Center for Compact and Efficient Fluid Power (CCEFP)
Education and Outreach Programs

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The CCEFP's Education and Outreach Program is intentionally ambitious. It is designed for many audiences -- pre-college and collect students, fluid power industry stakeholders and customers, and the general public-- in the recognition that hydraulics and pneumatics is neither well-understood nor often taught. The CCEFP, working through its networks of strong partners, places an emphasis on developing new understandings of fluid power and related STEM topics as it reaches out to diverse audiences. More than twenty projects are included in the CCEFP's Education and Outreach Program Portfolio and are described here within.

The mission of the Education and Outreach Program of the NSF Center for Compact and Efficient Fluid Power (CCEFP) is to develop research inspired, industry practice directed education for pre-college, university and practitioner students; to integrate research findings into education; to broaden the general public's awareness of fluid power; and through active recruiting and retention, to increase the diversity of students and practitioners in fluid power research and industry.

The vision of the Education and Outreach Program is a general public that is aware of the importance of fluid power and the impact of fluid power on their lives; students of all ages who are motivated to understand fluid power and who can create new knowledge and innovate; industry that capitalizes on new knowledge to lead the world in fluid power innovation; and participants in all aspects of fluid power who reflect the gender, racial and ethnic composition of this country.

The strategy of the Education and Outreach Program is to develop and deliver high quality projects that wherever possible capitalize on existing, broadly distributed education and outreach networks to maximize program impact; to develop projects that can be replicated and/or adapted by other educators and program leaders for new audiences; and to leverage and coordinate the accomplishments of individual Education and Outreach projects to facilitate the progress and successes of other Education and Outreach projects.

Organization: The EO program is divided into six thrust areas with each thrust area having several projects. Some projects are focused on STEM education with examples drawn from fluid power when appropriate, while other projects are specific to fluid power technology and its application.

Diversity: The CCEFP is striving to change the face of fluid power by providing opportunities for a diverse population to become involved in fluid power. Every research, education and outreach project at every CCEFP institution is committed to actively recruiting and retaining underrepresented and minority students to participate in these projects.
Some of these efforts are conducted through each university's own offices and programs. Others are realized through the work of the Center's affiliated organizations, and many more are coordinated by the CCEFP itself.