

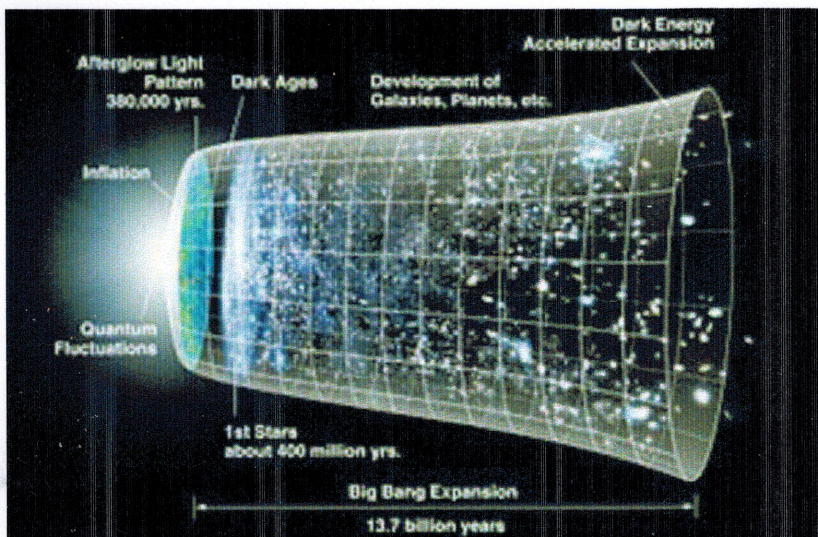
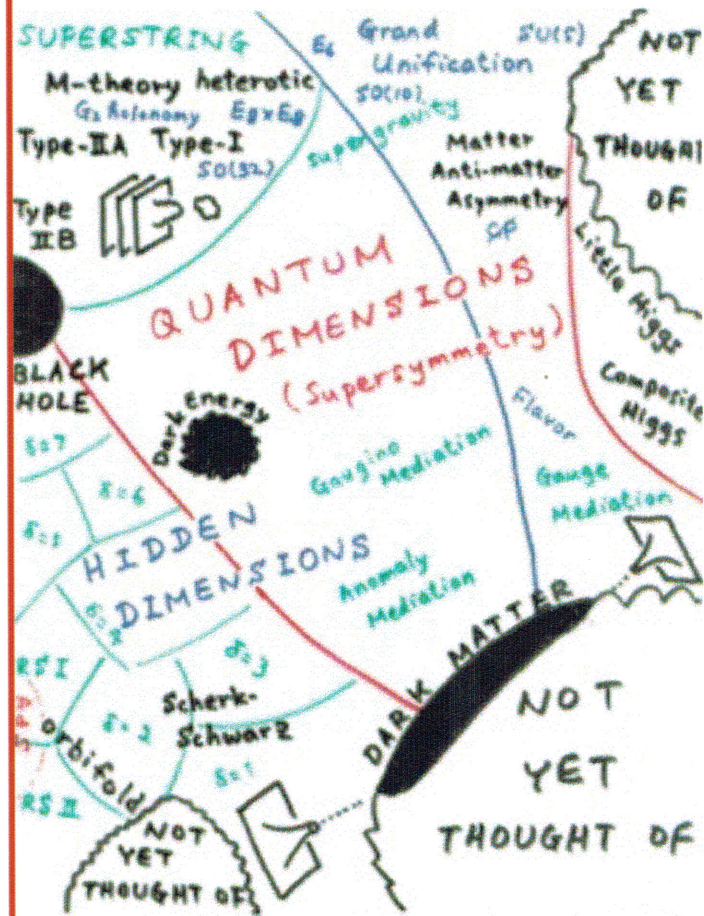
# A Summer Program in Fundamental Physics for High School Students at Rutgers University

Students will learn about the really big questions in physics today.

- **Cosmology:**  
the universe at the largest scale
- **Elementary Particles**  
the building blocks of the universe

Program includes:

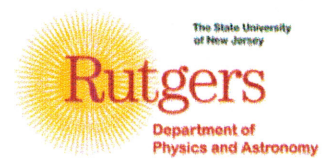
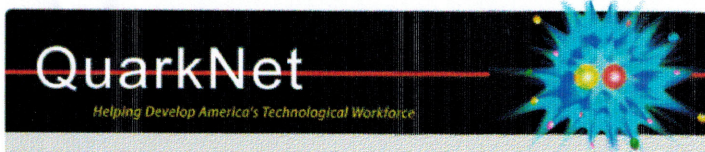
- Sessions with Rutgers faculty
- Tours of Rutgers physics labs
- Measurements of cosmic ray muons using particle detectors
- Study of data from the Large Hadron Collider



Program meets 9am to 3pm July 9 to July 20 on the Rutgers University campus.

For more information contact:  
Prof. Stephen Schnetzer  
[steves@physics.rutgers.edu](mailto:steves@physics.rutgers.edu)

Program is free of charge



## Rutgers University Summer QuarkNet Program 2018

The Physics Department of Rutgers University is currently accepting applications from high school students to participate in the **8<sup>th</sup> Annual Summer Workshop on Particle Physics and Cosmology**. In this program, students will learn about the most important fundamental open questions being addressed in physics today. Students will gain first-hand knowledge of research in fundamental particle physics by analyzing actual data from the Large Hadron Collider at the CERN laboratory in Switzerland using 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 particle detectors. Participating students will be expected to prepare and give a presentation with a group of fellow students at the conclusion of the program.

Graduates from previous years have highly praised 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 trip, and opportunities to work with other highly motivated students from around New Jersey.

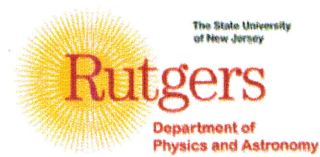
The program will require students to spend about 20 hours on pre-workshop preparation using materials and activities that will be provided.

The program will meet weekdays (Monday through Friday) for two weeks at Rutgers University, Piscataway Campus, from 8:45 AM to 3:30 PM each day from Monday, July 9, 2018 to Friday, July 20, 2018.

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 Department of Rutgers University.

**Application Deadline: April 9, 2018**

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



## Rutgers University Summer QuarkNet Program 2018

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### 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. An additional page must be provided describing the reason for this request.)
- 4) Students must complete the application process and be accepted into the program.

### Application Process:

- 1) Fill in the upper portion of the Application Form. All forms must be typewritten.
- 2) Have your parent or guardian fill in the middle portion.
- 3) Provide a one to two page essay addressing why you want to attend this program.
- 4) Have one signed, sealed letter of recommendation from a science teacher, preferably the teacher that you have (or had) for Physics, provided to your guidance counselor.
- 5) This application, your essay, and the letter of recommendation, along with a current transcript, including midyear grades should be provided to or supplied by your guidance counselor. Your guidance counselor should fill in the bottom portion of the application form and then scan all the documents into one master document and send it as an attachment to the following email address:

[quarknet-rutgers@googlegroups.com](mailto:quarknet-rutgers@googlegroups.com)

- 6) Note that some signatures are required. The application form must be signed by the student, a parent or guardian, and the guidance counselor for the student's high school.
- 7) The email should be titled: Quarknet: Student Name (where Student Name is the name of the student).
- 8) All materials must be provided by no later than **April 9, 2018**.
- 9) ***Students will be notified of their acceptance status by May 7, 2018.***



# Rutgers University Summer QuarkNet Program 2018

Dates: Monday July 9, 2018 – Friday July 20, 2018 : **Application Form**

### Student Information

Name of student (Print) \_\_\_\_\_ Current Class Year: \_\_\_\_ (9,10,11,or 12)

Are you an American Citizen? \_\_\_\_\_ If not, country of citizenship \_\_\_\_\_

Signature of student \_\_\_\_\_

High School \_\_\_\_\_

Home address: \_\_\_\_\_

Home phone: \_\_\_\_\_ Cell phone (optional): \_\_\_\_\_

Email address: \_\_\_\_\_

### Parent/Guardian Approval:

My child, \_\_\_\_\_, would like to attend this summer program at Rutgers University.

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 10 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.

I would like my child to attend this program.

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: \_\_\_\_\_

Name (Sign) \_\_\_\_\_ Date \_\_\_\_\_

### Guidance Counselor Certification:

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 \_\_\_\_\_