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SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
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PASSING THE BATON: ACHIEVING LONG TERM GROWTH AND SUSTAINABILITY IN
UNDERGRADUATE SPACE EDUCATION AND OUTREACH ORGANIZATIONS

Abstract

A significant hurdle in the development of Undergraduate Space Education and Outreach Organizations is achieving long term sustainability. Individual commitment of undergraduates to student organizations is inherently temporary and conditional on voluntary adjustment of personal and academic priorities to provide time for participation. As a consequence, student knowledge and experience gained from managing an organization is seldom maintained or transferred to the next generation of student leaders. Faculty advisors and other program mentors can provide continuity of leadership for small and medium sized organizations. Their effectiveness is limited by the amount of time that can be committed to the organization. For larger space education student organizations, a different approach is needed to ensure sustainability.

The University of Alabama in Huntsville's Space Hardware Club (SHC) is a 70 member student-led undergraduate space education and outreach organization that has operated for almost 10 years. In its decade long history, the organization has flown over 40 high altitude ballooning missions for student research and outreach, competed in engineering competitions like the International CanSat Competition for 7 years, launched its first CubeSat, ChargerSat-1, in 2013, and is developing a second orbital CubeSat. As part of this history, the student organization has operated through numerous transitions in faculty and student leadership. A critical component to the long term success of SHC is the development of student and faculty leadership and management practices which motivate senior members to mentor new club members for future leadership roles. As a result, the student organization has developed organizational momentum that protects it from the leadership transitions that can destabilize conventional student leadership and management structures. The management and student leadership practices that have helped maintain the sustainability of SHC will be discussed in depth, with special attention given to methods for developing and implementing these practices in other undergraduate space education and outreach organizations. It is the hope of the authors that these practices can be adopted by other undergraduate space education and outreach organizations to promote growth and long term program sustainability.