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Personal Essay
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Prompt: Indicate a person who has had a significant influence on you, and describe that influence.

It is with profound regret and sadness that I write this essay about my late advisor and mentor, Professor Jian Z. Wang, an outstanding medical physicist in the Department of Radiation Oncology at the Ohio State University (OSU). I was introduced into research in the summer of my freshman year of high school by Prof. Wang. My research spanned from June 2008 until he passed away suddenly in June of this year at the young age of 43. I had been working with Prof. Wang for nearly 3 years in his group, and was in the process of writing a paper for the Journal of Undergraduate Research at OSU (JUROS). He had informed me that he would be away for a few days, and would correct the paper while on a trip to attend a meeting in Seattle. However, he did not reply to my emails. After a few days, Dr. Nina Mayr, the Head of the Radiation Oncology department at the James Cancer Hospital at OSU, gave me the shocking news of his passing.

Dr. Wang was an outstanding research scientist, who had originally been an astrophysicist but moved into medical physics owing to his desire to explore a novel field. Fortunately, I was also interested in a similar career path. Another professor at OSU, Professor Anil Pradhan, who knew of my interest in biomedical science, supported me in joining Prof. Wang's research project on *Craniospinal Irradiation*.

Inspired by Prof. Wang's enthusiastic guidance, I immediately became absorbed in the project. The cancer research integrated areas of my interest in science with my deep passion for computer programs. Our research was carried out through simulations, using a treatment planning software (TPS), *Eclipse*, to plan the radiation therapy treatment of phantom patients.

As an exemplary advisor, Prof. Wang vigorously supported me through over two years of research. He guided me in learning the powerful tool TPS, as well as in developing two novel techniques for craniospinal irradiation of cancer patients. He arranged a desk with a computer for me near his office. Dr. Wang was always available to answer my questions, and went into great detail discussing the results I obtained.

Prof Wang exhibited great excitement and interest in my findings, and gave me the opportunity to present our results at two refereed conferences: (i) at the national AAPM (American Association of Physicists in Medicine) Conference, and (ii) at the annual Ohio River Valley Conference. In addition, I was able to present our project at the Denman Undergraduate Research Forum, State Science Day, and other venues, with myself listed as the first author. Finally, I was able to submit my research paper to JUROS, and was preparing another paper for a peer-reviewed journal.

With extreme generosity, Prof. Wang kept the Department of Radiation Oncology informed of my achievements, which resulted in great support for me by other members of Department. Prof. Wang checked my work regularly with supportive advice such as providing an outline of our manuscript, reviewing relevant references, etc.

The new technique we developed is a considerable improvement on delivering uniform irradiation to the tumor target, while significantly sparing the healthy organs, compared to conventional methods currently used in craniospinal irradiation. Our simulations showed a significant reduction in harmful hot spots of radiation dose to the body. At each step, Prof. Wang taught me valuable procedures, rules, and safety measurements.

My research with him won me the top position for the 2009 TechColumbus High School Innovation award. I also received awards from the Ohio Science Day for the district as well as the state level, and the Governor's award in Biotechnology Development.

As a small token of my respect for Prof. Wang's capabilities, I nominated him for the Best Mentor Award for the OSU Denman Research Forum, an honor I fully believe he deserved. Prof. Wang was patron of my various applications for internships. His mentorship and encouragement, which I will always cherish, drove me to appreciate and enjoy research. I now feel truly inspired to become a biomedical researcher. He had been an outstanding role-model for me, and an ideal for principle investigators and research mentors.

At the memorial service organized by the Department, I was asked to deliver a eulogy. Personally, I can not but end by paraphrasing Shakespeare: "*We shall not see his like again*".