



## Rutgers University Summer QuarkNet Program

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The Physics Department of Rutgers University is currently accepting applications from high school students to participate in the **11<sup>th</sup> Annual Summer Workshop on Particle Physics and Cosmology**. In this program, students will learn about the currently most important open questions in fundamental physics. Students will gain first-hand knowledge of research in elementary particle physics by analyzing real data from the Large Hadron Collider at the CERN laboratory in Switzerland using event displays and the analysis tools used by research physicists. In addition, students will get hands-on experience at collecting cosmic ray data and designing and carrying out their own cosmic ray experiments using cosmic-ray particle detectors. Students will also participate in sessions on cosmology and quantum computing. At the conclusion of the program, participating students will be expected to work with a group of fellow students to prepare a presentation on a research topic of their choice.

Graduates from previous years have given high evaluations of the program and have found it to be of great help in deciding on areas of study in college. Participation in this program also helps to demonstrate a strong interest in science when applying for college admission.

The program will consist of engaging activities, fun demonstrations, interesting guest lecturers, tours of different labs at Rutgers, one special field trip, and opportunities to work with other highly motivated students from around New Jersey and the US.

The program will require students to spend about 20 hours on pre-workshop preparation using materials and activities that will be provided.

The program will meet at Rutgers University Busch Campus in Piscataway from 9:00 AM to 3:00 PM on weekdays for two weeks from Tuesday, July 5, 2023 to Friday, July 18, 2023.

This program is sponsored by QuarkNet, an organized outreach program of the US high energy physics community, supported in part by the National Science Foundation and the Office of High Energy Physics, Office of Science, U.S. Department of Energy. The program is also supported by the Physics and Astronomy Department of Rutgers University.

**Application Deadline: March 31, 2023**

**The program is free for the students.**



## Rutgers University Summer QuarkNet Program

**Dates for 2023 Program: Tuesday July 5, 2023 through Friday, July 18, 2023.**

### **Requirements to attend:**

- 1) The program is limited to students who have successfully completed a course in Physics and have a strong interest in learning about the exciting world of fundamental physics.
- 2) Students must be able to arrange transportation to and from Rutgers each day and are responsible for either bringing lunch each day or purchasing lunch at the Rutgers Student Center.
- 3) Students must be available every day for the period of the program. (Under special circumstances absences with valid excuses will be permitted. This information must be included in the Parent/Guardian submission.)
- 4) **Students must complete the application process by Friday, March 31, 2023. *Note that parts of this application are to be submitted by your guidance counselor. It is your responsibility to ensure that your guidance counselor submits the required documents on time. We will not be able to accept applications that are not complete by March 31.***
- 5) Students will be notified of their acceptance status by April 14, 2023.

### **Application Process:**

The process will require you to fill out a form online. ***Only online submissions by the students will be considered for acceptance.*** Please follow carefully the five application steps below.

- 1) Use the following url to fill out the form: <https://forms.gle/C1a3KNhEXFe8EMfj7>. For guidance on filling out this form, please see the instructions on the following page. Among other items, in that form you will provide your email address, your parent or guardian's email address, and the email address of your school guidance counselor. **For your email address**, do not use your school email address because sometimes they become unavailable over the summer. ***Be sure to pick an email address that you will monitor.*** We will only be using this email address to provide notifications such as program acceptance. Once we send out initial acceptance status, you will have a short time (~ 1 week) to respond, letting us know of your intent to attend the program. If you fail to respond to this email you will be dropped from the program.
- 2) Ask your parent or guardian to complete and sign the permission form below and ask them to email the completed and signed form to: [quarknet.rutgers@gmail.com](mailto:quarknet.rutgers@gmail.com).
- 3) Ask a teacher to provide you with a letter of recommendation and give the letter to your guidance counselor.
- 4) Ask your guidance counselor to complete and sign the certification form below.
- 5) Ask your you guidance counselor to email the completed and signed certification form, the teacher letter of recommendation and your current school transcript by email to: [quarknet.rutgers@gmail.com](mailto:quarknet.rutgers@gmail.com)



## Rutgers University Summer QuarkNet Program

Information that you should collect to fill out the online form:

### 1) Basic Information About You

- Your email address
- Name and Home Address
- Your age by July, 2023
- Your cell phone (if you have one)
- Your country of citizenship (we will visit a government facility for our field trip)

### 2) Parent/ Guardian Information

- Parent/guardian name, phone, email address

### 3) Information About Your School District

- High School District
- Guidance counselor name and email address
- Current year in High School

### 4) High School Grade Performance

- Highest Level Physics Class that you have taken
- Grade in that Physics Class
- Highest Level Math Class that you have taken
- Grade in that Math Class

### 5) Your Essay

- A one-to-two-page essay addressing why you want to attend this program. You should copy and paste the essay into the form. The essay will be loaded as plain text into a Google form.

Use the following url to fill out the form: <https://forms.gle/C1a3KNhEXFe8EMfj7>



## Rutgers University Summer QuarkNet Program

### Parent/Guardian Approval

**Dates for 2023 Program: Tuesday July 5, 2023 through Friday, July 18, 2023.**

**Please fill in this page, scan it, and then include it in an email from the parent address that was included on the online application form. The email should be addressed to:**  
[quarknet.rutgers@gmail.com](mailto:quarknet.rutgers@gmail.com).

The email should be titled: Quarknet: Student Name (where Student Name is the name of the student).

My child, \_\_\_\_\_ (print),  
would like to attend this summer program at Rutgers University. I would like my child to attend this program.

I understand that this program is being run by Rutgers University in Piscataway, NJ. I understand that I will be responsible for arranging transportation to and from Rutgers for my student each day.

I understand that the expectation is that the student will be able to attend all 9 days of the program. Exceptions to this requirement will be considered. If that is required please add an additional page describing which days will be missed and the reason for missing those days.

Students will be responsible for either bringing lunch or purchasing lunch at the Rutgers cafeteria each day.

If there are any health issues that the program coordinators should know about, please list them here:

Name of Parent/Guardian (Print) \_\_\_\_\_

Home Phone: \_\_\_\_\_ Work Phone: \_\_\_\_\_

Parent Cell Phone: \_\_\_\_\_ Parent Email Address: \_\_\_\_\_

Signature of Parent/Guardian (Sign) \_\_\_\_\_ Date \_\_\_\_\_



## Rutgers University Summer QuarkNet Program

### Guidance Counselor Certification Form

Please send an email that includes the following:

- This completed and signed form
- A letter of recommendation from the Student's Teacher
- A copy of the student's current transcript.

Please title the email: Quarknet: Student Name (where Student Name is the name of the student).

Student Name \_\_\_\_\_

Highest Level Physics course being taken or completed by this student: \_\_\_\_\_

Grade in this Physics course (or grade to date): \_\_\_\_\_

Highest Level Math course being taken or completed by this student: \_\_\_\_\_

Grade in this Physics course (or grade to date): \_\_\_\_\_

I am a guidance counselor for (school) \_\_\_\_\_.

I affirm that I have collected the information contained herein from the student and recommending teacher. I also affirm that the transcript information is valid.

Guidance Counselor Name (print) \_\_\_\_\_

Guidance Counselor Signature \_\_\_\_\_ Date \_\_\_\_\_