



North Dakota Space Grant Consortium Annual Affiliates Meeting

Jim Casler
Director, NDSGC

Bismarck, ND – April 7-8, 2017

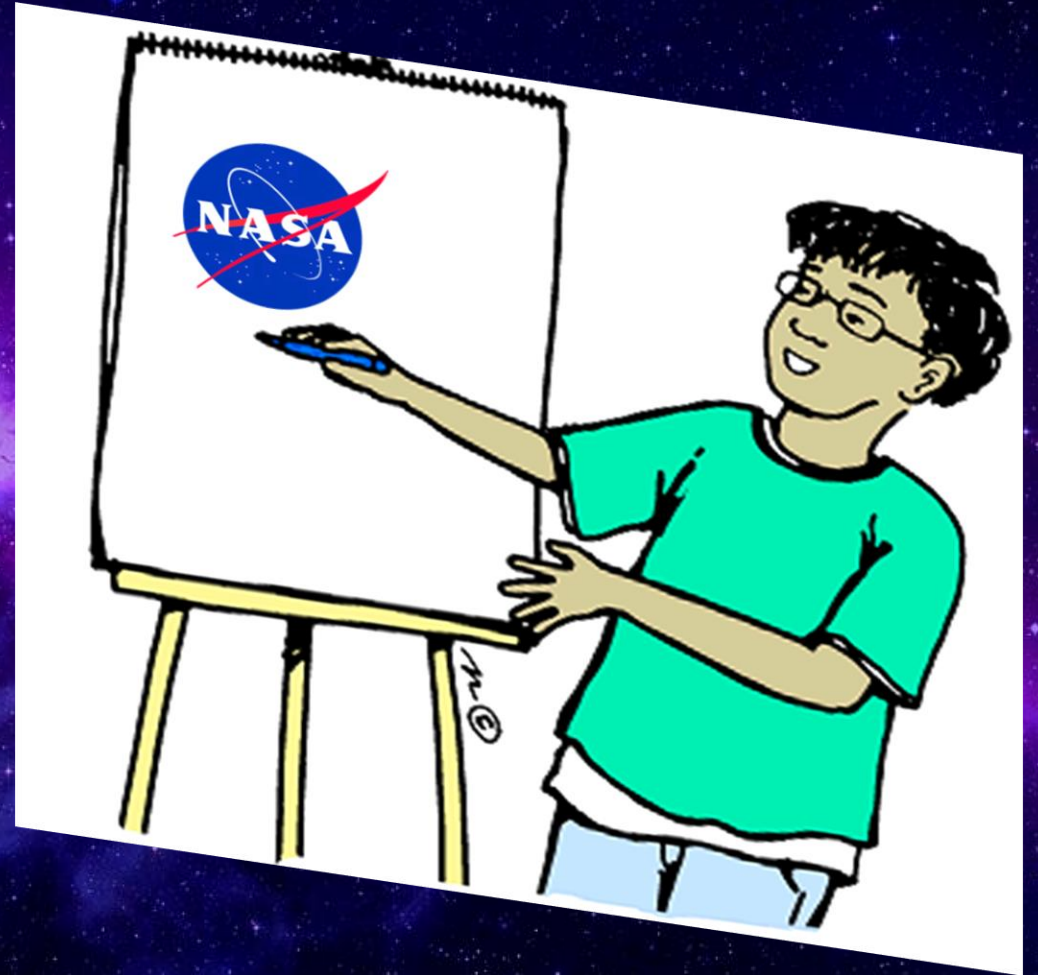
Caitlin Nolby
Deputy Director, NDSGC

Marissa Saad
Coordinator, NDSGC



Agenda – Friday, April 7, 2017

- 1:15 pm Highlights of the Past Year
- 1:30 pm Presentations
- 2:30 pm *Break*
- 2:45 pm Presentations
- 3:30 pm *Break*
- 3:45 pm Presentations
- 4:30 pm Adjourn!
- 6:00 pm *No-Host Dinner, Johnny Carino's*



Agenda – Saturday, April 8, 2017

- 8:15 am Reconvene – *(breakfast at hotels; snacks provided)*
- 8:40 am Apollo 13 Mission
- 9:10 am Presentations
- 9:55 am *Break*
- 10:10 am Presentations
- 11:25 am Group Picture
- 11:35 am Business Meeting and *Lunch*
- 12:30 pm *(Optional) Tour of BSC's NECE and Earth as Art Exhibit*



Purpose of Space Grant

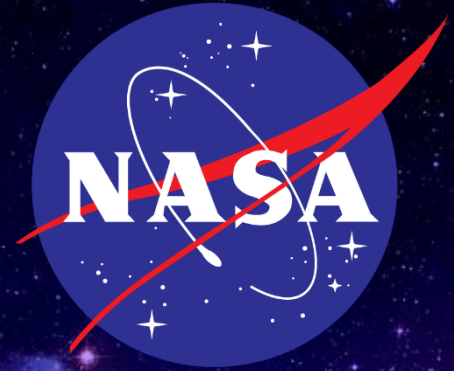
NASA Space Grant Mission Statement:

The NASA Space Grant College and Fellowship Program is a national network that promotes science, technology, engineering and mathematics (STEM) education through cooperative and multidisciplinary programs while recruiting and training the workforce.

The NDSGC fulfills the Space Grant mission by involving ND students, faculty, and K-12 teachers and students in multi-institutional, collaborative, NASA-relevant research and education projects, while also educating the ND citizenry about NASA, its purpose, and its missions.

Five Focus Areas:

- NASA Internships, Fellowships, and Scholarships
- Higher Education
- Research Infrastructure
- Pre-college
- Informal Education





CANKDESKA CIKANA
COMMUNITY COLLEGE
Spirit Lake Dakota Nation



VALLEY CITY
STATE UNIVERSITY



NDSGC Programming

Faculty

- Summer Faculty Fellowships
- Research Focus Area Projects

Meetings and other administrative expenses

Both College and K-12

- Pre- and In-Service Teacher Workshops
- Support for national competitions
- New: Eclipse 2017

College-level Activities

- Student Scholarships/Fellowships
- NASA center internships
- GRAs and Tuition Waivers
- STEM Ambassadors
- Student Travel Funding for Conferences
- Human Spaceflight Laboratory (rover, suits, habitat)
- NASA Competition Teams



What have our students been up to?

FY16 Report Highlights

FY16 Report Highlights

- 139 undergraduate scholarships awarded
 - 60 female / 79 male
 - 5 American Indian Scholarships
 - 1 Pearl I. Young Scholarships (UND)
 - 1 Lillian Goettler Scholarships (NDSU)

Rachel Simon
Lillian Goettler Scholarship
(NDSU)



Jennifer Grinsteiner
Pearl I. Young Scholarship
(UND)

FY16 Report Highlights

- 4 NASA Internships awarded



Vijay Shah
NDSU

Sophie Orr
UND



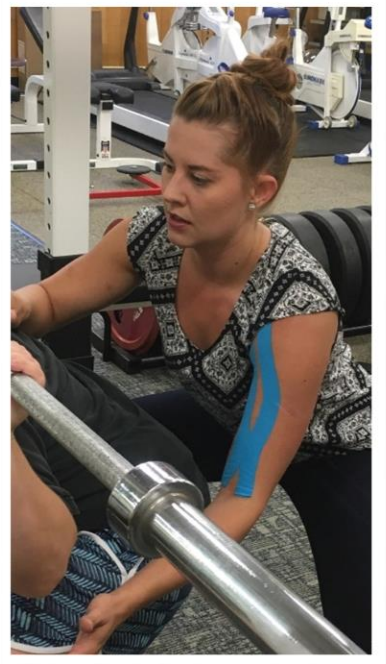
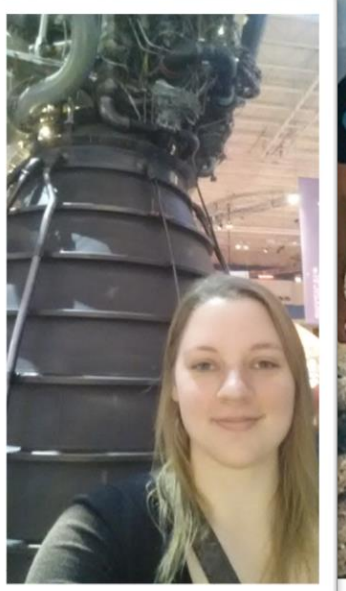
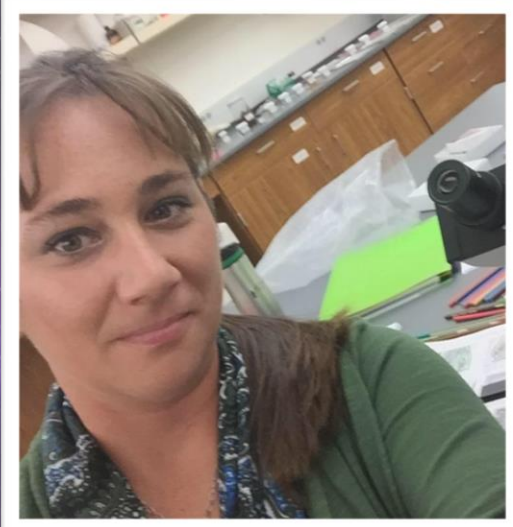
Colton Mosser
NDSU

Eric Kramer
UND



FY16 Report Highlights

17 Student Research Fellowships Awarded



FY16 Report Highlights

4 Student Travel Grants

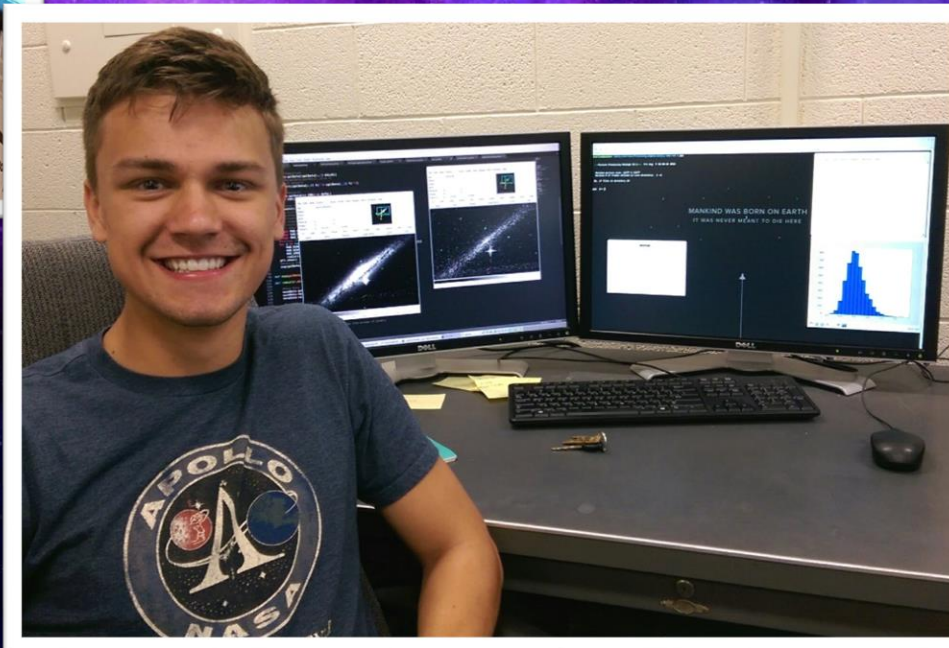


Mike Cook
UND

Nathan Carlson
UND



Chris Buelke
UND



Sean McCloat
UND

Successful FY16 Pre-College Activities

- 7th Near-Space Balloon Competition – *in progress*



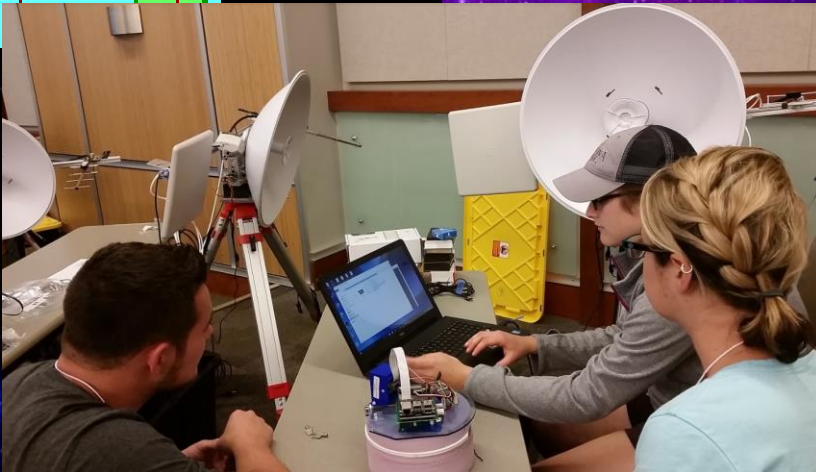
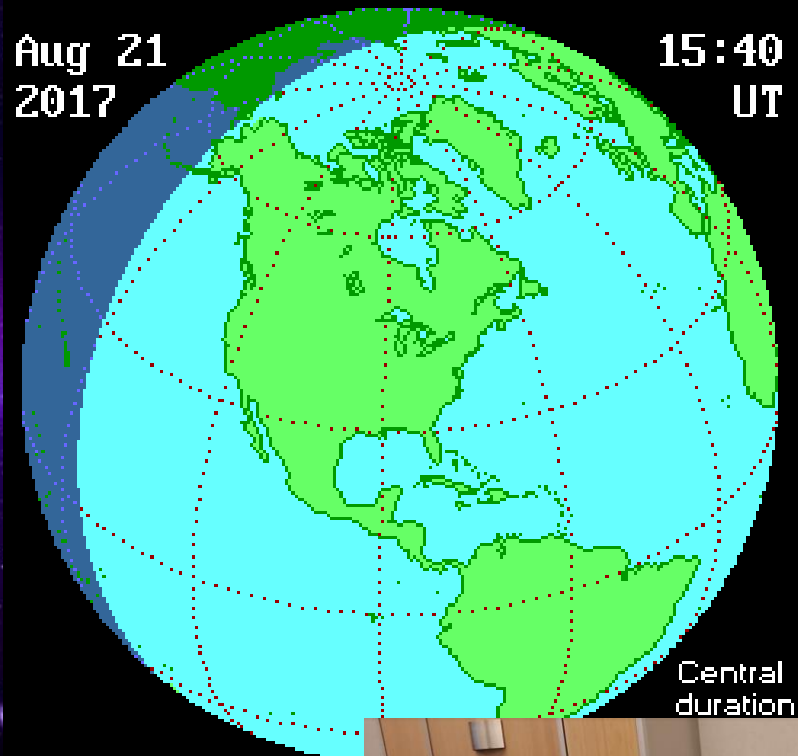
Record Year! 11 teams!

- Bismarck
- Fargo (3 teams)
- Grand Forks (2 teams)
- Hebron
- Kindred
- Tower City

We are always looking for more student involvement!



Eclipse project



- August 21, 2017
- 2017 Total Solar Eclipse
- Series of High Altitude Balloon Launches
- NDSGC will launch from Rexburg, Idaho
- K12 payload: Edwin Loe Elementary School – thanks to Kerry Hartman for putting us in touch with a 3rd grade teacher
- Streaming of eclipse from stratosphere to NASA website
- Eclipse.montana.edu

FY16 Report Highlights

Career Fairs

- North Dakota State College of Science
 - Thank you Shannon!
- University of North Dakota

Does your institution have a scheduled involvement or career fair?



FY16 Pre-College Highlights

3 FIRST Robotics Teams



West Fargo FIRST Robotics Team



Cando FIRST Robotics Team



Northwood FIRST Robotics Team



FY16 College NASA-Team Highlights

UND Student
Launch Team



NDSU Robotics Mining



UND Robotics Mining



NDSU Rover
Challenge Team

NDSU AIAA Team

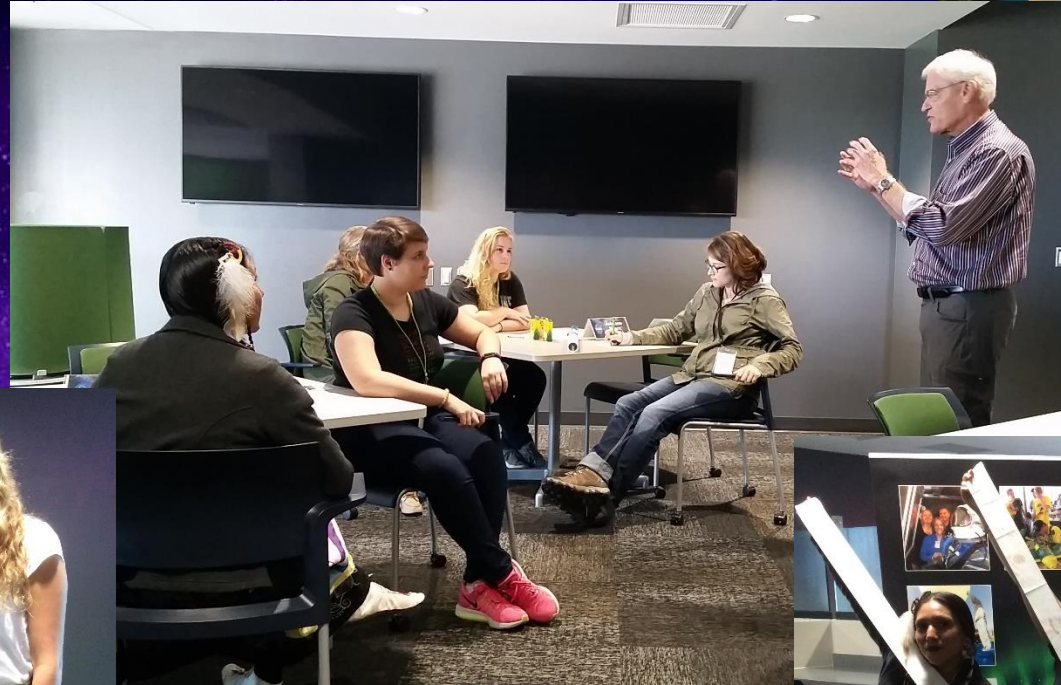
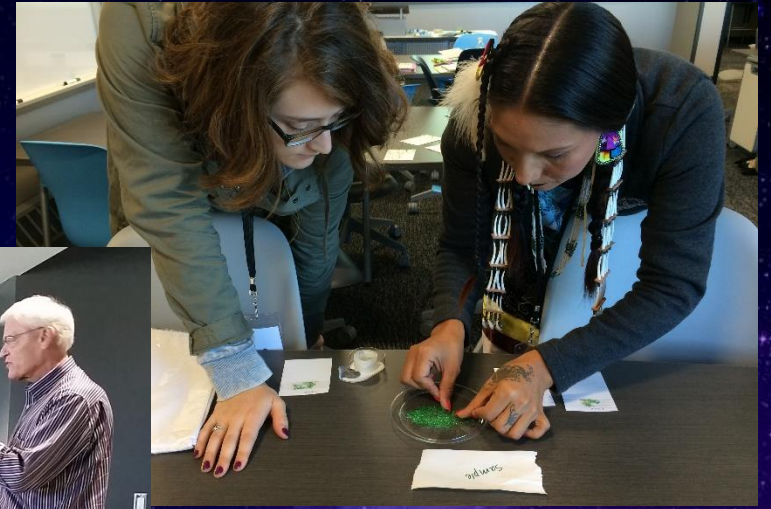


UND/UNF HASP

FY16 STEM Outreach Highlights

STEM Ambassador Training Workshop

Mayville State (2)
Sitting Bull College (1)
UND (3)



FY16 Report Highlights

1152 people reached with
Informal Education (Outreach)





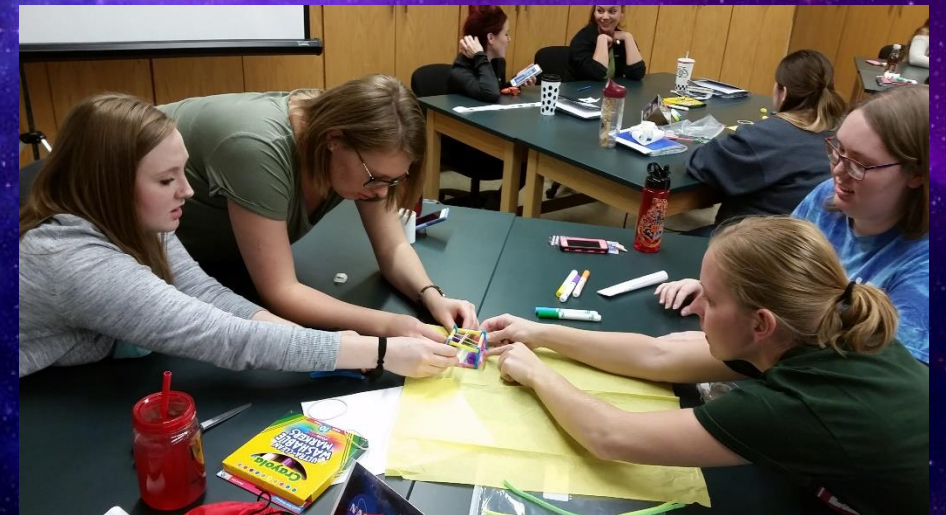


FY16 Pre- and In- Service Education Highlights

- VCSU, UND, MSU, and NDSU
- 240 Pre-Service Teachers
- 62 In-Service Teachers



We can visit YOUR institution!



FY16 Report Highlights

6 Summer Faculty Fellowships



Ms. Alexa Azure
UTTC



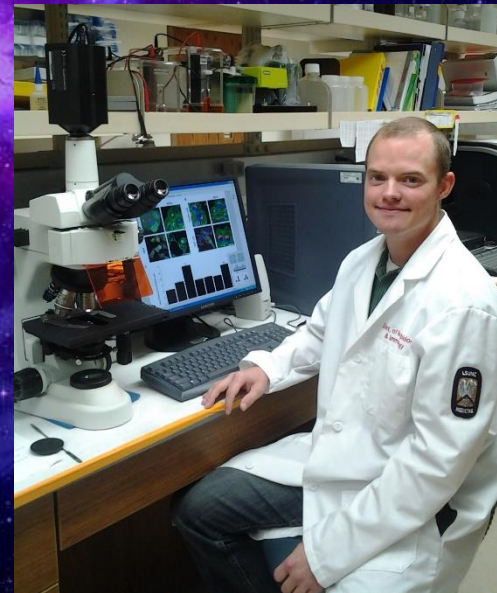
Dr. Kerry Hartman
NHSC



Ms. Mandy Guinn
UTTC



Ms. Julie Stock Porter
UTTC



Dr. Joshua Steffan
DSC



Dr. Michael Dodge
UND

2016 Regional Space Grant Meeting

Bend, Oregon

September 29 – October 2

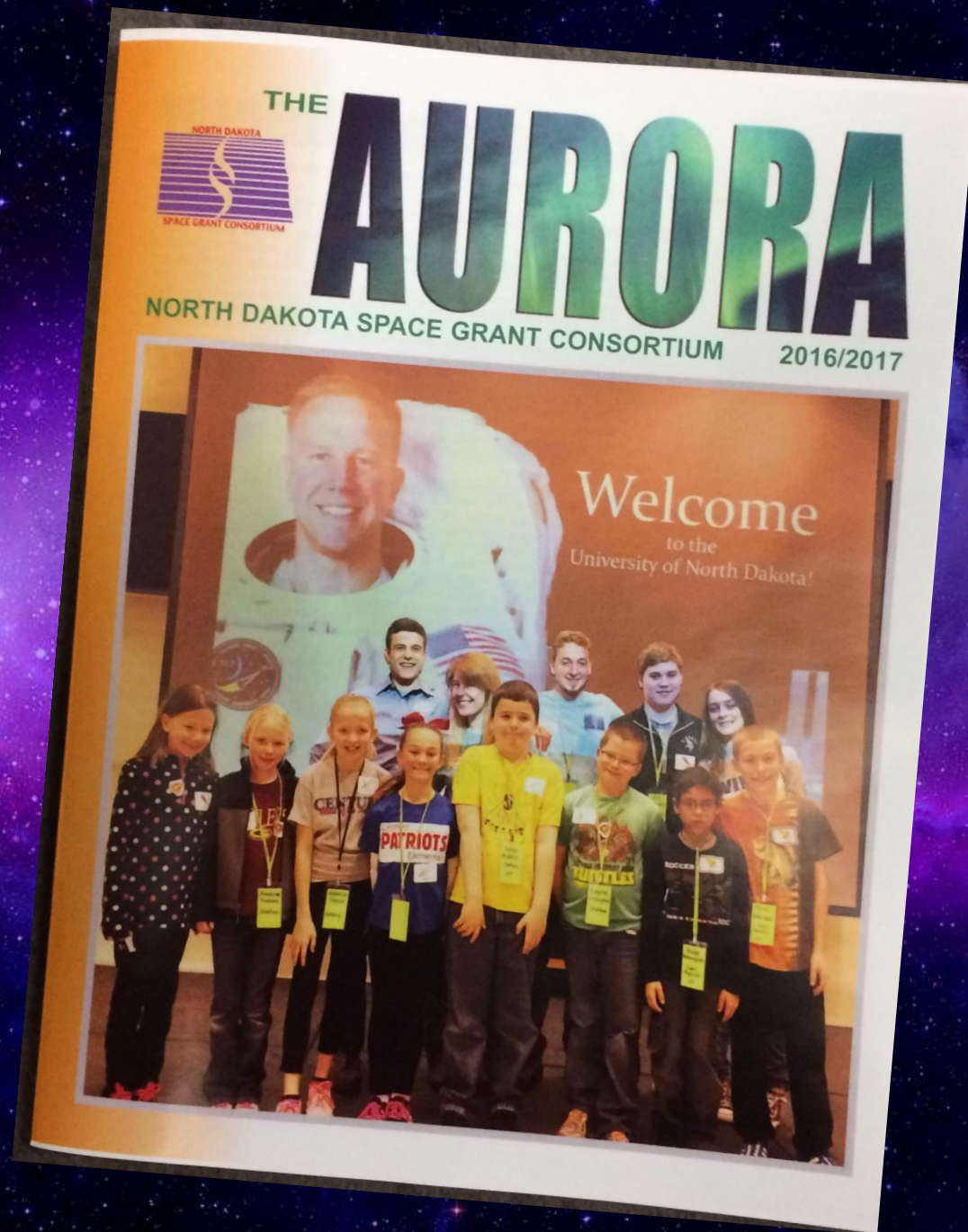


The 2017 National
Meeting will be held
in Grand Forks!

Check out the
handout in your
folders!




The New Aurora is out!





Presentations

A deep space image featuring a large, glowing nebula in shades of purple and blue. The nebula has a complex, swirling structure with bright, wispy edges. In the upper left corner, there is a prominent, bright star with a distinct four-pointed diffraction pattern. The background is a dark, star-filled field of numerous smaller, distant stars.

Saturday, April 8, 2017



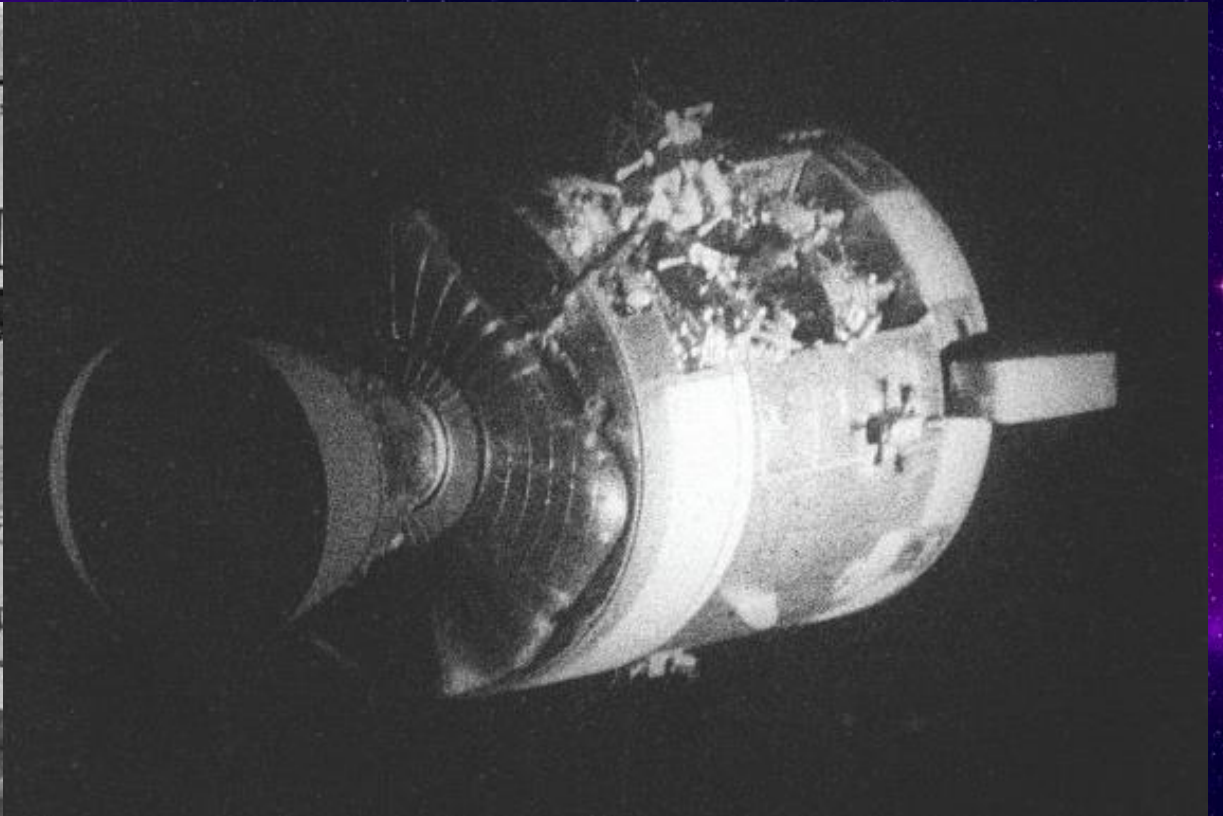
Apollo 13 Mission

Communication
Team collaboration
Decision Making

Performance under Pressure

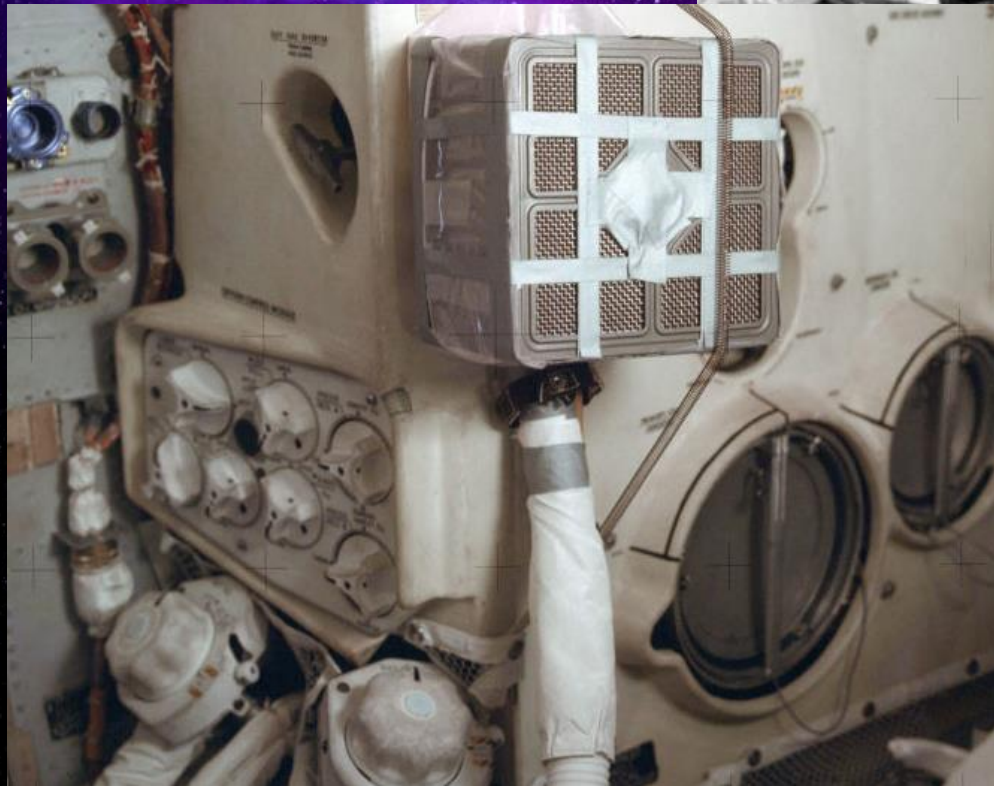
Pre-Service/In-Service Workshops
K-12 and College Applications

Houston, we've had a problem!



<https://youtu.be/kAmsi05P9Uw?t=35s>

Engineers



<https://www.youtube.com/watch?v=C2YZnTL596Q>

Astronauts



Apollo 13 Mission Rules

- You may not cross, look, or transfer anything over the divider. (Remember, you are *over 200,000* miles away!)
- Your round CO2 scrubber *must* connect to the square filter
- Your final product must have a filter that allows air to flow through it
- You have 15 minutes to design your filter, replicate it, and save the astronauts

NASA Centers

- Groups must have at least one faculty/staff and one student
- Find someone you do not know!

FAILURE IS NOT AN OPTION



Smithsonian
National Air and Space Museum

Alternate teaching methods:

- Increase separation (radios, string cup, etc.)
- Increase design requirements
- Thorough reflection
 - Ex: Students didn't succeed? 5P essay to the astronauts' families





Presentations



Business Meeting

Business Meeting Agenda

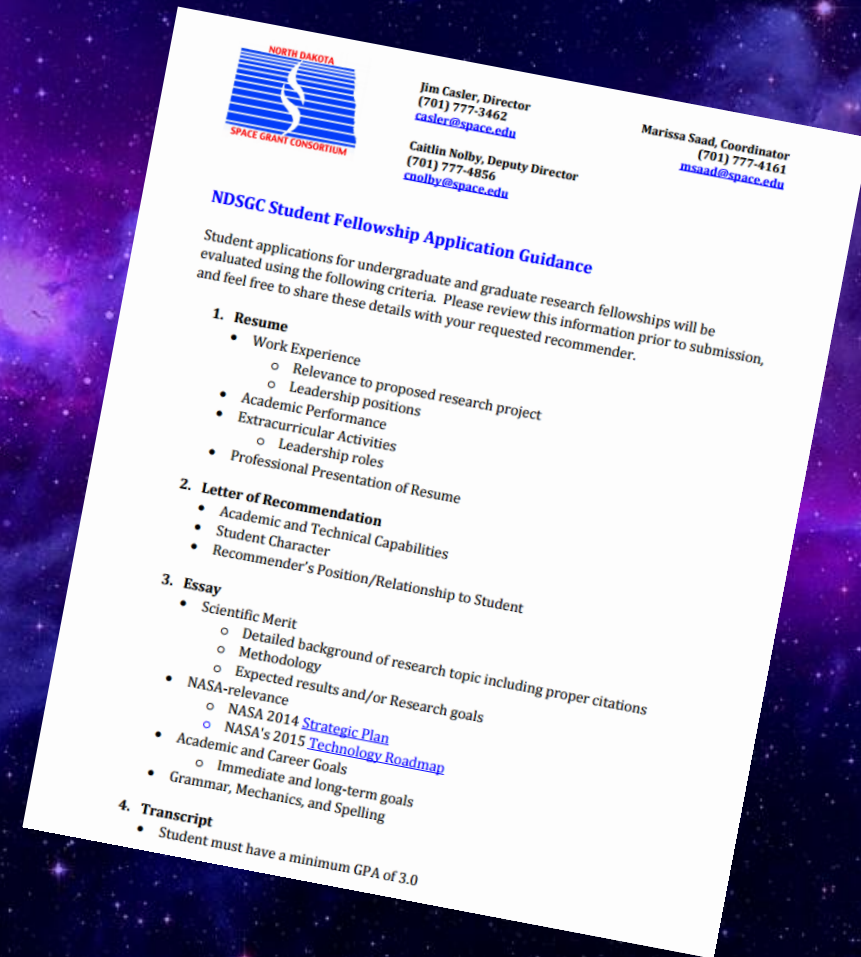
- Visits to Affiliate Institutions
 - Doodle Poll
- Educator Workshops
 - Pre-service and In-service
 - Commonly 1-3 hours long
 - Upcoming In-service teacher workshop at UND June 8-9
- Campus Career Fairs



Business Meeting Agenda

- Student Fellowships
 - Summer 2016:
 - 20 applicants (10 UND, 9 NDSU, 1 VCSU)
 - Fall 2016:
 - 10 applicants (5 UND, 3 NDSU, 1 DSU, 1 BSC)
 - Spring 2017:
 - 7 applicants (3 UND, 3 NDSU, 1 UTTC)
- Encourage students to apply for research fellowships
- New guidelines on website
- **Reminder! Applications for Summer 2017 are due April 17th**
- Deadlines:
 - Summer – April 17, 2017
 - Fall – August 15, 2017
 - Spring – December 5, 2017

- Community College and Tribal College Fellowship Bridge Program



Business Meeting Agenda

• NASA Competition Teams

- NASA Student Launch
- Robotics Mining
- AIAA Design Build Fly
- NASA Rover Challenge
- First Nations Launch - WSGC
- Encourage new teams from affiliate institutions (currently only UND and NDSU teams)
- Funding proposals will likely be due in November of each year

• NASA Internships

- Encourage students from affiliate institutions to apply
- \$6500 UG, \$8000 graduate students
- 2017 ND Summer applicants: 34 total
 - 20 UND, 12 NDSU, 1 BSC, 1 H.S. senior



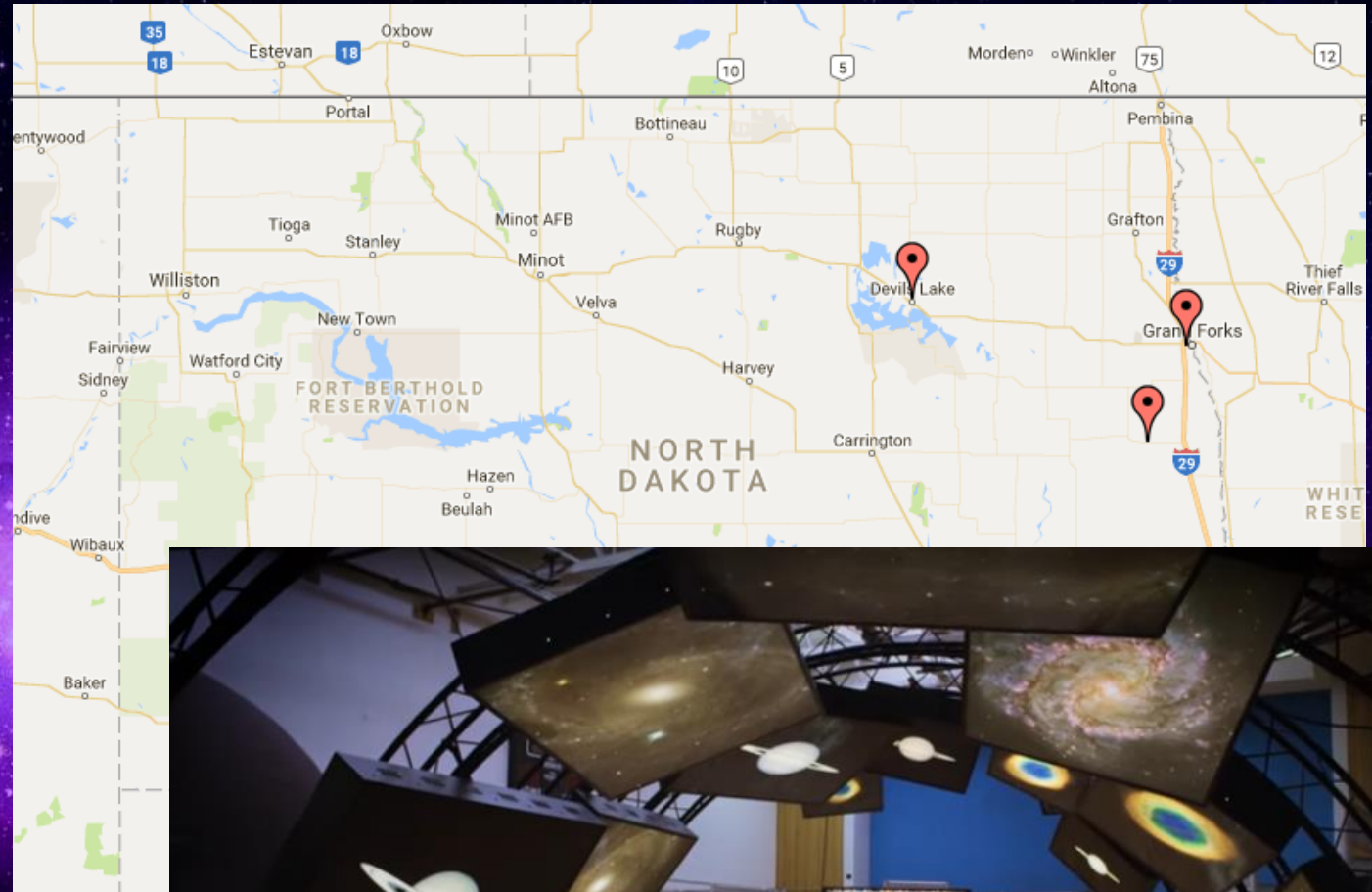
Business Meeting Agenda

- **Student Travel Grants**
 - Travel to conferences to present research or attend hands-on workshops
 - \$500 awards
 - Rolling applications to change to each semester
 - Previous years' applicants from UND and NDSU
 - Encourage students at affiliate institutions to apply!



STEM Ambassadors

- Students funded to visit and conduct outreach
 - K-12 schools
 - Library events
 - Museums
 - Public outreach events
- **Education and STEM Majors!**
- Encourage students to apply at additional affiliate institutions
- Heritage Center position for 2017-2018 academic year: BSC or UTTC
- When should applications be due?



Funding Update

- **Three year grant:** April 22, 2015 – April 21, 2018:

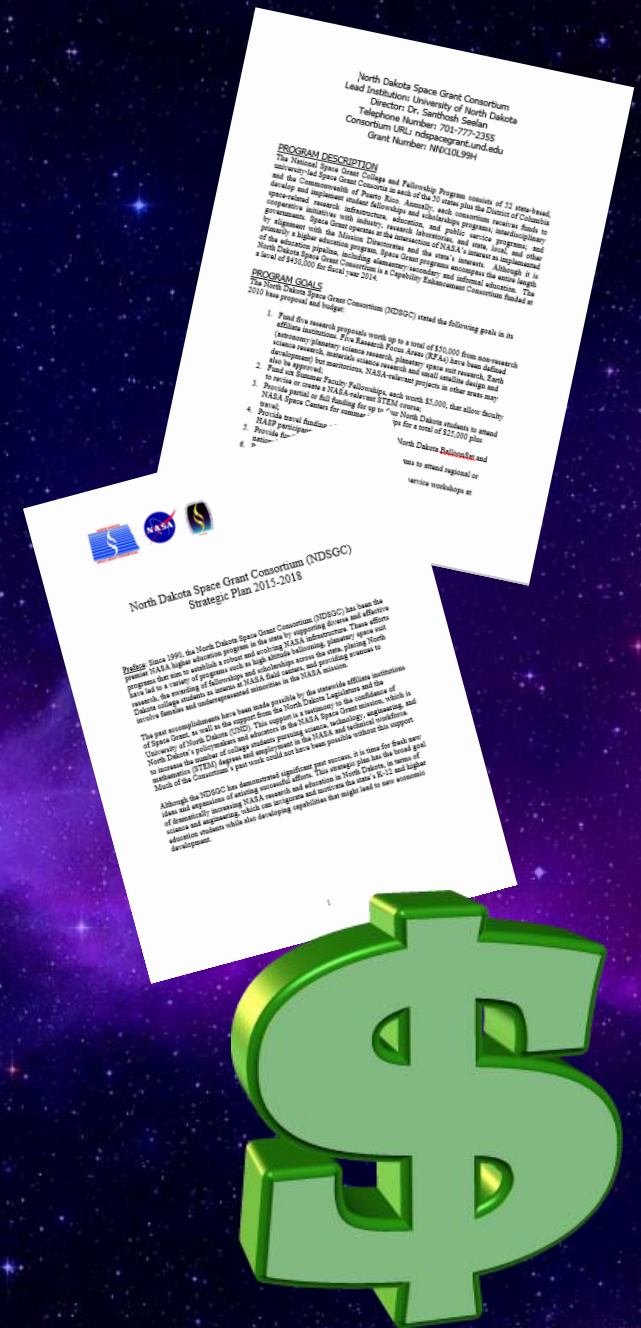
- FY15: \$430,000
- FY16: \$300,000 + \$270,000 augmentation
- FY17: \$300,000 + \$270,000 augmentation

- **State Match:**

- FY15: \$200,000
- FY16: \$200,000
- FY17: \$200,000 (?) – not yet awarded

- **Upcoming Five Year Proposal Solicitation**

- Anticipated release: July 2017, due: September 2017
- Affiliate involvement in proposal draft:
 - Open to new project ideas, inputs, and review
 - Programming that is most beneficial to affiliates
 - Ex: Recent proposal ideas: STEM Ambassadors, Bridge Fellowship
 - Review Strategic Plan from latest proposal



Business Meeting Agenda

- NASA emphasis on clear distinction between Space Grant and EPSCoR programs
- 2017 National Meeting in Grand Forks
 - Possibility to serve as Annual Affiliates Meeting
 - Afternoon of September 16, 2017
 - Short business meeting to serve in place of Spring 2018 meeting
 - **OR** Location of Spring 2018 meeting (NDSU?)
- Reimbursement information
- Other matters arising



Thank you all for coming!
Special thanks to Tony and
Angie for hosting the meeting!!

Now for some Bismarck campus
tours!