

**Thank you to all our faculty, staff, students
and sponsors for a great event!**

Activity Presenters

Mr. Hayder	Al Atabi	Dr. Bin	Liu
Mr. Reece	Berens	Mr. Song	Liu
Dr. Amy	Betz	Ms. Safia	Malallah
Mr. John	Coffin	Ms. Thiya	Mukherjee
Dr. Melanie	Derby	Dr. Annelise	Nguyen
Dr. Kevin	Donnelly	Dr. Pavithra	Prabhakar
Dr. Jim	Edgar	Dr. Callie	Rost
Dr. Maureen	Gorman	Ms. Paula	Rozo
Dr. Urara	Hasegawa	Mrs. Kathrine	Schlageck
Dr. Jessica	Heier Stamm	Dr. Kathrin	Schrick
Dr. Megan	Kennelly	Dr. Peter	Sues
Ms. Lauren	Konrade	Dr. Dana	Vanlandingham
Ms. Stephanie	Lee	Ms. Emily	Wedel
Dr. Dong	Lin	Dr. Josh	Weese

GROW Staff

Dr. Chardie	Baird	Mrs. Tawny	Ochs
Ms. Sara	Heiman	Ms. Kelsey	Robinett

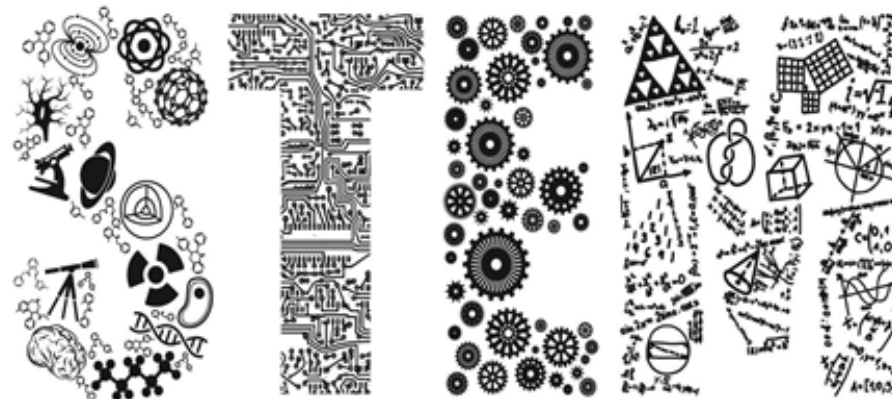
Summer Mentors

Alexis	Bieker	Tori	Matta
Nicole	Doughramaji	Emme	Mount
Bernadette	Drouhard	Abbey	Pentz
Diana	El-Koubysi	Gabriella	Radina
Andrea	Garcia	Catelyn	Richards
Ashleigh	Kelly	Katherine	Smith
Megan	Kohman	Regan	Wilson
Payton	Masoner		

GROW

GIRLS RESEARCHING OUR WORLD

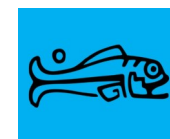
19th Annual Summer Workshop



June 6-8, 2018



GI: Blue Barracudas



**KANSAS STATE
UNIVERSITY**

Office for the Advancement of
Women in Science and Engineering

WELCOME

Dear GROW participant,

We are so honored that you have chosen to spend a part of your summer with us! We have been working on this event all year and we hope that you have a memorable experience.

The activities that you will participate in over the next few days are designed to be enriching, hands-on experiences in various fields in Science, Engineering, Technology, Mathematics and Agriculture. We hope to spark your interest and give you a vision of your next steps in education and your career.

This handbook has important information to help you have a positive and successful experience while on campus. It is also a good keepsake of your time here.

We hope you have a great time at the workshop! Please ask an adult with the program or a mentor if you need anything or have questions. We are here to make sure you have the best experience possible.

GROW & EXCITE Committee

Ms. Sara Heiman

Dr. Chardie Baird

Dr. Beth Montelone

Dr. Jackie Spears

Dr. Ruth Dyer

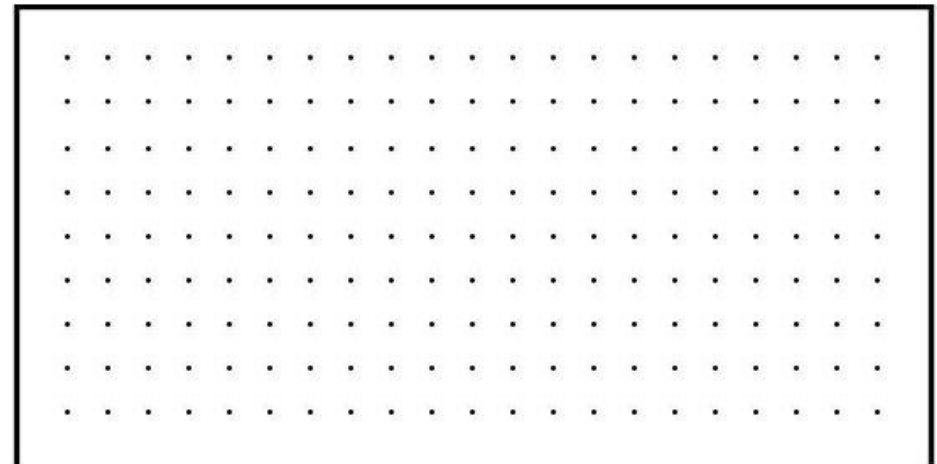
Games

			4				
		2	6	7	1		
8	7	1			6	9	4
	6					4	
2		5	9		6	7	8
	8					2	
6	5	8			4	7	1
		9	4		8	5	
			7				

	5	3				1	7
	2		1		9		6
				4			
1							9
	4	7				8	5
3							2
				5			
	3		7		2		1
	7	6				4	8

Travel Connect-the-Dots Game

This game is best played by two people but can be played by more if you like. The object of the game is to make a box. In turn, each person draws a line connecting two dots either horizontally or vertically. Whoever draws the final line that forms a box, gets to put their initial in that box. You get one point for each box you complete. The winner of the game is the player with the most points when no more lines can be drawn.



Activities

Do mosquito larvae hide from fish?

Dr. Paula Rozo

Mosquito larvae live in water with many other organisms including fish. Many fish will feed on larvae, thus detecting predators and associated levels of threat are crucial for survival. We will use mosquito larvae to study behavioral responses to predation threat from minnows. Specifically, we will use different substrate choices to observe how larvae can hide from the predator and survive.

DNAmazing: How much DNA is in a strawberry and me?

Mr. John Coffin

Do plants or animals have more DNA? In this activity, you'll find out this and more, as we get the blueprints for life out of your cells and look at them without even using a microscope.

Solving Mazes with Robots

Dr. Pavithra Prabhakar

In this session, we will work on programming a simulated robot that will solve a maze. We will then see how we can use the same program on a robot in the real world to solve the same maze.

THE RULES

- Please wear flat, closed-toed shoes to all daytime activities
- Wear your nametag at all times
- Wear your GROW! t-shirt on Thursday
- If you are going off campus or to a lab, wear long pants
- Be on time and follow the schedule
- Stay with your group and mentors at all times
- Furniture in the rooms can not be moved/rearranged
- Switching of roommates is not allowed
- Extra towels, blankets and soap are available at the front desk of the residence hall
- Male staff members may be on the floor, please dress appropriately when you are not in your room
- Whenever a fire alarm is sounded, everyone must evacuate the residence hall
- If you lose your room key, you will be charged \$50 to replace the key
- Cell phones or other electronic devices may not be used during any workshop activities



Schedule



Wednesday, June 6th		
<u>Time</u>	<u>Activity</u>	<u>Location</u>
9:00	Check In	
10:30	Opening Session	Leadership 114
11:30	Survey	Durland 1114
12:30	Lunch	Derby Dining Center
1:30	Jam Session	Beach Museum
3:30	What do you mean there is metal in my water?	King 107
6:00	Pizza Party	Umberger 105
11:00	Lights Out!	
Thursday, June 7th		
8:00	Breakfast	Derby Dining Center
8:30	Making Next Generation Battery	Durland 1029
10:00	HERO	Rathbone 2078
11:30	Lunch	Derby Dining Center
12:15	Group Photos	
1:00	Do mosquito larvae hide from fish?	Calvin 212
3:30	DNAmazing	Ackert 121
5:00	Dinner	Derby Dining Center
7:30	Pool Party	
Friday, June 8th		
8:30	Breakfast	Derby Dining Center
9:00	Solving Mazes with Robots	Durland 1117
11:15	Survey	Durland 1114
12:15	Lunch	Derby Dining Center
1:15	Group Time & Pack	Ford Hall
3:30	Closing Session	Leadership 114
4:00	Check Out	Ford Hall

Mentors : Tori Matta & Bernadette Drouhard

Activities

Jam Session

Dr. Kathrine Schlageck

View the summer exhibition Jam Session: Musical Selections from the Permanent Collection and create your own instruments from found objects

What do you mean there is metal in my water?

Dr. Peter Sues

We will be looking at the chemistry of different metals found in water and how they react to the addition of different chemical substances. Students will observe colour changes, the formation of solids, and will investigate what metals are in an unknown vitamin bought at a grocery store.

Making Next Generation Battery

Dr. Bin Liu

Students will get hands-on experience to assemble simple solar-cell based devices and to use such device to power fans, music box. In a second experiment, students will assemble a battery-powered toy car based on electrolysis. Introduction new carbon-based materials as electrode in next-generation batteries

HERO: Humanitarian Engineers Responding Optimally

Dr. Jessica Heier Stamm

Did you ever wonder how relief agencies deliver supplies to people after a natural disaster? You will be a HERO as you work with your team to get supplies there fast and learn how engineers can improve disaster response!