



# Computational Astronomy for Teachers and Their Students

Donna Kliche, Donald Teets, Peter Grieve, Roben Rudy-Hinker, and Travis Kowalski

Mathematics and Computer Sciences Department, SDSMT, Rapid City, SD, USA

Today's students live in an age of great space discoveries, and many of them are fascinated by what they hear or read. However, solid understandings of math principles are the building blocks in developing our nation's future engineers and scientists.

This project addresses the need to expand STEM education in South Dakota in the field of space science. The result of this effort is expected to be an increase in the number of students interested in learning and understanding mathematics.

The goal is to instill in the middle/high school age student the desire to learn and understand mathematics through the exploration of space.

The proposed work is in alignment with the new math initiative between the Rapid City School Superintendent and SDSMT's president to boost interest by showing students that math can be engaging, and it can lead to rewarding career.

## [NASA Two-day workshops for Math and Science Teachers \(ED-699, 1cr\)](#)

3<sup>rd</sup> Workshop: March 23 – 24, 2018

### **Logistics:**

- Workshop **on [Augustana University campus in Sioux Falls](#)**
- Earn an educational credit
- Tuition is waived for participants
- Teachers will need to make their own housing arrangements

**Description:** Teacher participants will learn about math applications used in astronomy and space exploration, with the goal of being able to use the knowledge in their own classrooms. Through carefully selected material, the workshop will emphasize connections between mathematics and space science.

### **Topics include:**

- Kepler's laws
- Computation of planetary masses
- Light speed
- Black holes
- Distances within the solar system and beyond
- Applications to man-made satellites

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**Apply for Registration** <http://www.sdsmt.edu/ComputationalAstronomy/>

**For Questions email:** [Donna.Kliche@sdsmt.edu](mailto:Donna.Kliche@sdsmt.edu)

