

Excellence

Center for Excellence in Education

March 21, 2014

Dear Professors, Past and Potential Mentors, Alumni, and Friends of RSI:

As the director of the 2014 Research Science Institute (RSI), to be held at MIT this summer from June 22 through August 2, I write in the hopes that you might consider becoming a research mentor to one of our high school students.

Those familiar with the RSI program can skip to the end of this email, where I ask you to contemplate providing a possibly life-changing opportunity to one of the most promising of our future scientists. Those less familiar can read more about the program in detail below.

Sponsored by the 501(c)(3) non-profit Center for Excellence in Education (CEE), founded by the late Admiral H.G. Rickover and current president Joann DiGennaro, and co-sponsored by the Massachusetts Institute of Technology, RSI is a preeminent residential summer enrichment program for high school juniors who have shown extraordinary promise and interest in STEM (science, technology, engineering, and mathematics) fields. Unique aspects of the program include the rigors of our selection process, the intensity and comprehensiveness of the experience, the commitment of its sponsoring organization, and the low cost to its participants.

At its core, RSI is an intensive, highly-compressed six-week introduction to most aspects of scientific research and discovery (except the grant-writing!), from formal coursework and literature review to design, execution, and analysis of original experiments, observations, or theoretical investigations. Individualized research mentorships culminate with students completing scientific papers and preparing and delivering oral presentations reviewed by a panel of distinguished experts.

In the first week of the program, students attend lectures and smaller classes where they are exposed to both practical technical skills and some exciting recent developments in various scientific fields. The research mentorships then run for a little over four weeks, during which students work (typically fiendishly) in academic, corporate, or government sponsored groups in the Boston/Cambridge area under the guidance of their mentors, while also receiving assistance and advice from resident tutors on our staff who follow their progress. Some students work directly under the supervision of a principal investigator; many work with post-docs, graduate students, advanced undergraduates, or other group members.

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In the final, hectic week, the students wrap up their summer research, finish their papers, and prepare, practice, and then deliver their presentations as part of our RSI Symposium. Throughout the program, students attend special guest lectures in the evenings on a variety of topics, participate in special events and excursions on the weekends, and of course constantly bombard each other with questions and exchange and explore new ideas. Several students use their research projects as the basis for entry into science competitions such as Intel, Siemens, or Google in their senior year of high school; some help to produce published articles in peer-reviewed journals; and a few return to their labs as undergraduate or graduate students.

These six weeks at MIT can be for many students among the most stimulating of their lives, but the RSI experience does not end there. CEE remains committed to RSI alumni throughout their academic and scientific careers, helping them with university and job placement, and sponsoring local and national events and international exchanges. An active RSI alumni network helps to ensure that the exceptional camaraderie engendered during the summer program becomes the basis of continued friendships and future collaborations. Being a "Rickoid" is a lifelong opportunity and responsibility.

Students who attend RSI receive free tuition, room, and board. The only expense for domestic students is transportation to and from MIT. Students are chosen from throughout the United States and participating countries based solely on their accomplishments, passion, and intellectual potential.

Although the mentorships are short and the students young, the "Rickoids" are invariably bright, curious, motivated, engaged, and hard-working, and with the right project can come up to speed very quickly and accomplish amazing things. Our staff also works tirelessly to help students keep on task during the intense weeks of the program.

Research projects vary widely in topic and scope, but the best mentorships tend to focus on questions that are somewhat self-contained yet fit into the mentor's larger research agenda, and tend to offer students a productive balance of apprenticeship and autonomy. RSI students are eager to immerse themselves in real scientific inquiry, and despite their youth and relative lack of experience, they are often described as working at the level of typical MIT sophomores or juniors.

Our domestic students are chosen based on the recommendations of a selection committee consisting of experts in gifted education, professional scientists, MIT admissions staff, program alumni, and others, who this year read over 1000 application files to find approximately 50 students from over 30 US states.

Our international scholars are among the very best secondary school students from their respective countries. A few may not have quite the technical preparation or English language proficiency as our domestic students, but all should be enthusiastic and quick learners.

We recognize and profoundly appreciate the significant investment of time, effort, and often money, equipment, or other resources on the part of mentors in the supervision and cultivation of RSI students, but unfortunately CEE is not able to provide any research funds, overhead costs, or honoraria. The raw talent and enthusiasm of the students, nurtured by the wisdom and experience of distinguished mentors choosing to volunteer their limited time, resources, and lab or office space, are what make RSI a success year after year.

More information about the RSI program can be found at www.cee.org/programs/rsi. Mentorships will normally run for about one month, from either Friday, June 27 or Monday, June 30 through Wednesday, July 30, and the presentations will take place on Thursday, July 30 and Friday, August 1. Students depart Cambridge on August 2.

If providing such an experience might fit into the goals and schedule of your research group this summer, and if you—or someone you supervise or with whom you collaborate—might be interested in becoming a mentor to an RSI student, or else if you have questions or would like additional information, please e-mail me at acharman@mit.edu. If desired, I can forward to you the application file of a specific prospective student, and we can discuss further whether it seems like a good match.

Thank you very much for your consideration.

Sincerely,

A handwritten signature in black ink that reads "Andy Charman". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Andy Charman

Director, RSI 2014

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