



UConn 4-H Adventures in STEM
Saturday, November 2, 2019
University of Connecticut, Storrs Campus
Registration Form
Conference is open to youth ages 12-18



Please return registration form by Friday, **October 25, 2019** to Nancy Wilhelm, 1376 Storrs Road, Unit 4134, Storrs, CT 06269-4134. **Include \$20 registration fee for each 4-H participant, non 4-H members pay \$25. Make checks payable to UConn.** Adults participating in workshops and lunch 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. Registration fee is non-refundable. If you wish to pay with a credit card, please visit https://secure.touchnet.com/C21646_ustores/web/product_detail.jsp?PRODUCTID=778. The credit card fee is \$25.

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 and pick up-drop off form with their registration. 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. Non 4-H members must complete a 4-H code of conduct form also available at the link provided above. Lunch will be provided in a University Dining Hall which offers a wide variety of choices. Meal cards will be provided at registration. Lunch is included in the registration fee.

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

	SESSION A	SESSION B	SESSION C	SESSION D
1 st Choice				
2 nd 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.

2019 UConn 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)

How to Extract Your Own DNA: This **2-hour workshop** will teach participants a brief introduction to genetics. This will be followed by a lab in which participants learn how to extract their own DNA (no toxic chemicals used) followed by a brief intro to some careers in diagnostic genetics. The first step in any form of science related research is often to extract the DNA from the sample you are wishing to test, whether it is human, mouse, strawberry, you name it.

Exploring Tech that Connects You with Nature: Do you like technology? Do you like nature? This workshop will show you a variety of apps that you can use to connect with and study nature while exploring the outdoors. Participants will be given a quick demo on how to use several different apps. They will then test out their tech skills in a friendly competition using the apps to: 1) identify live aquatic insects, 2) identify birds based on their song, 3) geolocate to find “treasures” outside, 4) identify live plants and 5) record real data for citizen science. No devices are required – we will provide iPads for the demo and to use in the competition. All participants that complete the app activities will receive a prize!

How to Grow Leafy Greens and Herbs Hydroponically: This workshop will include an assortment of soilless substrates, nutrients and plants used for hydroponic production. The workshop presenter will build a few systems with participants to show how easy and fun it can be.

Dice, Dollars and Dum-Dums: Can you Handle Risk?: Can you think like an Actuary? In this workshop, participants will be split into groups, each representing a fictional insurance company, and given a bowl of candy representing money. Each group will compete in several rounds to insure Company XYZ. At the end of each round, the groups will decide on a confidential amount they will charge, and the lowest two amounts will be chosen as the “winners”. A die representing the claim costs of XYZ company (or the amount that the insurer owes XYZ at the end of the year) will be rolled, and the value of claim costs will be announced. Each group’s candy value will either increase, decrease, or stay the same. No knowledge of insurance is required, all terminology will be explained in the beginning of the workshop!

The Game That Always Wins (Artificial Intelligence): Participants will play a game against the AI and if the AI makes a losing move, it will “learn” and it won’t make the same move again. Participants will learn the code behind the game to help them visualize. Participants will also use their smart phones during this workshop.

The Strange World of Physics and our Everyday Lives: This workshop will include a few different elements, highlighting physics of the very small to the very large. Participants will be able to witness metal spoons (made of gallium) turn to molten liquid in a glass of water, hold blocks of NASA-designed aerogel (the lightest density solid currently known), and watch liquid nitrogen transform the properties of everyday objects. We will also have a computer set-up with a simulation of our solar system. Participants can change the properties of familiar objects (like changing the size of the moon) and predict/witness the results.

The Chemistry of Food: This workshop will entail several examples of the chemistry that can be done to and with food. Participants will have the opportunity to participate in creating their own flavored gummy worms from scratch, eating carbonated fruit, exploding gummy bears, and other interactive demonstrations. We will finish with a tasty, cold treat!

Let’s Get Airborne: Drones, Planes and Satellites – The Science of Observing the Earth From Above: This workshop will expose participants to earth observation (remote sensing) science and its indispensable role in scientific-to-everyday applications. The workshop will be hands-on driven and will entail both outdoor (weather permitting) and computer-

based activities to create equal space to enhance participant's knowledge-base and curiosity. Participants will gain knowledge regarding electromagnetic radiation, energy matter interaction, and its linkage to spectral reflectance, learn about different EO sensors and their uses, and will also improve digital image analysis skills and spatial thinking abilities. Our goal is to use drones as a model system to explain the concepts and applications of earth observation science.

Electrophoresis: Gel electrophoresis is a technique used to separate DNA fragments according to their size. Participants will firsthand make a gel with wells to load, choose colors of food coloring to load the wells with, and load them with a disposable pipette. With the workshop presenter's help, they will run the colors down the gel using 9-volt batteries, and watch as the colors separate based on molecular size. The same color will always split into the same bands. This separation corresponds to the way scientists separate DNA molecules by size. A student from the UConn Simon Lab which conducts research on cicadas will also provide information about the genome of cicadas and tie this information to the electrophoresis activity.

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

Biomedical Engineering and Prosthetics: Participants will create prosthetics using PVC pipes and various materials while learning about biomedical engineering.

How to Extract Your Own DNA: This is a 2-hour workshop continued from Session A.

Exploring Tech that Connects You with Nature: See session A workshop description.

Dice, Dollars and Dum-Dums: Can you Handle Risk?: See Session A workshop description.

The Game That Always Wins (Artificial Intelligence): See Session A workshop description.

The Strange World of Physics and Our Everyday Lives: See Session A workshop description.

The Chemistry of Food: See Session A workshop description.

Electrophoresis – See Session A workshop description.

Lunch (12:00 – 12:45 pm) – Whitney Dining Hall

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

How to Extract Your Own DNA: This **2-hour workshop** will teach participants a brief introduction to genetics. This will be followed by a lab in which participants learn how to extract their own DNA (no toxic chemicals used) followed by a brief intro to some careers in diagnostic genetics. The first step in any form of science related research is often to extract the DNA from the sample you are wishing to test, whether it is human, mouse, strawberry, you name it.

Egg Drop: During this workshop participants will use materials to construct an apparatus that will protect an egg from breaking when dropped from a certain height. The presentation will include basic information on physics to aide participants in the building of their apparatus.

Dice, Dollars and Dum-Dums: Can you Handle Risk?: See Session A workshop description.

The Game That Always Wins (Artificial Intelligence): See Session A workshop description.

The Strange World of Physics and Our Everyday Lives: See Session A workshop description.

Playing with Genes: Plant Genetics and Biotechnology: This workshop will focus on teaching participants about plant genetics, breeding and biotechnology and communicating their results to other participants. We will begin with a 5-minute lecture exploring the basics of what a gene is and how they control plant traits. Interactive lessons will include participation from the students to teach them about different breeding methods and how these breeding methods modify the genetic makeup of plants. Interactive breeding lessons include selective breeding, traditional breeding, mutation breeding, genetic engineering, and genome editing. We will end with a science communication portion where the students will give a 30 second presentation to the other participants on a trait that they would incorporate into a plant using the breeding methods we discussed in the interactive lessons.

Arthropod Responses to their Changing Environment – This is a 2-hour workshop. Participants will observe insects and other arthropods. Then they will set experiments to test how various environmental conditions affect arthropod behavior. This workshop will review the formulation of hypothesis and experimental set ups along with learning about arthropods and animal behavior.

Electrophoresis: See Session A workshop description.

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

How to Extract Your Own DNA: This is a 2-hour workshop continued from Session C.

Dice, Dollars and Dum-Dums: Can you Handle Risk?: See Session A workshop description.

The Game That Always Wins (Artificial Intelligence): See Session A workshop description.

Playing with Genes: Plant Genetics and Biotechnology – See Session C workshop description.

Arthropod Responses to their Changing Environment: This is a 2-hour workshop continued from Session C.

Electrophoresis: See Session A workshop description.

4-H Member/Volunteer Health Form

(Please Print)

Member/Volunteer Information (This form is used to ensure your safety and well being.)

Last Name	First	Middle Initial	Sex <input type="checkbox"/> M <input type="checkbox"/> F	Date of Birth / /
Street Address	City	State	ZIP Code	Home Phone No. ()

Notify in Case of Emergency (Emergency Contacts will be notified in order listed until one contact is reached)

Name	Relationship	Name	Relationship
Address		Address	
City Code	State	Zip	
City	State	Zip Code	
() Home Telephone	() Work Telephone	() Cell Telephone	() Home Telephone
	() Work Telephone	() Cell Telephone	

Allergies

Food (List Food)	Life Threatening?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Drug (List Drug)	Life Threatening?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Insect (List Insect)	Life Threatening?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other (List)	Life Threatening?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Personal Medical History

Previous Surgery/Hospitalization? Explain	Date
Physical Impairment? Explain	Date
Mental Health Issues Requiring Treatment? Explain	Date
Current Medications and conditions for which they are prescribed?	Date
Is there any other personal medical history you feel we should know?	Date

Parent/Guardian Authorizations:

I recognize that some activities have an inherent risk that could result in personal injury. The person herein described has permission to engage in all 4-H activities except as noted. Please list here:

I hereby give permission to the medical personnel to order x-rays, routine tests, treatment; to release any records necessary for insurance purposes; and to provide or arrange necessary related transportation for me or my child. In the event that I cannot be reached in an emergency, I hereby give permission to the physician selected to secure and administer treatment, including hospitalization, for the person named above. I (we) understand that all financial obligations incurred, if not covered by insurance, will be my responsibility. This form may be photocopied for specific special events such as sledding trips, project workshops, etc. This health form will be maintained in a confidential manner.

Insurance Provider:	Insurance Policy Number:
Signature of parent or guardian	Date
Printed Name	Date

OVER

Parent/Guardian Authorizations Continued

I, _____, affirm that due to my and/or my child's sincere religious beliefs, I/my child may not receive the following medical treatment:

_____ Certain treatment (specify):

_____ Any Medical Treatment

I release the University of Connecticut, its Cooperative Extension System, 4-H Youth Development Program, the State of Connecticut and their agents and employees from any responsibility or impairment to me/my child's health that may result from this exemption.

Signature of Parent or Guardian

Date:

Printed Name

Consent for Medication Administration

If your son, daughter or ward will be under the age of 18 while in attendance at this 4-H overnight Event, it is the University of Connecticut 4-H Program policy to secure your consent for medication distribution and for the use of medical devices. The medication or medical device can be self-administered or be administered by the on-site nurse/health professional.

All medications must be in a medicine bottle and labeled with the participant's name, doctor's name and phone number, medication name, and dosage. You must also complete the form below:

_____ No medication has been brought to the 4-H overnight event.

_____ I want the medication or medical devices self administered. (Age 14 and above only.)

_____ I want the medication or medical device administered by the Nurse/Health Professional
However, a limited amount of medication for life threatening conditions may be carried by my son/daughter/ward. (i.e. bee sting kits, inhalers)

Name of medication(s)

Prescribing Doctor

Doctor's phone number

Amount to be taken

How is it taken?

When to be administered

Day(s) to be taken

Special Instructions

Signature of parent or guardian

Date:



EMERGENCY CONTACT INFORMATION / PICK-UP AUTHORIZATION FORM

Program Name: _____ **Start Date(s):** _____ **End Date(s):** _____

This form must be completed in full, signed by a parent or guardian, and submitted PRIOR to pick-up on the first day of the program or activity.

I. CHILD'S INFORMATION

Child's Name: _____
First Last Phone Number (if applicable)

II. EMERGENCY CONTACT INFORMATION

1. Parent / Legal Guardian:		2. Parent / Legal Guardian (optional):	
_____	_____	_____	_____
First	Last	First	Last
_____	_____	_____	_____
Address	E-mail Address	Address	E-mail Address
_____	_____	_____	_____
Primary Phone	Secondary Phone	Primary Phone	Secondary Phone

III. PERSONS AUTHORIZED TO PICK-UP CHILD

In addition to the parent/guardian(s) listed above, please list the names of any possible persons authorized to pick up the above referenced child. Use the other side of this form to add additional names. Please Note: Photo ID's must be presented at the time of pick up.

_____	_____	_____	_____
First Name	Last Name	Relationship to Child	Phone Number
_____	_____	_____	_____
First Name	Last Name	Relationship to Child	Phone Number
_____	_____	_____	_____
First Name	Last Name	Relationship to Child	Phone Number

IV. AUTHORIZATION FOR SELF-CHECKOUT

Program participants will only be released at the scheduled program ending times, or times designated to the program by the parent/legal guardian. Please select from the check-out options listed below.

I do not grant my child permission to self-checkout from this program. Only the individuals listed above are authorized to pick-up and sign-out my child.

I will not be escorting my child to and/or from the program and grant my child permission to travel to and/or from the program and check-out independently at the conclusion of the program.

Signature of Parent or Guardian Date



4-H Member Name _____
Name of Club _____
4-H Year _____

CONNECTICUT 4-H PROGRAM YOUTH MEMBER CODE OF CONDUCT AGREEMENT

As an enrolled 4-H member, I agree to the following Code of Conduct.

I will:

- ❖ Participate fully and cooperatively in the 4-H program.
- ❖ Abide by all rules and guidelines set by the 4-H program.
- ❖ Be responsible for my own behavior, and conduct myself in a manner that is appropriate and respectful to fellow 4-H program participants, staff, and the personal property of others at all times.
- ❖ Follow all program instructions and schedules.
- ❖ Display a positive attitude and good sportsmanship.
- ❖ Wear attire that is appropriate and suitable for 4-H activities.
- ❖ Not possess, offer, or use alcoholic beverages, illegal drugs, fireworks or tobacco while participating in any 4-H activity.
- ❖ Not carry or use any weapons while participating in any 4-H activity.
- ❖ Remain within the assigned program boundaries at all times, unless I have permission from the adult chaperone or leader.
- ❖ Understand that I will be released at the scheduled program ending time, unless I designate an alternate release time and my parent/guardian provides such authorization to the program coordinator in writing.
- ❖ Understand that 4-H project animals are shown at my risk.
- ❖ Promote a spirit of inclusion and welcome participation of individuals from all backgrounds, and refrain from behaviors that discriminate against other people.
- ❖ Access and operate machinery, vehicles, and other equipment in compliance with laws, rules of the 4-H program, and general safety practices.

Youth Acknowledgement of Code of Conduct

I, _____ have read and understand the Code of Conduct and promise to follow and abide by the Code as stated above.

4-H Member's Signature _____ Date _____

Parent/Guardian Acknowledgement of Code of Conduct

I have read the above Code of Conduct and will encourage my child/ward to abide by them. I acknowledge that I am personally responsible for my child's behavior while at any sanctioned 4-H event or program. I expect that if my child/ward breaks the Code of Conduct or becomes disruptive and the adult leaders find it necessary to dismiss my child/ward from the program, that I am responsible for my child's transportation home. I also understand that any dismissal from the 4-H program for disciplinary reasons may not result in a refund. In the event my child/ward is detained by any legal authority, I expressly give my permission for a 4-H chaperone to remain with my child/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 will complete and submit all requested 4-H program documents within the required timeline. I will also re-enroll my child/ward through the 4-H Online Enrollment System by December 1st to ensure they are an officially enrolled 4-H member, and I will provide 4-H with up-to-date emergency contact information.

I would like to receive notifications from UConn 4-H by text cell phone number _____

Cell phone provider (needed) _____

*Please continue onto page 2 for additional release, consent and waiver information and parent signature.

RELEASE, CONSENT AND WAIVER OF LIABILITY

In consideration for my child's participation in the Connecticut 4-H program at the University of Connecticut (the "Program"), I hereby RELEASE, WAIVE, DISCHARGE AND COVENANT NOT TO SUE the Program, the University of Connecticut, the University of Connecticut Board of Trustees, the State of Connecticut, the Connecticut Board of Governors, and their respective employees, agents, representatives and volunteers (hereinafter referred to as "RELEASEES") from any and all liability, claims, demands, actions and causes of action whatsoever arising out of or related to any loss, damage, or injury, including death, that may be sustained by my child (hereinafter "my child" or the "Participant"), or to any property belonging to me, WHETHER CAUSED BY THE NEGLIGENCE OF THE RELEASEES or otherwise, while participating in the Program, or while in, on or upon the premises where the Program is being conducted.

IDENTIFICATION AND ACKNOWLEDGMENT OF RISK

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. I am fully aware of the risks and potential hazards connected with participating in the Program, including but not limited to, the risk of loss of personal property from theft, injuries associated with and other injuries that may not be foreseeable, and I hereby elect for my child to voluntarily participate in the Program and engage in such Program Activities knowing that they may be hazardous to my child and my property. All participants in this Program will be immersed into the University of Connecticut community on and off campus. I VOLUNTARILY ASSUME FULL RESPONSIBILITY FOR ANY RISKS OF LOSS, PROPERTY DAMAGE OR PERSONAL INJURY that may be sustained by my child, or any loss or damage to property owned by me, as a result of my child being engaged in such an activity, WHETHER CAUSED BY THE NEGLIGENCE OF RELEASEES or otherwise.

CONSENT TO MEDICAL TREATMENT

During the Program, I hereby give permission for the Program staff to administer appropriate medical attention to my child in the event of any accident, illness, or injury, including non-prescription medications or any medications my child brings in original containers with dosage instructions that is provided to Program staff. In the event of an emergency, 911 will be called and I will be responsible for any and all costs of medical coverage and treatment provided not covered by my child's insurance.

CONSENT TO RELEASE PARTICIPANT FROM PROGRAM

I understand that I am responsible for providing up-to-date emergency contact information and for escorting or making arrangements in writing for my child to be escorted to and from the Program. I understand that my child will not be permitted to leave the Program with an unauthorized person, unless I grant my child written permission to travel to and/or from the Program and check out independently at the conclusion of the Program. I further understand that the University is not responsible for participants who are authorized by their parent/guardian to leave the Program without adult supervision.

CONSENT TO PHOTOGRAPHY

I further hereby authorize the University of Connecticut 4-H Program to photograph and/or video record my child during the Program, and use or distribute any picture or video related to Program activities that my child is depicted in. I also authorize use of these materials for publication in brochures, on the websites, or other University of Connecticut 4-H promotional material. They may also be distributed to other Program participants, including but not limited to a Program group picture of all participants.

IN SIGNING THIS PARTICIPANT RELEASE, CONSENT AND WAIVER OF LIABILITY, I ACKNOWLEDGE AND REPRESENT THAT I have read the foregoing, understand it and sign it voluntarily as my own free act and deed; no oral representations, statements, or inducement, apart from the foregoing written agreement, have been made; I am at least eighteen (18) years of age and fully competent and I am the parent or guardian of the child participant, and I execute this Participant Release, Consent and Waiver of Liability for full, adequate and complete consideration, fully intending to be bound by same.

Printed Participant Name: _____

Printed Parent or Guardian Name: _____

Signature of Parent or Guardian: _____

Date: _____