

# New York State 4-H CAREER EXPLORATIONS CONFERENCE

## 2018 Program Facts

### Quick Details

**Dates:** June 26-28, 2018

**Location:** Cornell University

**Arrival:** 10 AM - 12:00 PM on June 26

**Departure:** 2:30 PM on June 29

**Cost:** \$260 per youth and \$260 per chaperone

**Registration:** Opens March 23, closes June 1

**Program Tracks:**

University U: teens entering 8<sup>th</sup> - 9<sup>th</sup> grades

Focus for Teens: teens entering 10<sup>th</sup> - 12<sup>th</sup> grades

### Hello everyone!

I'm excited to share information for this year's 4-H Career Explorations! Career Ex is a great opportunity for you to experience life at Cornell, explore how your 4-H projects can lead to careers, and meet new friends!

I'd especially like to thank our great team of Educators, Volunteers, and Focus Assistants helping to plan and make this event happen.

Please read carefully through these Program Facts to decide how you will participate. Registration is online and needs to be completed by your county 4-H Educator.

I hope to see you at Cornell this June!

**Alexa Maille**

*NYS 4-H STEM Specialist*

*4-H Career Explorations Event Coordinator*

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# General Information

The **4-H Career Explorations Conference** is made up of two program tracks – **University U** (for those entering 8th & 9th grade) and **Focus for Teens** (those entering 10th – 12th grade). Teens choose the grade appropriate program and then Focus participants select three Focus programs they are most interested in exploring.

- **University U:** Participants will be introduced to Cornell's campus through campus tours and participating in six different departmental workshops that will expose participants to a wide variety of topics. Youth will be randomly assigned to these UU programs.
- **Focus for Teens:** This is a more intense program where participants spend 3 days with a specific Department. Returning Focus for Teens participants should not apply to the same department program they attended in previous years. See program listings for more details.

## General 4-H Career Exploration Program Policies

**Behavior:** Everyone (youth and adults) is expected to create an inclusive and welcoming environment at Career Explorations and respect the diversity of conference participants (e.g. race, religion, sex, sexual orientation, cultural background, etc.). Everyone will be expected to uphold the NYS 4-H Code of Conduct. All youth and adults are expected to model appropriate behavior and follow guidelines stated on the 4-H Career Exploration registration form. In addition, all Cornell property and Cornell program presenters should be treated respectfully. Delegates acting inappropriately will be sent home at their cost/inconvenience.

### Please Note:

- Adult chaperones will have the authority to make decisions in the absence of a County 4-H Educator if necessary. Focus Assistants should be involved in decisions about the group as appropriate.
- Chaperones will be expected to intervene in any situation that violates the rules of the event or the basic rights of others, including with youth from other counties. Any problems with youth from other counties should be dealt with immediately and then reported to the appropriate chaperones, Chrys Nestle, John Bowe and Alexa Maille.

**Eligibility:** The 4-H Career Explorations Conference is open to all NYS youth in grades 8-12. Registrations are handled through your local county Cornell Cooperative Extension (CCE) 4 H program. CCE County Associations have varying policies about participation in 4-H events, and not all counties participate in 4-H Career Explorations. The NYS 4-H Office encourages CCE Associations to invite all teens involved in their programs to participate in Career Ex.

**Program Evaluation:** Conference participants will be asked to help us learn about the program effectiveness by completing a survey or sharing their reflections. Participation in program evaluation efforts is completely anonymous, voluntary, and there is no impact on program participation if someone decides not to complete a survey. A participant, parent, or guardian may withdraw consent at any time and a participant may refuse any survey request at any time. Parents and participants give or deny their permission to participate in program evaluation efforts by completing the Permission Slip.

### Other policies:

- Most youth will be assigned a double-occupancy room. Youth cannot switch rooms. Roommates requested on registration forms will be assigned when possible. Participants are responsible for damages that occur to the room during their stay.
- Any disturbances or emergencies should be reported to a chaperone.
- Alcohol, tobacco, and other drugs are strictly prohibited.
- Parents of disruptive participants will be notified & participants will be sent home at parents' expense.
- Participants must be in the dormitory by 10:00 p.m. Lights out and strict quiet hours begin at 11:00 p.m.
- Photos taken during the program may be used to promote 4-H Youth Development.

## Preparing for the Conference

**Registration:** Participants must register with the local 4-H Youth Development program through your county Cornell Cooperative Extension Office. Registration opens in March and will close June 1 or when programs are full, whichever happens first. This can occur before June 1. Counties will be billed directly for the registration fee and any additional room and board fees as appropriate.

**Cost:** \$260 per participant to cover room, board, and program fees. Early Arrival/Late Departure costs: Double Room per night - \$32.00, Single Room per night - \$40.00, Breakfast: \$8.65, Lunch: \$12.60, Dinner: \$16.25. Scholarships are competitive but available. Please note: transportation to and from the event is at the participant's own expense. Some CCE Associations charge additional fees to cover transportation & chaperone expenses.

**Scholarships:** Scholarship applications are due at the time of registration, or no later than May 1. To apply for a full or partial youth scholarship, please complete the scholarship section of the Registration Form. Scholarships are limited and will be awarded to qualified applicants through a competitive review process. Scholarship applications must be approved by a county 4-H Educator.

**Early Arrival:** Please indicate your needs on the registration form if your county plans to arrive on campus early. See costs above. Teens arriving early must have a chaperone (we provide chaperones for Focus Assistants). Contact Alexa Maille, [ask37@cornell.edu](mailto:ask37@cornell.edu), to make special arrangements.

**Chaperones:** Counties are expected to provide chaperones in about a 1 to 6 ratio for teens attending. Chaperones may be shared with other counties. Every participant must have a designated chaperone. The state office needs to know about multi-county groups that need to be housed together. The chaperone registration fee is the same as for youth. Chaperones will be expected to supervise youth from other counties during program times and while supervising evening social activities.

**Lead Educator:** Each Association is expected to have a Lead Educator designated as your group's main contact, for volunteer supervision, and for crisis and incident management. Lead Educators may be from your Association or another Association.

**Cancellation Policy:** Cancellations prior to June 11 will not be charged. Cancellations after June 11 will be billed a \$100.00 cancellation fee. Same gender, same program replacements are allowed, but need to be registered before arrival at the conference. No-shows will be charged in full.

**Chaperone and Participant Orientation:** The Delegate Handbook will be available online by early June. All chaperones and participants should review the new handbook prior to coming to Career Explorations. We strongly encourage 4-H Educators to hold an orientation meeting to review this information before coming to campus.

## While you're on Campus

**Check In:** Your delegation needs to arrive between 10:00 a.m. and 12:00 p.m. on Tuesday, June 26. There are lots of great things to do and see on campus should you arrive early. The delegate handbook will include a listing.

**Parking:** There is NO PARKING on central campus during the event. Association and personal cars must be left at Cornell Conference lot (CC). Vehicles with "official" plates may park on campus in eligible parking spaces without additional fees being assessed. Parking permits will be available for the CC Lot at registration. If you are in need of handicap parking, please notify the state office in advance.

## Dormitory Housing

- Chaperones should check rooms upon arrival, noting damages or defective appliances.
- Please use hair dryers in the bathrooms only.
- Linens are provided with rooms including sheets, pillow and pillowcase, one blanket, one towel, one washcloth, and soap. Participants will be asked to make their own beds.
- Participants will have to supply their own towel for the pool.
- Participants may want to bring an alarm clock and a fan.
- If there are problems with the rooms (i.e. light bulbs burnt out), contact staff immediately so that problem can be resolved or noted.
- Youth need to be careful not to lock themselves out of their dorm rooms. Doors close and lock automatically.

**Telephones:** There are no phones in the dorm rooms. Do not use cell phones during program times unless it is part of the program or an emergency.

**Safety:** Even though Cornell has a rather tranquil setting, be assured that serious crimes can and do occur along its pleasant footpaths.

- Youth should never walk alone anywhere on campus at any time.
- Dorm doors should be locked at all times.
- Under no circumstances should youth leave the dorm at night.
- The Safety Division's (Cornell police) phone number is 607-255-1111.

**Emergencies:** Chaperones will receive a list of campus emergency numbers during orientation.

**Free Time/Recreation:** Some participants may wish to arrive early to meet with Cornell admissions and/or tour the Cornell campus (see handbook for where assistance in arranging tours is available). During evening free time on Tuesday and Wednesday nights, there will be several options for recreation including: a movie, swimming and bowling, billiards, outdoor games, and more. There will also be a quiet lounge open for reading and silent relaxation. During free time activities, chaperones will be assigned to supervise one of the free time activities. If you so choose, you may bring items such as Frisbees, soccer balls, footballs, etc. to use during free time outside, as there is plenty of space for outdoor activities. Evening activities are offered as a time to meet people from around the state. All participants are expected to participate in some form of evening activity with adult supervision and should not be in the dorm before 9:00 pm. If a youth needs to go to the dorm for any reason they need to be accompanied by an adult.

**Curfew:** It is required that all delegates (youth and adults) follow the following schedule.

9:00 p.m.	Dorms open to youth with their chaperones.
10:00 p.m.	4-H Career Exploration programs end. Everyone inside dorms
11:00 p.m.	Settled in assigned rooms and lights out and phone off.

To have the best possible experience at Career Explorations, youth should be getting at least 8.5 hours of sleep.

**Campus Transportation:** A 4-H Focus Assistant will escort participants to their program or bus pickup every morning. Be on time and prepared to walk about 15-20 minutes to your program destinations. Program gathering and departure times will be listed in the Delegate Handbook within the itineraries for each specific program. Please be aware departure times may vary for specific programs. If there are special transportation needs, please be sure to notify Alexa Maille in advance of the 4-H Career Explorations Conference. Walking is a part of the college experience at a large world-class university like Cornell. Enjoy the beautiful campus and get some healthy exercise - so wear sneakers or comfortable walking shoes!

**We will have a Google Map with all the Program Locations pinned to help you navigate campus. Look for it in the Handbook!**



# Program Descriptions

## Focus for Teens

### **Title:** 4-H Geospatial Science

*Emerging Technology and Hands-on Feet-on Science Fun*

**Cornell Department:** Institute for Resource Information Sciences, Section of Soil and Crop Sciences

**Maximum Number of Youth Accepted:** 20      **Minimum Number of Youth Needed:** 10

#### **Description**

What do the New York Giant Traveling Map, Solar Induced Chlorophyll Fluorescence and the SMAP satellite have in common? 4-H Geospatial Science is geocaching and more! Design and fly fixed wing foam drones with cameras. Help develop exciting new 4-H STEM activities. Explore 4-H Geospatial Science outdoors, indoors and in the lab.

**Packing Suggestions** Closed-toed walking shoes and appropriate outdoor clothing

### **Title:** A Tour of Human Development Across the Lifespan

**Cornell Department:** Program for Research on Youth Development and Engagement (PRYDE), Bronfenbrenner Center for Translational Research, College of Human Ecology

**Maximum Number of Youth Accepted:** 20      **Minimum Number of Youth Needed:** 10

#### **Description**

Are you interested in understanding how people learn, grow, and thrive? Are you considering a career in sociology, psychology, neuroscience, medicine, education, public health, or social work? In this program, you'll explore the various phases of human development ranging from infancy to older adulthood. You'll meet faculty, students, and professionals in the field and discover the many techniques they use to study human behavior. This program also features hands-on research, including interviews with elders about their life experiences. Prepare to be inspired!

**Packing Suggestions** None

### **Title:** Cardiac Engineering

*At the Heart of It All*

**Cornell Department:** Biomedical Engineering

**Maximum Number of Youth Accepted:** 15      **Minimum Number of Youth Needed:** 12

#### **Description**

You will have the chance to see and discuss how engineering principles are abundant in biology and medicine and learn how these principles can be applied to create new, cutting-edge medical therapies. The theme will be "intersection of developmental biology and regenerative medicine to engineer and study hearts." You will rotate through stations led by graduate students where you will get to grow chick embryos outside the shell, learn how the environment affects cell behavior, identify different structures as they form, including an inside look at the beating heart, learn how imaging technologies are used in medical research, engineer and make gels that are used in biology and in the body, and learn how three dimensional printing can lead to custom-built heart valve replacements. Come ready to learn and have a GREAT time!

**Packing Suggestions** Closed-toed shoes; no flip-flops or open shoes in the laboratory

## **Title: Dress Code**

### *The parallels between computer coding and fashion*

**Cornell Department:** Fiber Science and Apparel Design

**Maximum Number of Youth Accepted:** 15      **Minimum Number of Youth Needed:** 10

#### **Description**

In this hands-on workshop, you will learn about weaving as a way to understand the binary system and the similarities in weaving and coding as algorithmic processes. You will take part in weaving and coding activities throughout three sessions that intertwine the relationship between art, craft, mathematics, and digital processes.

**Packing Suggestions** None

## **Title: Engineering the Microbiome**

**Cornell Department:** Biomedical Engineering, Genetics

**Maximum Number of Youth Accepted:** 10      **Minimum Number of Youth Needed:** 3

#### **Description**

The bacteria living in our gut, known as our gut microbiome, can impact our health! Changes in the types of bacteria in our gut are associated with disease. Learn how bacteria interact with the immune system, and understand how supplements like probiotics and prebiotics impact your microbiome.

**Packing Suggestions** Long pants and closed toed shoes, appropriate for lab

## **Title: Environmental Engineering**

**Cornell Department:** Biological and Environmental Engineering

**Maximum Number of Youth Accepted:** 20      **Minimum Number of Youth Needed:** 5 to 8

#### **Description**

With an overarching emphasis on water, we will explore the diverse and exciting field of environmental engineering. We will practice different water quality measurements, design water filters, and learn how land cover affects the movement of water through our watersheds. On a tour of the Ithaca Wastewater Treatment Plant, we will also learn how environmental engineers make wastewater safe for us and the environment, while simultaneously producing renewable bioenergy.

**Packing Suggestions** Participants should wear close-toed shoes during most of the program. On Wednesday they should carry a second pair of shoes that can be worn in the creek. These can be open- or close-toed; however, we do not recommend flip flops because they are slippery. They should also consider wearing shorts or pants that can be rolled up to approximately knee-level on Wednesday.

## **Title:** Exploring the Solar System and the Universe

**Cornell Department:** Cornell Department of Astronomy, Cornell Center for Astrophysics and Planetary Science, Astronomy Graduates Network

**Maximum Number of Youth Accepted:** 20      **Minimum Number of Youth Needed:** 5

### **Description**

In this workshop, you will investigate the meaning behind Carl Sagan's famous quotation: "We are made of star-stuff." You will do science and take on the challenge of discovery through hands-on activities. Starting with the Big Bang and ending with the human body, we will trace the 14 billion year journey of a single atom, from the birth of the Universe, through the formation and evolution of stars, to the development of the Solar System, our home planet Earth, and the origin of life.

**Packing Suggestions** None

## **Title:** Fossil Collecting and the Science of Paleontology

**Cornell Department:** Paleontological Research Institution and the Museum of the Earth

**Maximum Number of Youth Accepted:** 10      **Minimum Number of Youth Needed:** 5

### **Description**

Discover the science of paleontology by learning about NY state fossils and its geology as you explore a research collection, discover museum exhibits, and collect fossils of your own. This program will lead you through each step from collecting to curating as you build your paleontological knowledge and your own fossil collection.

**Packing Suggestions** We recommend clothing to protect 4Hers from ticks and sun. Long sleeves and pants with closed-toed shoes.

## **Title:** League of Coders

**Cornell Department:** Mann Library, Cornell University Library

**Maximum Number of Youth Accepted:** 20      **Minimum Number of Youth Needed:** 5

### **Description**

Interested in developing your own website? Considering a career in web design and development or coding apps? These are exciting fields with plenty of room to be creative and innovative! We'll introduce website fundamentals, such as HTML and CSS, and then you'll learn how to integrate data and/or add user interactions by writing conditionals, loops and functions using Javascript. You'll also learn about and practice user-centered design activities, including sketching, prototyping and testing, which will help us build a user-friendly site.

**Packing Suggestions** None

## **Title: Learning to Program Robots with Baxter**

**Cornell Department:** Institute for Resource Information Sciences, Section of Soil and Crop Sciences, School of Integrative Plant Science, CALS

**Maximum Number of Youth Accepted:** 12      **Minimum Number of Youth Needed:** n/a

### **Description**

This program is designed for youth with no programming experience. Using a simple drag-and-drop programming environment, you will program our humanoid robot, Baxter, to solve puzzles by stacking colored blocks. In the process, you will gain computational thinking skills and learn about career paths in computer science and robotics.

**Packing Suggestions** None

## **Title: Media Corps**

**Cornell Department:** University Communications

**Maximum Number of Youth Accepted:** 18      **Minimum Number of Youth Needed:** n/a

### **Description**

Participants will see what we offer through University Communications on a Studio Tour. We will explore audio work, radio, and video. Time will be provided to work as a team. We will go over editing styles, producing footage, lighting, camera techniques, and then have time for everyone to work on 3-minute videos which can be uploaded to NYS 4-H's YouTube channel. You may be filming in multiple places around campus so be ready to walk around. Participants are encouraged to bring their own devices to learn how to use these skills at home. This is a great training opportunity for youth interested in the State Fair Media Corps

**Packing Suggestions** Smartphones, tablets, or iPods if available, and the USB cord that connects with it. If you don't have your own equipment, you will be able to share with someone else. Walking shoes.

## **Title: Our World of Polymers and Nanoparticles**

**Cornell Department:** Chemical and Biomolecular Engineering Department: Alabi Research Group

**Maximum Number of Youth Accepted:** 20      **Minimum Number of Youth Needed:** 8

### **Description**

Ever wonder how computer chips are made? Or what makes ice cream so good? Or how antibiotics work? Chemical engineers explore these phenomena every day to try to solve problems with modern day medical challenges and the creation of specialized materials. In our laboratory, come explore how nanoparticles and polymers can be used to improve drug development and materials. Youth will make nanoparticles and polymers and explore their material and biological applications. We will also discuss the diverse set of careers for chemical engineers, ranging from the petroleum industry, to healthcare, to microelectronics, and even the food industry.

**Packing Suggestions** Close-toed shoes

**Title: Rockets, Boats, and Bridges**  
*Applications in Mechanical and Aerospace Engineering*

**Cornell Department:** MAE, SiGMA  
**Maximum Number of Youth Accepted:** 25      **Minimum Number of Youth Needed:** 10

**Description**

Explore and develop engineering problem-solving skills through hands-on activities. You will learn about solid mechanics by constructing balsa wood bridges, investigate flight dynamics by building and launching rockets, and engage with fluid mechanics by designing water craft and conducting experiments.

**Packing Suggestions** Bring appropriate clothing for both indoor and outdoor activities. Close-toed shoes are required.

**Title: So you want to be a Food Scientist?**  
*Pick your pathway as you build your own ice cream company*

**Cornell Department:** Food Science  
**Maximum Number of Youth Accepted:** 20      **Minimum Number of Youth Needed:** 10

**Description**

Work in teams to create your own ice cream brand and develop a flagship ice cream flavor. Creativity is a must in choosing flavors and production strategies for a unique and marketable product. However, along the way students will be challenged with various snafus that food scientists must use technical skills to solve. What engineering principle can be adjusted to improve ice cream texture? How do ingredient interactions impact ice cream flavor, and are consumers accepting of these ingredient combinations? What do you do if your company is implicated in an outbreak of foodborne disease? You will be on your toes coming up with lab-based solutions to these challenges and will give a final “pitch” to professional food scientists based on your product design.

**Packing Suggestions** Lab appropriate clothing - pants and closed-toed shoes

**Title: Vet for a Day**

**Cornell Department:** College of Veterinary Medicine, Vet Ed Club  
**Maximum Number of Youth Accepted:** 25      **Minimum Number of Youth Needed:** 15

**Description**

You will engage in hands-on learning as you perform veterinary physical exams on small and large animals, and learn the ropes of dissection in our anatomy lab. You will also hear presentations about veterinary school admissions, tour the hospital, and participate in interactive case presentations by faculty.

**Packing Suggestions** Please wear close-toed shoes and tie back long hair.

## **Title: Women & Science**

**Cornell Department:** Human Development

**Maximum Number of Youth Accepted:** 25      **Minimum Number of Youth Needed:** 1

### **Description**

Do the toys you have as a child shape your future career goals? Do stereotypes affect your academic performance, even without you being aware of it? These are the types of questions we explore in “Why aren’t there more women scientists?” In addition, you will get to meet women scientists and learn about their diverse research areas within the field of psychology and human development including forensic psychology and neuroscience. This program will give you a glimpse of what it’s like to be a social scientist in real life. Participation and activities are the best part! Come learn about the real world of psychology and human development you never hear about in school – and prepare to be entertained.

**Packing Suggestions** Something to wear if the classroom is cold.

## **Title: Masterpieces in our Midst**

*What It’s Like to Work in an Art Museum*

**Cornell Department:** Herbert F. Johnson Museum of Art

**Maximum Number of Youth Accepted:** 15      **Minimum Number of Youth Needed:** 10

### **Description**

You will be involved in planning a museum program from “A” to “Z”--designing a museum program based on a selection of artwork from the Johnson’s collection. You will do research about select work/s of art in the Museum’s collection and create and lead a hands-on workshop inspired by the selected artwork/s. You will have access to behind-the-scenes operations at the Johnson Art Museum. You will be introduced to Johnson Museum educators and learn about their career paths, how they got to working at the Johnson, and the role that each plays within the department of educators at the Museum.

**Packing Suggestions** None.

## **Title:** Breaking Bonds and Changing Color

*A Mechanical Engineering Take on Chemistry*

**Cornell Department:** Mechanical and Aerospace Engineering

### **Description**

Come learn about mechanochemistry - using force to perform chemistry - an exciting new means for designing smart materials. Following a concept introduction and demonstration of mechanical testing of materials, you will work in groups to construct your own macroscale version of a mechanochemically active material.

## **Title:** Breathing Life into Robots

**Cornell Department:** Mechanical and Aerospace Engineering

### **Description**

How do robots come to life? Learn about the engineering and computer science challenges of making robots move as if they were alive. You will then use computer animation methods to plan and build the movements of a small robot and then upload your movements to a real robot in the lab.

## **Title:** Gist and the Brain

*How Gist Helps Us Understand the Risks of Concussions*

**Cornell Department:** Department of Human Development, The Laboratory for Rational Decision Making, Human Neuroscience Institute

### **Description**

Participate in an interactive, hands-on, neuroscience program that shows how sports-related concussions affect the brain and how our lab is creating learning experiences with gist-based reasoning to improve people's understanding of the risk of concussions. With your help, this program will help us learn about how teenagers make choices about sports-related concussions. Your participation will also help us find out whether this program helps teens make smart choices that will help teens know how to live healthy and active lifestyles. Your participation will help make a difference! Some of the activities will include role plays of situations and small group discussions about how to do things differently. Students may do small research activities for their own data collection, or may participate in brief outdoor physical activities as part of the curriculum.

## **Title:** How We Control the Flow of Light

**Cornell Department:** Materials Science and Engineering

### **Description**

This activity seeks to provide a conceptual understanding of how light is a wave, how we utilize this effect to flow information, and lastly how to use optical materials to control the flow of light. Explore reflection, refraction, and diffraction through hands-on activities.

## **Title:** Nanoengineering

*How to build very, very, very, very small circuits*

**Cornell Department:** Cornell NanoScale Facility, Research Division

### **Description**

Nanoengineers make circuits that are so small that it takes an electron microscope just to see them! They use the tools at the Cornell NanoScale Facility. We'll show how engineers make tiny circuits, even ones that are stronger than steel, but still bend! We will also power up electron microscopes to take a look.

## **Title: Oxyponics**

### *Bridging the Gap Between Science and Business*

**Cornell Department:** Biomedical Engineering project team

#### **Description**

Cornell iGEM will present their 2017 synthetic biology project Oxyponics, which won best supporting entrepreneurship at the iGEM competition in November. We will discuss the hot topic of synthetic biology and describe the many interactions with business in this field, highlighting our involvement with REV, a local startup incubator. You will work in teams to come with a biotechnology startup idea that would positively impact the world. Each team will “pitch” their project to the rest of the class.

## **Title: Polymer Chemistry**

**Cornell Department:** Center for Sustainable Polymers/Department of Chemistry and Chemical Biology

#### **Description**

You will learn about plastic polymers and will do an experiment where you convert a compostable drink cup into a cleaning solution. Recycling, biodegradable plastics, and polymer properties will also be introduced.

## **Title: Rockets!**

**Cornell Department:** Xraise

#### **Description**

You will build and launch rockets skyward to gain intuitions about physics concepts like force, velocity, pressure, volume, momentum, and acceleration. Using recyclables, glue guns, and your own creativity, you will experience rapid prototyping, experimental methods, and iterative design to make things fly over 100 ft. into the air.

## **Title: Run, Jump, Lift**

### *Medical Devices To See How Your Body Works!*

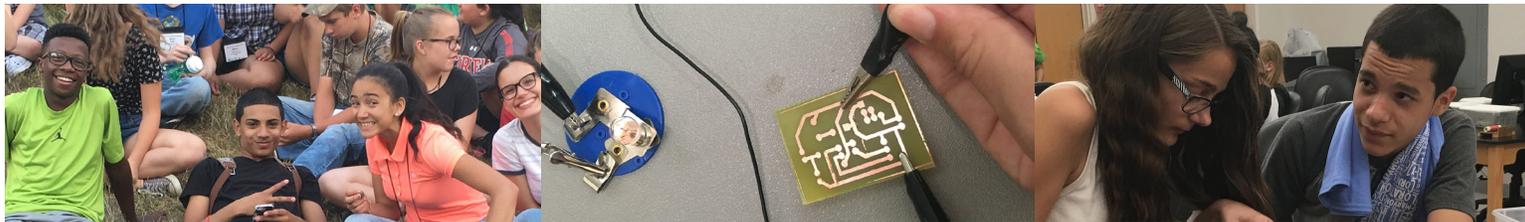
**Cornell Department:** Meinig School of Biomedical Engineering

#### **Description**

You will engage in interactive engineering design activities supplemented with basic anatomy and physiology concepts to gain a deeper understanding of the medical devices used to measure heart rate and blood pressure, lung function, and muscle activity. Using electromyography sensors (EMGs) from Cornell instructional facilities, do-it-yourself (DIY) spirometers, and heart rate and blood pressure monitors (stethoscopes, blood pressure cuffs, and smartphone applications), you will explore the clinical applications and implementation of these devices. Learn about how everyday activities affect your body, how the body's function can be disrupted by injury and/or disease, and why it is necessary to develop more precise and accessible medical devices.

#### **Packing Suggestions for all UU programs**

Students must wear pants and closed toed shoes (no sandals or flip flops) for safety. Exposure to hay, fur, feathers, dust, and latex is possible. Be prepared if you have allergies. Disposable boots, gloves and lab coats will be provided as needed. Wear clothes that would be ok to get muddy or (potentially) splattered with food. Please bring a writing utensil and paper. You may want to bring a bag to carry your stuff.



# CAREER EXPLORATIONS CONFERENCE

## Schedule at a Glance - Draft

### Tuesday

10 AM - 12:00 PM	Check In	RPCC (upper side)
12:30 PM	Youth Orientation	Court Hall green space - program signs
12:30 PM	Chaperone Orientation	RPCC 2nd Floor Auditorium
1:30 PM	Leave for programs	Court Hall green space
2 - 4:30 PM	Focus groups: see specific group schedule	Focus groups: see group schedule
2 - 3 PM	UU: Opening Presentation	Baker
3 - 4:30 PM	UU: Campus Tour	
5 - 6:30 PM	Dinner and County Meetings	RPCC Dining and Dorms
6:30 PM	Walk to Opening Assembly	Meet County outside of RPCC
7 - 8:30 PM	Opening Assembly	Appel Fields (rain location - Helen Newman Gym)
8:30 - 10 PM	Free Time and Recreation	RPCC, Gym, Pool, and Bowling in Helen Newman Hall, Outside
9 PM	Dorms open for youth with their chaperones	Dorms
10 PM	County Check In - youth must be in dorms!	Dorms
11:00 PM	Lights Out	

### Wednesday

7 - 8 AM	Breakfast - arrive no later than 7:30 AM	RPCC Dining
Varies	Leave for programs - check your schedule	Court Hall green space
9 AM - 4:30 PM	Programs - see specific schedules	See group schedule
12 - 1 PM	Lunch	Physical Sciences Atrium
5 - 6:30 PM	Dinner and County Meetings	RPCC Dining and Dorms
7 PM - 9 PM	Free Time and Recreation	RPCC, Gym, Pool, and Bowling in Helen Newman Hall, Outside
9 PM	Dorms open for youth with their chaperones	Dorms
10 PM	County Check In - youth must be in dorms!	Dorms
11:00 PM	Lights Out	

### Thursday

7 - 8 AM	Breakfast and Checkout	RPCC Dining
Varies	Leave for programs - check your schedule	Court Hall green space
9 AM - 12 PM	Programs - see specific schedules	See group schedule
12:15 - 1 PM	Closing Ceremony and Send Off	Call Auditorium
1:15 - 2:15 PM	Lunch	RPCC Dining