREC Conservation Areas

WIS involvement – We will set up a table to provide resources for parents to foster their students' interests in STEM. Sign up [here](#)!



[Louisiana Earth Day](#) – April 29, 12-5pm at LSU Parker Coliseum

WIS event leader – Joanna Griffiths

Event description – Sea Grant organizes a family-friendly day full of entertainment for children of all ages that includes music and hands-on activities that address environmental issues, sustainability, or responsible stewardship of Earth's resources.

WIS Involvement – We will set up a table to provide resources for parents to foster their students' interests in STEM. Sign up [here](#) to volunteer at the table for an hour.

[Relay for Life \(RFL\)](#) – May 5, 5:00 pm at AZ Young Park, Downtown Baton Rouge

WIS event leader – Holly Kelchner

Event description – BR RFL is part of the annual, global fundraiser for the American Cancer Society, which provides funding, for crucial cancer research and education among other things. People participate by signing up for a team that raises money leading up to RFL and walks at the event, or simply by donating through a team.

WIS Involvement – Because we don't yet have the capacity for fundraising, our members are encouraged to personally fundraise with the incentive that you receive a free t-shirt when you reach \$100. At the event we will set up a table to provide resources for parents to foster their students' interests in STEM, and build networking connections in the community. Sign up [here](#)!



RESOURCES

Found a Mentor – Now What?

How to create better networks – [Networking for Nerds](#)

Communication [skills](#) of effective leaders

Keep professional relationships from [fizzling](#)

Build a great [team](#) in your lab

Mentor/Mentee Resources

National Mentoring Resource Center ([NMRC](#))

How the [Dept. of Education](#) trains mentors

Physics Research Mentor [Resources](#)

Do you have the [qualities](#) of a great mentor?

A [guide](#) for every step in your career

Top [10 tips](#) to maximize your mentoring

Tips from [female leaders](#) on mentoring

Tips for [Mentees](#)

Science Outreach Resources

[Louisiana STEM Girls Collaborative Project](#)
[Environmentors](#)

How to best approach [science outreach](#)

But [what](#) can I do?

Some [ideas](#) from NASA

General Women in Science Resources

[Online Resources for WIS](#)

[Science Magazine: Resources for WIS](#)

[WIS Resource Blog](#)

[Peer Reviewed Research about WIS Issues](#)

[Undergraduate WIS Resources](#)

[Graduate WIS Resources](#)

[Grants for WIS](#)