



**Connecticut 4-H Adventures in STEM**  
**Saturday, November 5, 2016**  
**University of Connecticut, Storrs Campus**  
**Registration Form**



**Conference is open to youth ages 12-18**

Please return registration form and code of conduct by Friday, **October 21, 2016** to Nancy Wilhelm, State 4-H Office, 1376 Storrs Road, Storrs, CT 06269-4134. **Include \$20 registration fee for each 4-H participant, non 4-H members pay \$25. Make checks payable to UConn.** Attending adults must also register and pay the registration fee. If you have any questions, please contact Nancy Wilhelm at 860-486-4127 or [nancy.wilhelm@uconn.edu](mailto:nancy.wilhelm@uconn.edu). Registration fee is non-refundable.

Name \_\_\_\_\_

Street \_\_\_\_\_

Town \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_ Date of Birth \_\_\_\_\_

Participant Email Address \_\_\_\_\_ Parent Email Address \_\_\_\_\_

T-Shirt Size (please circle one): Adult S M L XL XXL \_\_\_\_\_ 4-H Member \_\_\_\_\_ Non 4-H Member

4-H Volunteers are needed the day of the conference to escort youth to workshops and serve as workshop monitors.

\_\_\_\_\_ I am a registered 4-H Volunteer \_\_\_\_\_ I would like to help out on the day of the conference

If a parent or guardian will not be accompanying a youth participant to 4-H Adventures in STEM, the youth participant must submit a 4-H member/volunteer health form at registration that day. If another adult is chaperoning, they must keep the health form for each participating youth in their possession. The health form must be signed by the youth's parent or guardian. Health forms are available at <http://www.4-h.uconn.edu/resource/form.php>

Lunch will be provided in a University Dining Hall which offers a wide variety of choices. Meal tickets will be provided at registration. Lunch is included in the registration fee. Make sure to have breakfast before arriving for the program as there will not be opportunities to eat before lunch at 12:00 p.m.

List below your 1<sup>st</sup> and 2<sup>nd</sup> choices for workshops you would like to attend

	SESSION A	SESSION B	SESSION C	SESSION D
1 <sup>st</sup> Choice				
2 <sup>nd</sup> Choice				

See attached sheet for workshop descriptions

If you have any special dietary needs, or if special accommodations are needed, please indicate in writing below. Requests for special accommodations should be submitted at least two weeks prior to the event.

\_\_\_\_\_

\_\_\_\_\_

## CONNECTICUT 4-H PROGRAM CODE OF CONDUCT AGREEMENT

As a youth participating in a 4-H program, I agree to the following code of conduct and I will:

- ❖ Participate fully in the 4-H program.
- ❖ Be responsible for my own behavior and uphold high standards for the group.
- ❖ Use language and manners that are respectful and appropriate for a 4-H activity.
- ❖ Support and abide by the adult advisors' leadership.
- ❖ Follow all scheduled times for program or club events.
- ❖ Display a positive attitude and good sportsmanship.
- ❖ Respect others.
- ❖ Act as a cooperative team member.
- ❖ Not use alcoholic beverages, illegal drugs, fireworks or tobacco while participating in any 4-H activity.
- ❖ Not carry or use any weapons.
- ❖ Not leave the assigned area without permission from the adult chaperone or leader.
- ❖ If involved with 4-H project animals, I understand they are shown at my risk.

I, \_\_\_\_\_ have read and understand the Code of Conduct and promise to follow the code as stated. I agree to abide by the Connecticut 4-H Program Code of Conduct as stated above. I understand that some of the activities in which I may choose to be involved may have inherent risks associated with them. I accept responsibility for my own actions and shall indemnify the 4-H organization and its volunteers against legal or other proceedings in regard thereto.

Youth Signature \_\_\_\_\_

Date \_\_\_\_\_

### Parent/Guardian Statement

I have read the above Code of Conduct. I realize that I am personally responsible for my son/daughter/ward's behavior while he/she is at any sanctioned 4-H Event or Program. I expect that if he/she breaks the Code of Conduct or becomes disruptive and the adult leaders find it necessary to dismiss him/her, that I am responsible for his/her transportation home. In the event my son/daughter/ward is detained by any legal authority, I expressly give my permission for a 4-H chaperone to remain with my son/daughter/ward until I can be present. I agree to use my best efforts to arrive as soon as possible upon being notified of such detainment. I understand that some activities and events may have inherent risks to my child by participating, and that 4-H project animals are shown at the risk of the 4-H member. Any damages to persons or property are the legal and financial responsibility of the 4-H member and their family. I shall indemnify the 4-H organization and its volunteers against legal or other proceedings in regard thereto.

I will allow the use of any photos/audio/video taken of my child/ward to be used in future promotional activities for the University of Connecticut 4-H program. Checking no to this option does not exclude anyone from membership or participation in any Connecticut 4-H programs

- By checking this box, **I do not** give permission for my child/ward's photo/audio/video to be taken and/or used

4-H members age 18 and over may check photo permission without parent signature.

Parent/Guardian Signature \_\_\_\_\_

Date \_\_\_\_\_

## 2016 CT 4-H Adventures in STEM Workshop Descriptions and Schedule

**8:30-9:00 am – Registration, W. B. Young Building, Room 100**

**9:00 am - Announcements**

### Session A (9:30-10:30 am)

**Building a 3-D Printer** – This is a two-hour workshop. Students will build a 3-D printer. This activity is likely to take more than the time allotted, so there will also be a pre-assembled 3-D printer that will allow students to see what it would be able to do once built. 3-D printing can be used in so many fields and can be so beneficial in innovating new technologies.

**Army Ant Guest Collection, Behind the Scenes Tour and Kodacrew workshop** - This is a two-hour workshop. Thanks to a \$500,000 grant from the National Science Foundation (NSF), a collection of more than two million specimens of army ants and associated species is on display at UConn. In this workshop participants will be introduced to collections and curation through a special guided tour inside the Biodiversity Research Collections, and have an opportunity to learn more about some of the specific activities undertaken by curators, technicians and UConn student assistants. Participants will also undertake a pilot Kodacrew mini-assignment. As students obtain data from actual slide labels and make written observations on image content, they will provide important assistance to the project!

**Natural Resources Conservation Academy Water Detectives!** – This is a two-hour workshop. Join UConn’s Natural Resources Conservation Academy staff and be water detectives for the day! In areas covered by impervious surfaces, such as roads and sidewalks, storm water washes various pollutants into the sewers or nearby bodies of water. Any pollutants that are left on roads are at risk of being washed into rivers, lakes or even oceans in a flood or large storm. Participants will evaluate the water quality of campus lakes to observe the effects of storm water runoff. Please dress for outside activity.

**Economics for Success** – This is a two-hour workshop. This workshop will provide practical information about personal finance and the importance of identifying education and career goals based on a student’s skills, interests and values. Following participation, students will be able to explore their skills, interests, values and the world of work to make informed education, career and life decisions. They will also be able to develop their knowledge of personal finance to apply strong financial-management skills regardless of income.

**Creation in a Digital World: An Introduction to Adobe Photoshop** - Participants will be introduced to the adobe creative suite program Photoshop. The basic outline will include learning how to use green screen, image adjustments, and other tutorials using graphics, photos and text. This will open up the students’ understanding of the creative tools that drive today’s society in numerous ways. Photoshop is an effective tool that aids in several creative endeavors.

**“Moo”nstruck with Microarray** – This workshop highlights the importance of new genomic technologies – such as the microarray – in agriculture and animal science. The workshop will include an introduction to the science of microarray and varied applications of microarray testing as well as hands on activities to make the learning fun! Other topics to be covered include genetic testing in humans, karyotyping and studying genetics at UConn.

**Electric Fruit!** – In this workshop multiple LED lights will be powered using the chemical energy stored in fruits. Fruits will be tested to see which ones conduct the most electricity and what is the best way to arrange the fruits in order to

## **Session A Workshop Descriptions Continued:**

light up LEDs. Each participant will work with fruit, conductive metal strips, and a multimeter. This activity will allow students to learn about voltaic batteries in a fun interactive way. Participants should bring fruit from home to participate.

**Evaluating Tissues and Cells** – In this workshop participants will learn about some of the in vivo and in vitro techniques that are used to answer research questions. Specifically the techniques that will be covered include histological analyses and in vitro cell culture. By including these techniques, it will provide participants hands-on experience as they will learn how to evaluate different tissues and cells under a microscope and interpret their observations. Discussion will follow about how we utilize the data collected from these analyses to draw conclusions and formulate the “next steps” in research. The techniques that will be covered in this workshop are not only utilized in animal science research but many other STEM fields as well.

**Liquid Nitrogen** – In this workshop a variety of objects such as balloons, rubber balls and bananas will be used to demonstrate thermodynamic principles. As the workshop presenters go through the demonstrations they will ask participants to make hypotheses about what will happen when each object gets cold, or alternatively, what happens when it heats back up. Once the demos are performed participants will talk about what physics are happening and where they might see the same processes in their daily life.

## **SESSION B (10:45-11:45 am)**

**Building a 3-D Printer continued from Session A**

**Army Ant Guest Collection, Behind the Scenes Tour and Kodacrew workshop continued from Session A**

**Natural Resources Conservation Academy Water Detectives continued from Session A.**

**Economics for Success continued from Session A.**

**Creation in a Digital World: An Introduction to Adobe Photoshop** – See workshop description from Session A.

**Master Taxonomist** – How and why do biologists classify animals? Participants will work together to identify the classifications of various animals into phyla based on the identification of common features. Participants will also explore the relationship between kingdoms and phyla.

**“Mooo”nstruck with Microarray** – See workshop description in Session A.

**Evaluating Tissues and Cells** – See workshop description in Session A

**Electric Fruit!** – See workshop description in Session A.

**Liquid Nitrogen** – See workshop description in Session A.

## **Lunch (12:00 – 12:45 pm) – Northwest Dining Hall**

## **Session C (1:00-2:00 pm)**

**Building a 3-D Printer** – This is a two-hour workshop. See description in Session A.

## **Session C Workshop Descriptions continued:**

**Creation in Motion: An Introduction to Animation Techniques** – Participants will be introduced to basic techniques in animation and motion graphics such as creating a bouncing ball and moving text across the screen. This will open up students understanding of specific creative tools. Motion graphics and animation is seen everywhere (news, sites, films, etc.)

**FBI New Haven – Social Media Exploitation** – Please join the FBI’s Social Media Exploitation Team (SOCMET) for a walkthrough in the latest online investigative tools and techniques. Workshop attendees will learn about digital forensics, social media, mobile apps, the deep web, and the dark net by assisting SOCMET in a step-by-step fictional crime scenario.

**Microbes! The Vast Diversity all Around and Inside of Us** – Most of the diversity on Earth is microbial (bacteria, archaea, single celled eukaryotes, and fungi). When people think about microbes they usually think of disease or food spoilage, but we’ve been harnessing microbes to transform our world for thousands of years (bread and cheese are only possible through the work of microbes). Recent advances in DNA sequencing technology has allowed us to peer into the microbial world much closer than ever before. Come visit a DNA sequencing facility that helps researchers across UConn examine the microbes that live in their systems.

**Drone Discovery** – Come take part in the National 4-H Youth Science Experiment that explores the science behind drones and how they are being used to solve real world problems. Participants will learn everything from flight dynamics and aircraft types, to safety and regulations, to remote sensing and flight control.

**Electric Fruit!** – See workshop description in Session A.

**Master Taxonomist** – See workshop description in Session B.

**Evaluating Tissues and Cells** – See workshop description in Session A.

**Liquid Nitrogen** – See workshop description in Session A.

## **Session D (2:15-3:15 pm)**

### **Building a 3-D Printer continued from Session C**

**Creation in Motion: An Introduction to Animation Techniques** – See workshop description in Session C.

**Electric Fruit!** – See workshop description in Session A.

**Microbes! The Vast Diversity all Around and Inside of Us** – See workshop description in Session C.

**Evaluating Tissues and Cells** – See workshop description in Session A.

**Liquid Nitrogen** – See workshop description in Session A.

**Drone Discovery** – See workshop Description in Session C.