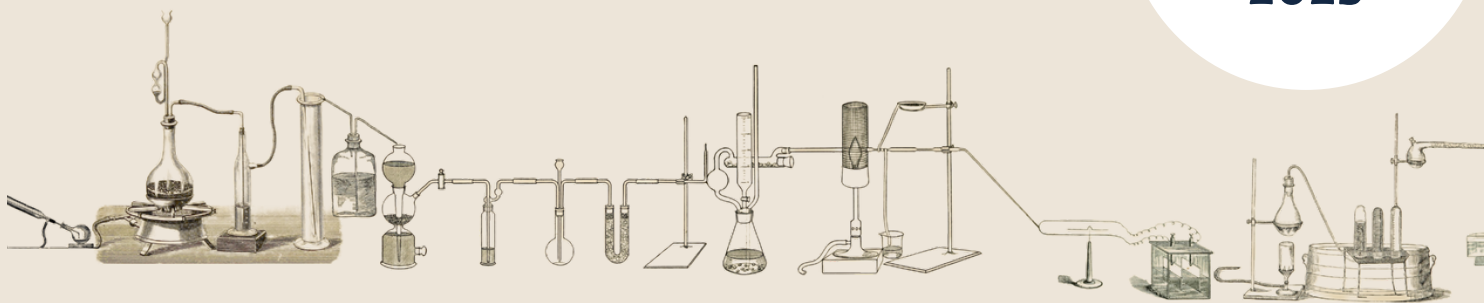


# *Summer Science*

## **CAMP 2023**

**JULY  
10-14TH  
2023**



## *California Northstate University*

### **COLLEGE OF HEALTH SCIENCES**

Bring some science to your summer and join us for a week of exploration and fun at CHS! Featuring four exciting programs specifically designed for middle and high school students! Programs include: Microbiology, Biotechnology, Chemistry, and more!

**2910 PROSPECT PARK DRIVE,  
RANCHO CORDOVA 95670**

**FOR MORE INFORMATION, PLEASE VISIT  
[HEALTHSCIENCES.CNSU.EDU](http://HEALTHSCIENCES.CNSU.EDU) OR EMAIL [CHS.SCIENCES@CNSU.EDU](mailto:CHS.SCIENCES@CNSU.EDU)**

# Summer Science CAMP 2023

## Microbiology- Discovering the World Around Us

**Lead Faculty: Dr. Damon Meyer**

Examine the incredible world of microbiology by exploring the abundance and diversity of microorganisms found all around us. Participants will learn to use standard microbiology laboratory techniques to identify and characterize a variety of microorganisms.

**Morning Session - Appropriate for middle and high school students!!**

## Computational Small Molecule Pharmaceutical Discovery

**Lead Faculty: Dr. Nicholas Valley**

Pharmaceuticals – whether over-the-counter or prescription – are a very common and sometimes essential part of many people's lives. The road to generate a pharmaceutical is a long, varied, and arduous one - full of pitfalls. Often, to help streamline the process, computers can help guide scientist's efforts to sets of molecules that have a better chance of success. Small molecule pharmaceuticals are used in a broad range of applications from fighting cancer to relieving pain and inflammation. In this summer experience, you will learn some of the properties that make a pharmaceutical viable and how to use various computer simulations and databases to predict those properties for novel molecules. Attendees will choose a biologically relevant target, draw viable molecular structures, and determine the binding affinity of the molecular structures to the intended target.

**Morning Session - Appropriate for high school students!**

## Get Bright with Biotech: The Biology of Fluorescence

**Lead Faculty: Dr. Parisa Jazbi and Katie Caswell, M.S.**

Learn about the exciting field of biotechnology through hands on laboratory experiences! Students will engage in lab techniques commonly used in academic and industry labs while exploring applications in biomedical and agricultural fields! These activities include: CRISPR-Cas9 gene editing, Disease diagnosis, DNA transformation (we will make bacteria glow!) and identifying GMO's in food using PCR!

**Afternoon Session - Appropriate for middle and high school students!**

## What Can the Fly Brain Teach Us About Human Brains

**Lead Faculty: Dr. Ravi Ranjan**

We may not look like fruit flies or fly like fruit flies, but there is an important commonality: Both humans and fruit flies have nervous systems that respond to chemical neurotransmitters present in the brain that help regulate movement, learning, and emotion. Wait...what? Do small-brained fruit flies (*Drosophila melanogaster*) learn, have memory, and remember better than others? Yes! This is one of the many reasons fruit flies are excellent model systems for exploring the genetic basis of human behaviors. Together, we will explore and investigate the evolutionary relationship between genes, neural networks, and the system of organization within the invertebrate and human brain. A reciprocal understanding of brain circuitry and its regulation may just convince us we are not as different as we think.

**Afternoon Session - Appropriate for middle and high school students!**

**Bring some science to your summer and join us for a week of exploration and fun at California Northstate University, College of Health Sciences!**



For more information and to register online,  
visit [www.healthsciences.cnsu.edu](http://www.healthsciences.cnsu.edu) or email [CHS.Sciences@cnsu.edu](mailto:CHS.Sciences@cnsu.edu)



## Summer Science Camp Registration

Final date to apply is July 3<sup>rd</sup>, 2023. Payment is due at time of registration. Any cancellations must occur before the deadline date. After the deadline, medical/bereavement issues can only be settled for a full refund with a physician's note.

PLEASE PRINT

Name: \_\_\_\_\_ Age: \_\_\_\_\_  
Last First

Address: \_\_\_\_\_  
Street

\_\_\_\_\_ City State Zip

E-mail: \_\_\_\_\_

Home Phone: (\_\_\_\_) \_\_\_\_\_ Cell Phone: (\_\_\_\_) \_\_\_\_\_

How did you hear about our program:  website  friend/family  school  other \_\_\_\_\_

Medical conditions we should be aware of: \_\_\_\_\_

School currently attending: \_\_\_\_\_ Current grade level:  7<sup>th</sup>  8<sup>th</sup>  9<sup>th</sup>  10<sup>th</sup>  11<sup>th</sup>  12<sup>th</sup>

### Program Session:

- |   |   |
|---|---|
| <input type="checkbox"/> Microbiology: Discovering the World Around Us<br>July 10-14 <sup>th</sup> , 9:00 am – 12:00 pm         | <input type="checkbox"/> What can the Fly Brain Teach us about Human Brains?<br>July 10-14 <sup>th</sup> , 1:00pm – 4:00 pm   |
| <input type="checkbox"/> Computational Small Molecule Pharmaceutical Discovery<br>July 10-14 <sup>th</sup> , 9:00 am – 12:00 pm | <input type="checkbox"/> Get Bright with Biotech: The Biology of Fluorescence!<br>July 10-14 <sup>th</sup> , 1:00pm – 4:00 pm |

**Program Fee: \$250.00 for half-day or \$475.00 for full-day**

\_\_\_\_\_  
Parent/Legal Guardian Signature Print Name Date

NOTE: PLEASE VISIT [www.healthsciences.cnsu.edu](http://www.healthsciences.cnsu.edu) AND COMPLETE ALL REGISTRATION FORMS FOUND AT THE SUMMER SCIENCE PROGRAM LINK. PLEASE MAKE CHECKS PAYABLE TO: **CALIFORNIA NORTHSTATE UNIVERSITY**

MAIL ALL REGISTRATION FORMS AND PAYMENT TO:

CNU College of Health Sciences  
ATTN: Katie Caswell  
Summer Science Program  
2910 Prospect Park Drive  
Rancho Cordova, CA 95670

**If you have any questions, please email**  
[CHS.Sciences@cnsu.edu](mailto:CHS.Sciences@cnsu.edu) or call 916-686-7674

# California Northstate University Summer Science Camp Waiver and Release

In consideration for the services of California Northstate University, its faculty, officers, agents, employees, trustees and all other persons associated with the University (collectively, "the University"), I, \_\_\_\_\_ do hereby consent to my or my child's participation in the University Summer Science Camp and related activities (herein after, the "Camp"). I understand that the camp is a 5 day program designed to encourage scientific interest and will involve hands-on activities and laboratory experiences. I understand that the camp commences each day at 9:00am and ends at approximately 5:00pm, and that it is my responsibility to ensure my or my child's care and custody at the latter time unless prior arrangements have been made with the University to extend the pickup time to 5:00pm, which will incur an extra fee of \$10 per day. Camp organizers and their agents shall not be responsible for my or my child's safety and supervision before or after the time that the camp is in session unless prior arrangements have been made.

In consideration of my or my child's attendance at the Camp, I hereby assume all responsibility for any injury to or accident involving my child or me which occurs while my child or I is participating in the Camp(s) or related event(s). I make this assumption of the risk of injury with the understanding that the camp [program includes hands-on, laboratory, or mechanical work. I give permission to the Camp and the University to obtain reasonable emergency medical care for my child or me if it is deemed reasonably necessary by the Camp or University.

I understand that during Camp my child or I will be asked and permitted to use me or my child's laptop computer to access the internet regarding Camp projects and activities. I understand that access to a computer allows the user to access some material that may not be considered appropriate in a youth camp setting. While camp staff will make reasonable efforts to restrict the access to questionable material, the possibility of intentional or inadvertent access still exists. Repeated violations of accessing inappropriate content will lead to disciplinary actions, such as parental phone call and possible removal from Camp without monetary reimbursement. The University has notified me that it will attempt to monitor attendees' use of computers to restrict access to controversial materials, and I will not hold the university responsible for materials my child or I acquire from the internet. There are additional rules regarding cell phone usage, to which all students are expected to follow.

I hereby \_\_\_\_\_ give permission/ \_\_\_\_\_ do not give permission (please place your initials before your response) for my child or me to be photographed or videotaped in conjunction with Camp activities, which made be shared over electronic or other media.

I have read and understand the terms and conditions of the Camp. I acknowledge that the Camp organizers and the University reserve the right to cancel the Camp due to lack of funds, inadequate number of Camp registrants, or any other reason at their discretion and, upon doing so, will refund the entire tuition amount. I acknowledge that they further reserve the right to refuse participation to any participant for rule infractions, objectionable behavior, or attire. I agree that the Camp is a professional education event, that medically sensitive material of a non-sexual but graphic nature may be presented, and that mature and respectful behavior is a reasonable expectation.

I, for myself, my child if applicable, and my assigns, heirs, and executors, hereby release and forever discharge the University, Camp organizers, sponsors, promoters, and each of their respective agents, employees, representatives, successors and assigns, and all other persons associated with the University and Camp, for all damages, injuries, expenses, costs, claims, liabilities, and actions which my child and/or I may have against them arising out of or in any way connected with me or my child, without regard to its cause by negligence, acts, omissions, or other wrongdoings by any of the released persons or entities; this release shall also act as a waiver of all such claims, liabilities, and actions.

I have carefully read, understand, and hereby accept the terms and conditions stated herein, and acknowledge this agreement shall be effective and binding upon myself and my children, assigns, heirs, and executives.

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**Signature of Camp Attendee (Required of All)**

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**Signature of Parent or Legal Guardian**  
(Required if Child is Under 18 Years Old)

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**Name of Camp Attendee (Please Print)**

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**Name of Parent of Legal Guardian (Please Print)**

**Birthdate (MM/DD/YYYY):** \_\_\_\_\_

**Date Signed (MM/DD/YYYY):** \_\_\_\_\_

**Date Signed (MM/DD/YYYY):** \_\_\_\_\_