



**RFK Science Research Institute,
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**RFK Science Research Institute, 2018-2019
(affiliated with the Williams College ESR Dating Lab)**

February 22, 2018.

Students in Science and Math Majors, Research Directors, College Counselors,

If you are or you have an undergraduate or graduate student with an excellent work ethic and a strong achievement record in science and math, we offer students an opportunity to apply for a summer research internship with the RFK Science Research Institute, by applying to join a world-class scientific research team. This rare opportunity allows him/her to perform archaeological, paleontological, geochemical or environmental research with fossils from famous archaeological and paleontological sites around the world. Participation includes learning to use our state-of-the-art ESR spectrometer and other equipment in our preparation facilities. The Williams College ESR-RFK Science Research Institute Dating Labs is the only lab of its kind in the USA, and one of only six such labs worldwide.

Research with the Institute normally involves performing ESR dating or geochemical analyses, to determine ages for fossils and rocks, or to develop new ESR dating or geochemical analytical techniques. Students perform all the work associated with sample preparation and analysis that they can safely perform. They will run the new ESR spectrometer and possibly other research instruments at Williams College. Undergraduate students who have developed data may be a coauthor for publication, which makes them likely to move onto prestigious graduate schools. Students work in a small team that includes three scientists, two-three technicians, and 6-10 students.

Our students can begin to build their professional research resumé. Beverly Lau ('94-'96) authored a paper that dated the oldest known musical instrument, a flute ~ 60,000 years old, and coauthored two book chapters, along with Edwin Yu ('99-'01), and Shuwei Yin ('00-'01). Himansu Patel ('00-'02), Andrew Condiles ('00-'02), Ed Cho ('10-'12), Hermain Khan ('05-'07), Steve Teng ('03-'05), Aislinn Deely ('08-'10), Faizullah Mashriqi ('10-'11), Jon Florentin ('10-now), Alex Lee ('10-'14), Jennifer Huang ('10-'12), Ada Huang ('10-'12), Dan Kim ('11-'14), Kelly Chen ('11-'15), Zarrin Mahmud ('13-'16), Gavin Li ('15-'17), Neeraj Sakhrani ('15-'17), Justin Qi ('16-now), Clara Huang ('17-now), and Jialin Zhuo ('17-now) all presented papers at the Geological Society of America's national meeting. Shauntè Baboumian ('02-'12), Stephanie Chen ('09-'11), Aislinn Deely, and Ed Cho ('09-'11) all presented at the Society for American Archaeology. Chelsea Lei ('02-'06), Fanny Truong ('11-'13), Steve Teng, Kelly Chen, Danny Kim, Zarrin Mahmud, Seimi Chu ('13-'15), and Kalyani Gopalkrishna ('14-'17) all presented at international conferences. Helen Leung ('97-'99) coauthored two presentations and two scientific papers, while Sisi Liang ('02-'05) coauthored a presentation and a paper. Steve Teng, Shauntè Baboumian, and Abubakar Mian ('05-'06) co-authored a paper in *Radiation Measurements*. Faizullah Mashriqi coauthored a paper in *Quaternary Geochronology* while still a highschool junior and now has a patent. Amy Ortega ('02-'04) coauthored a presentation and a paper. Salem Fevrier ('99-'01) and Donovan Chaderton ('00-'02) published a paper in *Current Science*. Maysun Hasan ('04-'06) coauthored four presentations, and Hermain Khan, three. They both also coauthored a paper in the *Journal of Human Evolution*. Tenzing Tsomo ('08-'09) and Tiffany Yau ('07-'09) coauthored a site report for the Moroccan government. Yiwen Huang ('11-'15), Iffath Chaity ('14-'16), Seimi Chu, and Ada Huang all coauthored a paper for a Serbian book. Aislinn Deely coauthored 10 abstracts, four for international conferences, three of which she presented, was the first author on a paper in *Radiation Measurements*, and coauthored three other papers. Kelly Chen, Ada Huang, Danny Kim, Rebecca Long ('05-'07),

Shirley Mo ('11-'13), Justin Qi, Neeraj Sakhrani, Kaly Gopalkrishna, Yiwen Huang, Impreet Singh ('13-now), Iffath Chaity, Yiwen Huang, and Maria Kim ('09-'11) all have coauthored one or more published papers. Dr. Andrés Montoya ('02-'11) coauthored 15 presentations and published four papers with us, while Jon Florentin has coauthored 17 presentations and eight other papers, one as first author.

Thanks to their research, our graduates have attended or now attend Harvard, Yale, MIT, Princeton, Stanford, U. of Chicago, Williams College, Brown, Columbia, Cooper Union U., U. of Pennsylvania, Macaulay Honors College, SUNY Stony Brook, Polytechnic University, NYU, SUNY Binghamton, Sophie Davis Medical College, Tuft's Dental School, Yale Medical School, and Harvard Medical School, among others. Two students have gone on to work at the National Institutes of Health after leaving us. One has designed components for two of the world's tallest buildings. Many now work as physicists, geologists, engineers, physicians, and dentists.

The summer program normally runs for approximately 8-10 full time work. In the January intersession, a typical project involves about 3.5 weeks full time. For people wanting a term-time project, we encourage them spending approximately 8-10 hours/week in lab work. Please discuss your requirements with us via email or phone if you need some other arrangement. Students who wish to prepare and collect data for manuscript publication or for doing a presentation at a conference should expect to spend about **200-500 hours of work, including data analyses and writing.**

Students who wish to obtain a credit from their college or university towards a summer research, capstone, or thesis accreditation need to consult with both their school administration and us about their requirements. We make every effort to ensure the success of our students.

Formal training for the 2018 summer session will begin early in June. The program for Summer 2018 will run until mid August. We encourage all interested students with excellent science/math records and strong work ethics to apply. Students can only be accepted to this program after receipt of a formal application and a successful interview. The application **deadline** for the Summer 2018 session is Monday, **April 9, 2018**. Acceptance is also contingent upon a successful interview with program staff and program funding. After application screening, we will email students selected for interviews in order to organize interview prospective applicants.

RFK SRI covers costs for students' research and sample analyses, but we ask students to pay for their food while at Williams College, if they must go there for some of their analyses. Bursaries to pay food costs are available for needy students. Essentially, this program costs students nothing, except the time that s/he invests in his/her research, but students planning to obtain credit from their college or university will need to cover their school's registration and other fees. Students planning to present the data that they have collected with RFK SRI at conferences must make arrangements to fund their costs. For more information or questions, please call our office at 516-759-6092 or email us.

We look forward to having you work with us this summer. Thank you for your interest.

Dr. Joel Blickstein,
Co-Director, RFK Science Research Institute,
& Research Scientist, Williams College

Dr. Bonnie Blackwell,
Director & Research Scientist, ESR Lab, Williams College,
Co-Director, RFK Science Research Institute

Please type (or print neatly) this form and *all* associated materials. *Summer program application deadline: 5 pm, April 9, 2018.* For other sessions, please contact to us or consult the website.

1. Your completed application: If you email the application, we do require ***original signatures in pen*** on Page 3. Page 3 and the recommendation letters **must** be submitted by mail ***before*** the deadline.
2. **One (1)** copy of your current official college or university transcript with grades from November or December, 2017. If you do not yet have an undergraduate transcript, submit your most recent highschool transcript and any reports AP or College Now courses.
3. **Two (2)** recommendation letters from science or math professors, teachers, or mentors familiar with your academic work or research, within the last two years only: ***Please note:*** All recommendations require an email address and ***an original signature in pen***, and must be printed on an official academic organization's letterhead. All recommendations must be mailed or emailed directly under separate cover to Dr. Blackwell at bonnie.a.b.blackwell@williams.edu.
4. Your answers to the questions below: Excessively short or long answers jeopardize your application.

Dr. Joel Blickstein, RFK Science Research Institute, Box 866, Glenwood Landing, NY, 11547-0866.
or **email** the application form and questions as a PDF attachment to:
Dr. Bonnie Blackwell, Bonnie.A.B.Blackwell@williams.edu

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Volunteer or paid jobs or internships:

Date	Employer/Supervisor	Hours/week	Responsibilities/Skills Acquired

Attach more sheets if necessary.

Activities, hobbies, elected or volunteer positions

Year(s)	Organization	Activities/Hobbies	Position

Attach more sheets if necessary.

Science research, including highschool research programs.

Year(s)	Science Research Topic/Title	Abstracts/Publications

Attach more sheets if necessary.

On separate sheets of paper, answer **all** the following questions in 200-250 words:

1. What do you plan to do as a profession when you finish university? Why? Explain your choices.
2. Do you plan to attend professional school or graduate school after finishing undergraduate? Why?
3. What are your favorite extracurricular activities and/or hobbies? Why? Please be specific.
4. What do you hope to gain from this research program?

In 200-250 words, please answer **one (1)** from the following questions, with citations to the scientific literature:

5. If cost were no object and you could go anywhere to visit for 1-2 month, where would you go? Why?
6. From all the famous scientists living or dead, which one person do you feel has made the greatest contribution to the world today? Why? Use specific examples to illustrate your answer.

In 200-250 words, please answer **one (1)** from the following questions, with citations to the scientific literature:

7. Describe how you would solve an important modern scientific problem. In particular, explain with specific details how you would set up any necessary scientific experiments associated with the solution.
8. Describe your work habits. In particular, explain how you handle unexpected assignments that may come your way or problems that have impacted your work. Specific examples would improve your answer.

Failure to answer all the requested questions will disqualify your application. Grammatically correct English and spelling will significantly enhance your application's success. Essays answering questions 5-8 should include citations and references to the scientific literature. Please include a word count for each answer at the end of each essay.

Student commitment

I _____ certify that:
Print or type applicant's full name (including any nicknames or unofficial English name if any)

1. The information that I have given on this application is true.
2. I understand that if I am admitted to the RFK Science Research Institute program, I will be expected to follow all the lab rules and fulfill all the program requirements. The RFK Science Research Institute reserves the right to terminate my involvement in the program at any point should my work or behavior be unacceptable to the scientific staff.
3. I understand that admission to the program depends on the discretion of the scientists involved with the RFK Science Research Institute program and the availability of program funding this year.
4. If I decide to submit an abstract or manuscript for publication I will be **required** to work with the scientific staff to prepare that work. This will involve travelling to the RFK Research Institute offices in Glenwood Landing, NY (N21 bus/LIRR to Glen Head). Such an entry may involve my missing weekend activities for several weekends or holidays before the contest deadline. While the RFK Science Research Institute scientific staff will make every effort to ensure that students who wish to publish or to enter their abstract entries in a timely fashion, it remains the decision of Institute's scientific staff whether to submit for publication. **I realize that the RFK Science Research Institute retains the right to deny permission for students to enter abstracts or manuscripts for publication if the Institute staff feels that the project lacks scientific accuracy, is incomplete, fails to meet the abstract or manuscript submission criteria, or is not sufficiently high in quality to merit entry.**
5. **I know that *all* the research produced during the program remains the property of the RFK Science Research Institute scientific staff. I realize that I am not allowed to post data from *any* research that I have done with the RFK Science Research Institute on any website on the internet in any form, including school or personal websites, blogs, Youtube, Facebook, or Twitter accounts, or to publish it in any other form *without first obtaining express written consent from the scientific staff at the RFK Science Research Institute and the Williams College ESR Dating Laboratory.***
6. At my discretion, I will make any arrangements with, and receive approval from, my home college/university for undergraduate or graduate credits for my work done with RFK Science Research Institute.
7. Costs needed to obtain undergraduate or graduate credits for my work done with RFK Science Research Institute are my responsibility.
8. The costs incurred in order to make a conference presentation are my responsibility, including abstract fees, conference registration, transportation, accommodation, and food.

Signature _____ Date _____