NITARP:

An Example of Effective Archive Data Based Research in the Classroom

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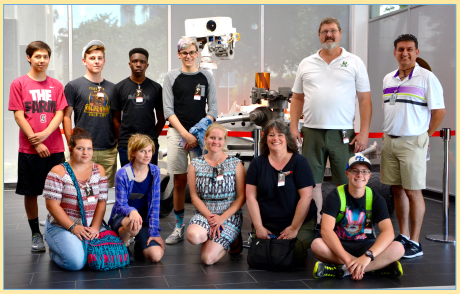
Meaningful Conclusions - NITARP is authentic work – real questions and new research – not cookbook or 'practice' labs. A very important part in STEM education. Equally important is the realization from participants – teachers and students alike – that they are equal in the development and completion of the project.
This understanding is important for its application outside of the program and for strengthening educational practices in STEM education as a whole. **Educators and students need to have skills and confidence in the process and application of completing data-driven research.** This process is developed through the long-term, regular, and face-to-face whole group meetings on project work.

Mentor – Data driven research opportunities using real data archives can be complex and confusing without guidance. NITARP teams are lead by an astronomy professional to teach, support, and guide through a full research project. That process is emulated and passed from teacher to students and student to student throughout the project. **This increases understanding and skill related to the research topic but also builds the confidence and team work that supports project success.** Within these teams trust is built between all members allowing for deeper and more productive conversations and skill growth.

The NITARP program provides the major components of real-world research: **quality data, collaboration, instruction and guidance, and generates meaningful conclusions**. In our experience it goes beyond that to include professional networking, material and pedagogical support systems, deep and meaningful student achievement and growth, and the ability for those participating to really grow and expand in their profession, craft, and skills**. This program and others like it provide opportunities that most professional development or teacher trainings to not.**



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Collaboration – NITARP is a small team project in which team members – teachers, students, and mentor – work as equals. The work is also shared at professional levels. This is of significant important to both teacher and student buy-in and level of effort.
The participants also join a very dynamic and effective group of motivated education and science professionals. This networking opportunity fosters additional research and collaboration opportunities for students and teachers. **The support of the community encourages participants toward reaching personal and professional goals that wouldn't have been open to them previously**. Career advancement, collaboration opportunities, skill development outside of the NITARP program are important positive effects.

Similar programs – GLOBE, The Pulsar Search Collaboratory, GEONS, Life Sciences Data Archive, NRAO's Teacher Programs, SOFIA, and SDSS.
Participation in the program and exposure to the AAS meetings provide access to programs and opportunities often not effectively promoted to educators and provides a chance to learn directly from them**. This fosters further growth in data-driven research, expansion of skills, and collaboration professionally and personally.**