

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
Ignition - Primary Space Education (1)

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MAKING CUBESATS AND SPACE SCIENCE MORE ACCESSIBLE THROUGH EDUCATIONAL  
OUTREACH**Abstract**

CubeSatellites offer a more accessible option for the study of space science and an outlet for a variety of outreach programs. AlbertaSat, a student group at the University of Alberta which focuses on CubeSatellite design, has created such a program for primary and secondary students. Created in 2014, the program recognized that since an understanding of CubeSatellites is not embedded in the Alberta curriculum, many teachers did not have the content knowledge for this area, while we lacked the pedagogical knowledge to teach this. Our program has become very collaborative as we have relied heavily on people from an educational background and a STEM background working together.

In the last year, the program has undergone a great deal of growth and change. Since 2014, this program has grown from one successful presentation to eight different program options for teachers. We have developed five new sessions for primary and secondary school. We now have four sessions for primary and four for secondary. This is up from three sessions in the 2016/2017 academic year, two for primary and one for secondary. Our program covers a variety of STEM topics which focus on space science and project design. We have also recently completed our first program booklet; a resource for teachers interested in teaching our sessions. In this booklet, we outline our sessions using common teaching strategies such as scaffolding and step-by-step instruction to encourage the use of our lessons in the classroom, reduce cognitive overload, and provide a useful resource for teachers. This was done to make space science more accessible. Our program has been well-received and highly successful. Between July 2016 and March 2018 we will have reached approximately 1600 primary and secondary students. We hope to reach over 2000 by September 2018, through our school and summer camp presentations. Our future objectives include regularly presenting at upper secondary schools (grade 10-12/ages 15-17, approximately) in the 2018/2019 school year. We also hope to continue to improve our lessons with the assistance of educators and we want to encourage others to contribute to outreach opportunities in their area.