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The Affiliate

SUMMER / FALL 2010

South Dakota Space Days

Approximately 2,000 students, teachers, and the general public attended South Dakota Space Day, Careers with a View, on Oct. 7, 2010 at Riggs High School in Pierre, SD.

The 2010 event was organized and hosted by SDSGC affiliate South Dakota Discovery Center and the Pierre school system. Counting everyone who was served off site of Riggs, including elementary students in their classrooms, starlabs at the SD Discovery Center, and Geodome shows in Kadoka, SD, the one day event served 3745 people. That is one-half of one percent of all South Dakota residents. With these numbers, the Consortium Management Team believes that Space Days 2010 was clearly a suc-

cess!

Space Day 2010 included presentations by Thomas Durkin. Durkin's presentations were entitled 'History of Apollo' and 'Mars Mania.' The other presenter at Space Day 2010 was the South Dakota Astronaut, Sam Gemar.



Between speakers, students were able to visit the exhibit hall which featured information about space, aeronautics, and earth science education and careers in South Dakota and beyond.

They were also able to participate in a variety of space-related activi-

ties, such as making and shooting their own rockets, visiting the Geodome, and the Starlab.

The majority of the students surveyed indicated having a good time at space days, while learning a lot from the missions and the speakers. Of the 79 students surveyed, 37% indicated that they are considering a career in aerospace and/or a STEM related field as a result of their Space Days experience.

"It was really, really fun! I want to go again!" one student commented. "Well done...thank you for your time and effort!!" a teacher commended.

Space Days 2011 has not yet been scheduled. Continue looking to the SDSGC website for further information.

Sisseton Wahpeton Project

During the summer of 2010, three student interns from Sisseton Wahpeton Tribal College assisted four researchers from South Dakota State University in engaging a pilot project to assess the feasibility of using Landsat imagery to determine water transparency in reservation lakes in northeastern South Dakota. The program provided both faculty development and research opportunities for undergraduates. The researchers

involved did a variety of classroom work as well as hands-on activities. The researchers and students collected water samples from three lakes throughout the summer months and tested for chemical parameters indicating trophic state and nutrient availability. Landsat imagery for the sampling dates, when cloud-free, were downloaded and processed to extract pixel values at the sampling locations.

The data collected during the sum-

mer is currently being analyzed to look for relationships that will link water quality information and Landsat imagery for future improvements in water resource management. The researchers intend to use the results of their study to do more extensive research.



Success Academy Celebrates 10 Years



The new American Indian Education and Cultural Center on the SDSU campus is now home to the SDSU Flandreau Indian School Success Program. The Center's opening in August coincided with a special four-day intensive orientation for 18 new American Indian freshman at SDSU (pictured above)

The South Dakota State University-Flandreau Indian School Success Academy, funded in part by the SDSGC, celebrated its 10th anniversary by moving into a new home. Success Academy, an early and intensive college preparatory program for Native American high school students, moved from its old facilities in SDSU's Harding Hall to the university's brand-new American Indian Education and Cultural Center in August 2010.

Success Academy began in the spring of 2000 in SDSU's College of Engineering, under the direction of Engineering Diversity Coordinator Dr. MaryJo Lee. Over the past decade, the program has grown to involve

all six of SDSU's academic colleges. To reflect this growth, Success Academy now administratively reports to the university-wide Office for Diversity Enhancement.

Success Academy places heavy emphasis on preparing American Indian students for careers in science, math, engineering and technology. What began as a one-semester program for FIS freshmen ten years ago has grown into a four-year college preparatory experience involving all 300 students attending the Flandreau Indian School.

Another highlight of the past year was the graduation from

SDSU of the first Success Academy scholar to have participated in the program from the time he was a high school freshman at FIS until he graduated from college at SDSU. Daniel "Dino" Johns graduated from SDSU in May 2010 with a B.S. in Electronics Engineering Technology. He is currently pursuing a master's in Industrial Management at SDSU.

For more information on SDSU-FIS Success Academy, contact coordinator MaryJo Lee at (605) 688-5600 or at maryjo.lee@sdstate.edu.



'Journey Into Space' The Journey Museum Brings Space to Youth

Many students do not believe they can go to space. Well, now outer space is coming to them! The Geodome, pictured on the left, is a fully enclosed environment that brings

space to youth across the state. The Journey Museum in Rapid City, SD recently purchased the traveling Geodome and has since been across the state educating youth.

The Geodome was a big hit when it premiered at this year's Space Day, as many of the students said it was their favorite activity.

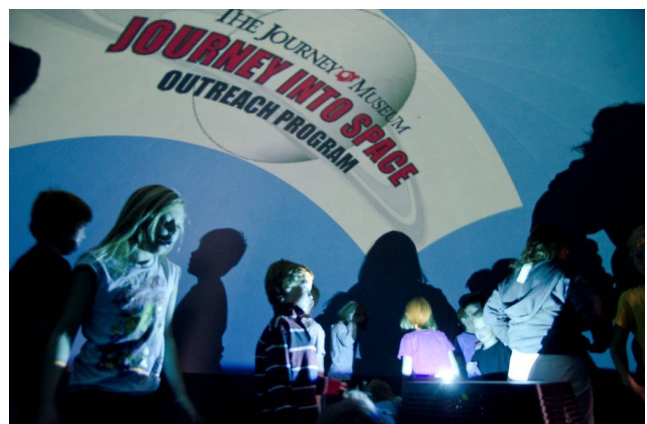
The Geodome measures 31 square feet and can hold 25 students at a time. Each show is tailored for the age group in attendance. Students enter the

inflatable Geodome and experience space in 3D. Almost all the images are from NASA missions and major telescopes.

'Journey Into Space' is an interactive show that encourages students to ask questions. The audience can request to go anywhere in space and the Geodome takes them there! Krista Testin is the space science outreach instructor for the Journey Museum and she has been traveling with the Geddome. "The idea

is to inspire them in the math and science areas," Testin said. "We can take you to any galaxy."

The program is free of charge for educational institutions that qualify under the Journey Museum's NASA grant. For more information contact the Journey Museum at (605) 394-1706. To schedule a visit, go to www.journeymuseum.org, select Education and Journey Into Space.



ACE Camp



2010 ACE Campers

Aviation Career Education Camp

South Dakota State University's 18th annual Aerospace Career and Education (ACE)

Camp was held July 11-14th.

ACE Camp is held to teach students about aviation and aerospace and the diverse careers available in these fields.

Some of the camp events included tours of the Brookings Regional Airport, the Air Traffic Control tower, and Landmark Aviation. Students also experienced a skydiving demon-

stration, flying an airplane, stargazing at Oakwood Lakes, and an orbiter space flight simulator.

The students really enjoyed the camp. Of the 18 participants, 89% indicated that they would be interested in attending ACE Camp again. One student said, "All of the activities were interesting and fun."

This year's camp hosted 18 high school students (16 males and 2 females). Despite efforts to host

a diverse group of students, there were no Native American students in attendance.

As a result of the low diversity at this year's ACE Camp, significant efforts will be directed towards females and minorities for next year's camp which will be held July 10-13, 2011.

If you would like any more information regarding ACE Camp, contact Ryan Phillips at Ryan.Phillips@sdstate.edu.

YEA Camp

Youth Engineering Adventure (YEA)

South Dakota State University held their 9th annual YEA Camp. This 5-day camp is held every year in June. The camp allows students have fun while learning how engineering and technology affect the world

around them. The annual summer camp provides hands-on activities, design experiences and an introduction to engineering as a career. Some of the specific events at this summers camp included a Collision Avoidance Robot, hand-on work with GIS/GPS/Remote

Sensing, and learning about wind energy.

There were 17 students at YEA Camp in 2010. This was down slightly from 2009 where there were 30 students.

Because of low attendance, organizers will be focusing on recruiting students for next

years camp which will be held June 11-16, 2011.

If you would like any more information about YEA Camp, you may go to the website at:

<http://www.sdstate.edu/engr/camps/yea.cfm>.

Getting Girls Involved!

South Dakota State University offers two science camps specifically to female youth in the state of South Dakota.

Girls, Engineering, Mathematics, and Science (GEMS)

GEMS is a one-day workshop held every March for eighth grade girls. This camp provides a gateway for young girls to explore their interests in science,

math and technology. The program encourages parents to increase their knowledge in these areas as well.

Some of the topics students learn about at GEMS are forensics, robots, and building bridges. The next GEMS workshop will be held March 26, 2011.

Ready, SET, Go (SET—science, engineering, and technology)

Ready, SET, Go, is a one-day camp held for high school females. This camp offers young females the opportunity to participate in hands-on activities that excite the girls and hopefully spark an interest in a career in science, technology, engineering and math.

Some specific sessions held include a wind energy workshop and a water treatment experi-

ment.

The next Ready, SET, Go workshop will be held November 19, 2011. The workshop is only \$10 per student.

If you would like any more information about these or any other camps held at SDSU, visit the website at:

<http://www.sdstate.edu/engr/camps/index.cfm>

Project Innovation Grant

The SD Space Grant Consortium has made \$80,000 available to fund competitive Project Innovation Grant projects in higher education, research infrastructure, and precollege education. Institutional and affiliate members of the SDSGC are eligible to submit proposals. Proposals can be submitted for up to \$40,000 and SDSGC funds must be equally matched by non-federal funding.

Proposals must be submitted online by 4:00 p.m. on January 31, 2011 at the following link: https://secure.spacegrant.org/proposals/submit/?sponsor_id=19

A PDF containing more information about the Project Innovation Grant can be found at <http://sdspacegrant.sdsmt.edu/SpaceGrantPIG-FY2010Announcement.pdf>

Any questions may be directed to Tom Durkin at Thomas.Durkin@sdsmt.edu



The vision of the South Dakota Space Grant Consortium (SDSGC) is to expand opportunities for all South Dakotans through education, research, and public service in the fields of aerospace, earth, and space science. As the link between NASA and the citizens of South Dakota, SDSGC's mission is to instill the spirit of exploration and discovery in students and educators and in the general public, with a special focus on the fields of science, technology, engineering, and mathematics that are essential for the development of the nation's workforce.

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Fellowship/Scholarship Stipend Awards

Diversity in Fellowship/ Scholarship Program

- 34% of awards provided to women
- 14/89 awards to minority students
- 7/14 minorities were Native American students
- One student at a Tribal College

One-hundred-eleven (111) applications were received from five of the Consortium's universities in competition for the \$219,000 in NASA funding available through the FY2010 Fellowship/Scholarship Stipend Program and \$11,000 in funding from SDSGC's ESMD Space Grant internship program. Eighty-nine (89) student awardees were selected and offered a total of \$230,000 in stipend funding. These 89 student awardees come from seven institutions: SDSM&T, SDSU, USD, Black Hills State University, Augustana College, Oglala Lakota College, and DSU.

The Consortium exceeded its targeted goal of 10% of its awards to minorities in both number of awards and amount of funding. Of the 89 students funded through the SDSGC Fellowship/Scholarship program in FY2010 with regular Space Grant funds, 14 (16%) were minority students, 7 of which were Native American. One of the seven Native American students attend Tribal College affiliate Oglala Lakota College (a minority-serving institution).

Thirty-four percent (34%) of the total number and the total dollar amount of awards were provided to female students. This does not meet the targeted goal of 40% of awards to female students.

Eight (8) students have been offered FY2010 Space Grant funds for NASA internships pending their acceptance by NASA.