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Today's Students; Tomorrow's Engineers and Scientists: A Program of Hands-on Experiential Involvement for Undergraduate Students at Montana State University
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At Montana State University – Bozeman undergraduate and graduate students are fully engaging in the practice of their future careers as aerospace scientists and engineers through design, development and flight of spaceflight hardware, and its operation in space. Objectives of the student-focused program include hands-on experiential training that complements the core scientific and engineering knowledge they draw from their formal coursework. An equally high-priority goal is to conduct scientific investigations in space and to push the technological state-of the art in small low-cost spaceflight systems. A bonus of the program includes the opportunity for students to “test-drive” their potential careers before it becomes too late to make career path adjustments. These extracurricular involvements include developing systems engineering and project management skills; realizing the importance of working together as a highly interdisciplinary well-coordinated team; utilizing systematic and methodological processes and procedures; and understanding the importance of completely documenting their design and development process. The speaker will describe how professionally-mentored, yet completely extracurricular hands-on activities can work to complement the traditional formal educational activities of colleges and universities to fast-track our students for STEM careers in a technologically advanced society.