Summer Undergraduate Program Educating Radiation Scientists (SUPERS)
How are we doing after 8 years?

Sydney M. Evans, Stephen Tuttle, Costas Koumenis

In 2009, we were awarded an NIH R25 education grant with 2 primary aims:

- Provide multifaceted training to expose talented undergraduate students to basic science and translational cancer research, especially as associated with the use of radiation. (STEM)

- Develop SUPERS as a mechanism to begin to address the need to increase diversity in the Radiation Research community.

Over an 8-year period, 545 students (Science GPA > 3.3) applied to the program; complete and relevant applications increased steadily from 28 in year 2010 to 102 in 2017. Class size ranged from 10-16 students per summer. Over the 8 years of the program, the classes contained 26% minority students, 28% Pell grant recipients, 48% female students and 2% students with disabilities recognized under the ADA. The standard deviation for each category was < 7% from year to year. The numbers of these “under-represented in science” populations compared favorably to data based on the US census, USA graduate students, NIH principal investigators and the membership of the health physics society.

SUPERS students attended 3-5 hours weekly of lecture on topics related to cancer, imaging and radiation research. Also, they each worked approximately 35 hours per week in a laboratory that corresponded with their stated educational interests (imaging, molecular biology, physiology, physics). During the 10-week program, the students informally presented their research as well as took the role of discussants during journal clubs. Each year, on the final day of the program, a retreat was held for the students to present a formal power point lecture describing their summer research.

Of the 73 graduated alumni, 27 are PhD students, 25 MD/DO students, 4 MD/PhD students, 10 students in Masters level programs, including 5 Masters of Medical Physics (MMP) students. Currently, 4 of the remaining students are working as research technicians while applying to graduate or medical school programs, one is teaching biology and two are pursuing graduate degrees in business. Our alumni include 5 National Science Foundation (NSF) Fellows, 2 Fulbright Scholars and 1 NCI- National Research Service Award (fellowship awarded to promising pre-doctoral students from underrepresented groups). Of the 27 PhD students, 7 of them were studying in fields directly related to imaging, medical physics or cancer biology.

A competitive renewal will be submitted in 2018-19. We encourage everyone to propose new ideas, directions, etc. to increase our likelihood of being funded for years 11-15.