The Penn State MRSEC is expanding its efforts to encourage diverse high school students to pursue degrees in STEM fields. Working with 70 Upward Bound Math and Science (UBMS) students from low-income and first generation college-bound families from underrepresented and underserved populations, MRSEC graduate students and faculty, along with Physics/MRSEC REU undergraduates, trained together in teams to prepare a full day of science outreach activities at the Central Pennsylvania Festival of the Arts Children and Youth Day. MRSEC faculty also hosted four UBMS groups throughout the summer on research projects in their labs. Broader recruitment efforts reached a diverse audience of underserved high-achieving students in Science Leadership Camp. The MRSEC sponsored eight students in this week-long residential program; MRSEC graduate students and faculty participated in multiple camp activities, including the Meet the Scientist Mixer and hands-on laboratory activities, informing campers about interdisciplinary opportunities in materials science and nanotechnology at Penn State and beyond.