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Training The Next Generation Of Fusion Scientists And Engineers: Summer High School Fusion Science Workshop

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The goal of the education and outreach activities of the Hampton University Center for Fusion Research and Training (HU CFRT) is to create a high school-to-Ph.D. pipeline in plasma physics, fusion science, and related sciences for underrepresented minorities and female students. The HU CFRT Summer High School Fusion Research Workshop is an integral component of this pipeline. This workshop has been extraordinarily successful. The workshop participants are chosen from a national pool of young and talented minority and female high school students through the NASA SHARP program. These students come to HU from all over US and its possessions for eight weeks during the summer. Over the last ten years, these workshops have provided one-on-one high quality research experiences in fusion science to the best and the brightest minority and female high school students in the nation. Our high school students have presented over 25 contributed papers at APS/DPP annual meetings, twice reached semi-finalist positions in Siemens-Westinghouse competitions, won awards and prizes, admissions and scholarships to prestigious universities, and won high praises from the fusion research community and other educators and researchers. We wish to emphasize that we have been able to achieve these results with limited human and fiscal resources and a meager infrastructure. Here we will present the details of how this workshop has evolved over the years, the approaches, the activities, and the structure that we have used to train, motivate, and provide valuable research experiences to the next generation of our national leaders in science. We thank the U.S. DOE OFES for supporting these efforts. We also thank Dr. Allen Boozer and Dr. Thomas Simonen for their invaluable help in the workshop and in all our efforts.