2017 Workshop: Education and Outreach

Long title
Developing Strategies for Enhancing CEDAR Science in Student Research, Curriculum, and General Outreach
Conveners
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Description

The CEDAR community is widely known to put a strong emphasis on including its student members in its activities, and this is best demonstrated in the high quality (and numbers) of student presentations at each CEDAR conference. The goal of this workshop is to consider how we as a community could improve the training of future CEDAR scientists, as well as science literacy on a national and global scale. This workshop will consist of short presentations and discussions among educators (teachers and advisers) and students (undergraduate and graduate) regarding how we can enhance CEDAR science in both the education system and on a larger scale. It is a goal to have this to be an annual event where we exchange experiences including but not limited to:

• Best practices for mentoring student research (action plans, milestones, assessments etc.)

• Implementation of research activities into the curriculum.

• Sharing of curriculum development.

• Increase preparedness of undergraduate students towards graduate careers in CEDAR science.

• Improve student and public outreach activities

• Utilize other NSF programs to expand educational efforts.

• Public outreach relating to misconceptions on CEDAR science topics of high importance to public well-being (such as climate change).

Please let us know if you would like to give a short presentation. We see this workshop as both a place to learn about innovative teaching practices and to gain feedback from colleagues about new ideas and teaching challenges.

Justification

From the inception of CEDAR, the community of scientists have explored and unfolded many science questions about our near-space environment. As addressed in the CEDAR Strategic Plan, the future of CEDAR science involves a high degree of complexity and requires a strong collaboration with other academic communities and the public. In order to prepare for this forthcoming task, we as a community should also consider how we could improve: 1) the training of future CEDAR scientists, 2) the science literacy and education of non-CEDAR scientists, and 3) public policies relating to CEDAR science. Education is listed as one of the implementations of Strategic Thrust #5: Fuse the Knowledge Base Across Disciplines. Discussing strategies for communicating science will also improve knowledge and public awareness of the decadel survey's scientific missions and goals.

Summary

Real time student feedback during lecture (pdf)- William Archer (University of Saskatchewan)

Management of Student Research Projects - Kim Nielsen (Utah Valley University)

Carbon Dioxide (pdf)- Marty Mlynczak (NASA Langley Research Center)

Adventures in Public Outreach for Space Physics (pdf)- Phil Erickson (MIT Haystack Observatory)

Giving students hands-on experience in research (No Slides) - Julio Urbina (Pennsylvania State University)

Diversity in the Classroom - Climate Change and Public Policy - Susan Nossal (University of Wisconsin-Madison)

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