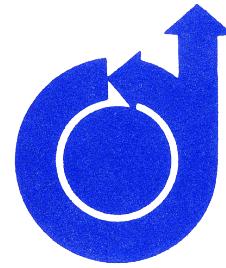


**American Institute
of
Aeronautics and Astronautics**

Albuquerque Section
P.O. Box 20818
Albuquerque, NM 87154-0818



5 December 2022

Dear Educator,

The American Institute of Aeronautics and Astronautics (AIAA) is the principal society and voice serving the aerospace profession. Its primary purpose is to advance the arts, sciences, and technology of aeronautics and astronautics, and to foster and promote the professionalism of those engaged in these pursuits. The Albuquerque Section, consisting of over 440 members, holds monthly technical/social meetings with invited technical speakers. We also endeavor to promote Science, Technology, Engineering, or Mathematics (STEM) education at all levels.

One of our educational initiatives at the K-12 levels is the Scientific Classroom Equipment Grant (SCEG). The AIAA Albuquerque Section is now accepting proposals for the 2022-2023 Scientific Classroom Equipment Grant. This year, one **\$400 grant** will be awarded. The grant provides funding to purchase materials or equipment used for STEM-related projects in your class/school. Past winners have used funds to purchase LEGO robotics kits and to pay for Explora Museum Classroom Explorations outreach visits. The winner will be selected by a panel of AIAA officers based on scientific and/or engineering merit, and potential benefit to students. We realize how valuable and limited your time is so **applications for this grant should be limited to one page** and should include:

- an overview of the project
- a list of the equipment/materials needed
- projected cost
- a description of how the project will benefit students

Attached to this letter is a sample grant application. Examples of other past grant applications are available upon request. Also, please include your name, school, grade, subject, address, and phone number (and e-mail address, if applicable). Upon project completion, the Albuquerque Section requests a one-page project report (and photos, when possible) that will be included in our monthly newsletter in the May 2023 timeframe.

Proposals must be received by **31 January 2023**. An award will be made by **7 February 2023** and arrangements to distribute the funds will be made immediately after that date. Proposals may be:

e-mailed to elfego.pinon@inemergent.com

or

mailed to AIAA Scientific Classroom Equipment Grant
C/O Elfego Pinon III
7015 Kayser Mill Rd NW
Albuquerque, NM 87114

If you have questions about the Scientific Classroom Equipment Grant or to request example grant applications, please contact Elfego Pinon III at the email address listed above or by phone at (505) 600-1519.

Elfego Pinon III, Ph.D.
STEM K-12 Outreach Officer
AIAA Albuquerque Section

American Institute of Aeronautics and Astronautics
SAMPLE - Scientific Classroom Equipment Grant

My name is ____ and I am a teacher of gifted students in grades Kindergarten through 5th grade at ____ Elementary School. Gifted students have unique educational needs that involve creatively and continuously challenging them in ways that help them meet their Individual Educational Program (IEP) goals in the areas of reading, math, written language, critical thinking, and creativity. Working with robots and software through educational kits, such as the LEGO MINDSTORMS kits, is an activity that appeals to students of all levels and backgrounds. These kits provide them with a hands-on way to develop and apply skills in language arts, math, written language, and science that align with New Mexico State Standards and Common Core State Standards while encouraging students to follow careers in science, technology, engineering, and mathematics (STEM). In addition, activities structured around the use of these robotics kits help students develop abilities that align with Albuquerque Public Schools Gifted Strands for interpersonal, thinking, creativity, interest development, communication, independent learner, and achievement skills.

In this project, gifted students in grades K through 5 will work to design, construct, and operate robots built with LEGO MINDSTORMS NXT kits. Students will also learn to follow step-by-step building and programming instructions and will write computer programs on laptops to operate motors and sensors and control their robot creations. The end goal of the project is to help all of the students develop programming and problem solving skills while contextualizing science and math and to prepare the students in grades 2nd through 5th to enter the RoboRAVE International competition to be held May 3-4, 2013, in Albuquerque. In order to compete in RoboRAVE, each group of 3-4 students will need to bring their robot, as well as a laptop, in order to program their robot to follow a given challenge. We currently have one laptop and are in need of 7 more. With the Scientific Classroom Equipment Grant, \$200 will be put towards the purchase of a Toshiba Satellite 15.6" Laptop, with 4GB Memory, 320GB Hard Drive, Model: C855D-S5100, SKU: 7334096, from Best Buy, with a projected cost of \$279.99.

The students involved in this project will benefit greatly from the challenging robot building activities which integrate math (addition, subtraction, division, multiplication, measurement, conversion of fractions to decimal equivalents, calculating circumference, ratios and solving proportions, and algebra) and science (friction, mass/weight, mechanical advantage, data collection, and simple machines) and give them hands-on experience applying the lessons learned in class. Other benefits include the development of critical thinking, increase engagement, increased perseverance and teamwork-related skills and development of the ability to design, build, and program robots that can autonomously complete various tasks and to apply those skills in competition with other student teams.