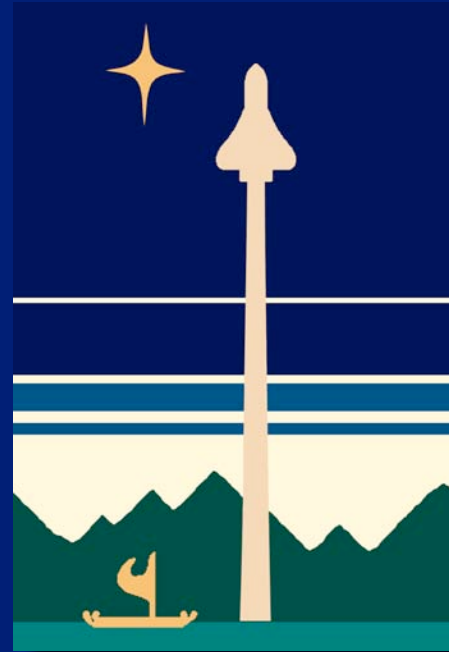


*Windward Community
College*



**Center for Aerospace
Education**

Center for Aerospace Education



Windward
Community College

- ❖ manages 4 aerospace facilities:
 - Imaginarium*
 - Lanihuli Observatory*
 - Aerospace Exploration Lab*
 - NASA Flight Training Center*
- ❖ supports WCC's astronomy credit program, Hawaii Space Grant Consortium (HSGC) & K-12 community outreach
- ❖ over 10,000 visitors annually
- ❖ K-12 science teacher workshops
- ❖ celebrating its 22nd anniversary in Fall 2008

Let your imagination take flight!

4 A's of Aerospace

AERO

SPACE

SCIENCE

Atmospherology
weather & climate

Astronomy

TECHNOLOGY

Aeronautics
aviation

Astronautics
rocketry

Goddard Space Flight Center

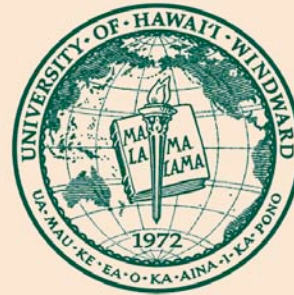


HOA'AINA

RS/GIS Center

NASA Center of Excellence

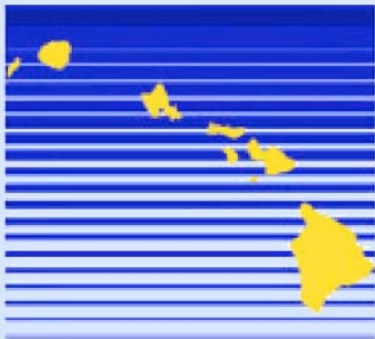
Partnerships



NASA - WCC Connections

HAWAII

SPACE GRANT



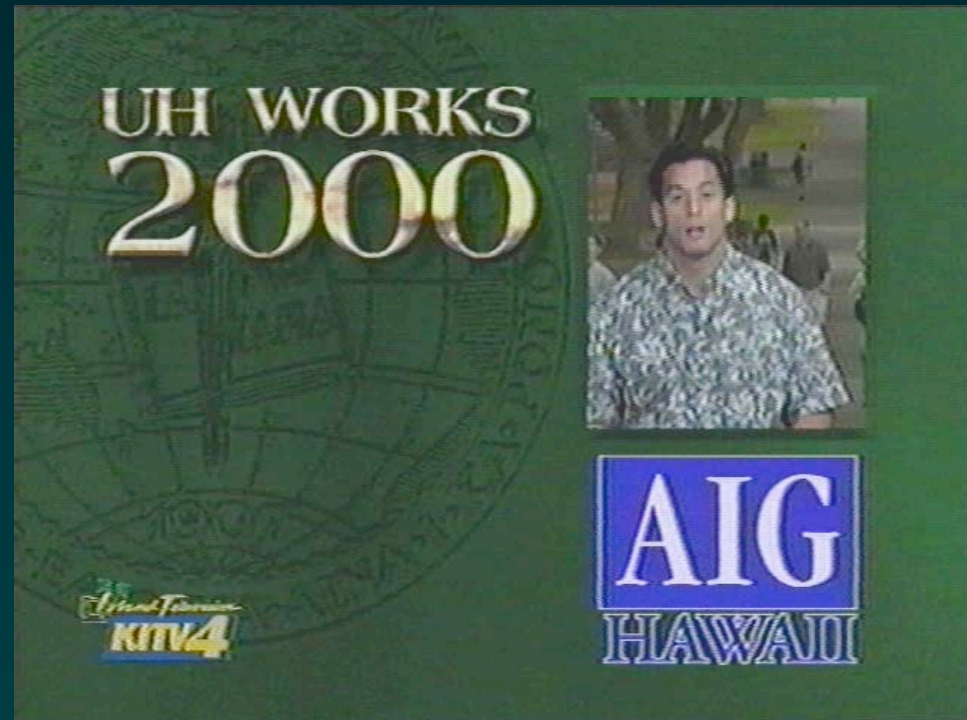
CONSORTIUM

NASA



Aerospace Exploration Lab

*hands-on
exploratorium*



K-12 STEM

Science – Technology – Engineering – Math



- ✧ to inspire
- ✧ to engage
- ✧ to act as a catalyst
- ✧ for career awareness



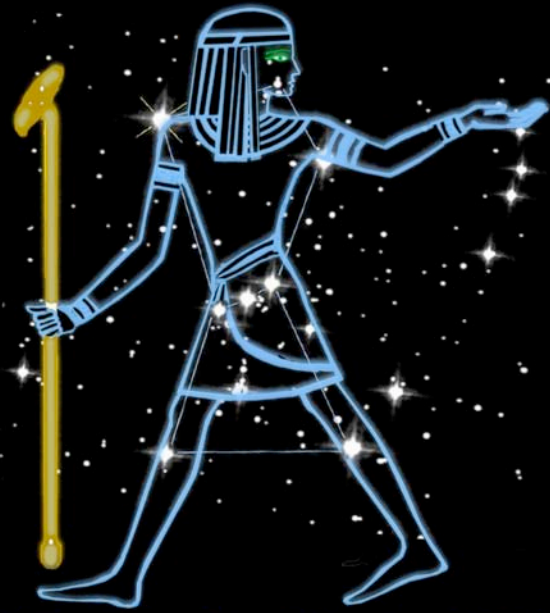
serving ...

- ❖ **WCC & UH-Manoa astronomy classes**
- ❖ **K-12 & community audiences**
- ❖ **technical consultation, including
UH-Hilo `Imiloa Astronomy Center**
- ❖ **Polynesian Voyaging**

where the sky is not the limit

Hokulani Imaginarium

Imaginarium Shows



STARS of the PHARAONS
STARS of the PHARAONS

The Search for Life
in the Universe



Far Out Space Places



Star of Bethlehem:
The Magi's Story



Discover the astronomical possibilities
for this wondrous star

Oceans in Space



Sky Pirates





Astronomy Labs & HSGC

- NOAA weather satellite station
- Radio Jove telescope
NASA Goddard partnership
- Heliostat (solar telescope)
 - 16-inch optical telescope

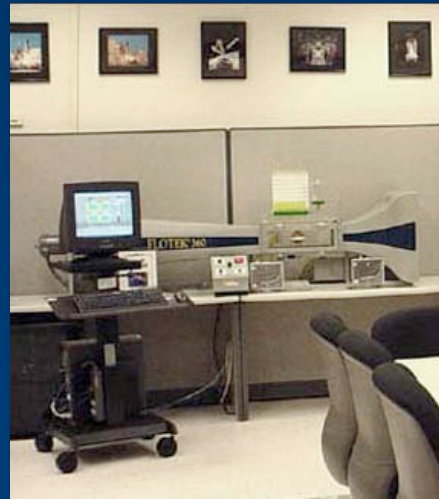


NASA Flight Training Aerospace Education Lab



Zero-g Drop Tower

- NASA Glenn partnership
- credit program & HSGC student research
- 6th - 12th grade student outreach
- Upward Bound college credit summer aerospace program
- Windward DOE teacher professional development (No Child Left Behind)



Wind Tunnel



Hawaii Space Grant



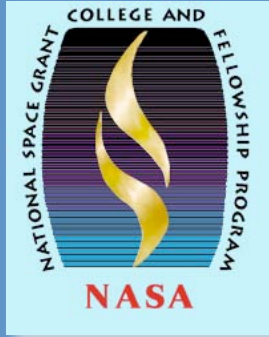
Teri Schmidt



Kauwila Hanchett & Greg Osterman

Measuring the effects of microgravity on fluid dynamics, magnetic levitation, and rotating bodies.

**NASA KC-135
Zero-g Flight**



Hawaii Space Grant

CanSat ARLISS Project

WCC's CanSat team is developing an entry for ARLISS (A Rocket Launch for International Student Satellites). The CanSat will be launched by a high-powered rocket to a height of over 11,000 feet. At apogee the CanSat will be ejected and must autonomously return to a target location some 8,000 feet away from the launch site—all the while collecting external sensory data.



Preparing for ARLISS





ARLISS Competition 2007





ARLISS 2007 Winning Team: UH-WCC

Career Awareness & Workforce Training

Internship at NOAA's Wind Tunnel
Fluid Modeling Facility in North Carolina

Damion Rosbrugh

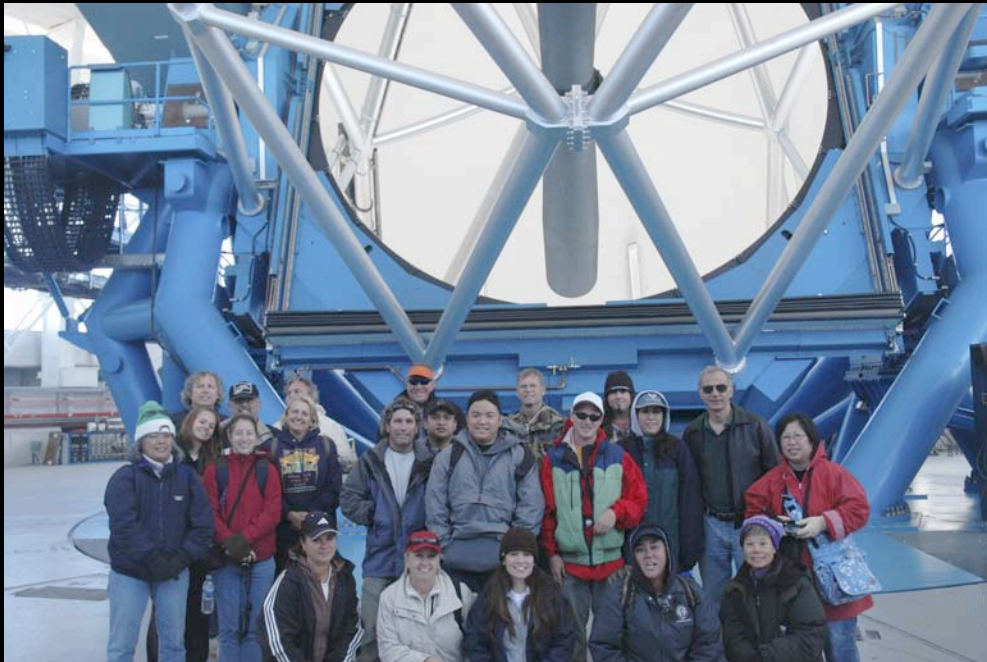


WCC graduate **Tony Matulonis**
Gemini Telescope Operator



Space Grant students at work
on ARLISS satellite sensors

WCC-DOE Teacher Workshops in Aerospace Science



in partnership with the
Windward DOE complex
providing K-12 teachers
professional development credit

No Child Left Behind Grant



Families Sharing in Learning



Waiahole Family Night

King Intermediate Family Night





Family Night

Haunted Village

Faster than the
speed of fright

enjoying the spirit
of Halloween and
the science behind
optical illusions
and magic.



Public Displays

Wright Flier Exhibit

THE WRIGHT STUFF

The Wright Stuff Exhibit offers visitors a scenic tour of powered flight—first achieved a century ago at Kitty Hawk. Gallery displays include historical images, artifacts, models and interactive kiosks of aviation and space flight milestones.

Financed through the generosity of the Hawai'i Committee for the Humanities, Harold K. L. Castle Foundation, Hawai'i Space Grant Consortium, Evans & Sutherland, Aviation Museum Pearl Harbor and Windward Community College.

Celebrating 100 years of flight



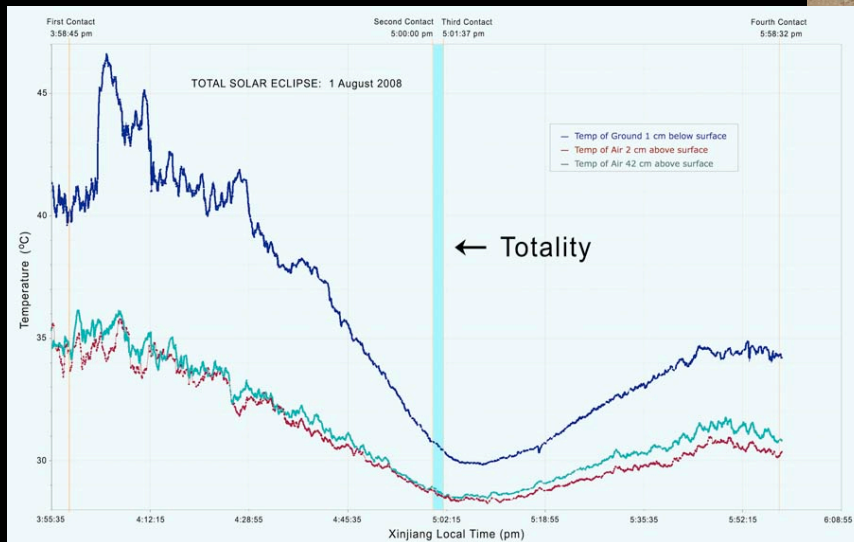
November 14 - December 17, 2003
Opening Reception
Friday, November 14, 4-7 p.m.

Gallery Tolani
WINDWARD COMMUNITY COLLEGE



Total Solar Eclipse 2008

Altai, China



conducting temperature experiment
with 8-year old David Friedman

Future Project

Certificate in Astronomy & Space Exploration

Core Astronomy Courses

ASTR 110 Intro to Astronomy
ASTR 110L Intro to Astronomy Lab

Elective Astronomy Courses

ASTR 180 Solar System
ASTR 281 Space Exploration
ASTR 130 Archaeoastronomy
IS 160 Polynesian Voyaging
ASTR 260 Astronomy of the Pacific
ASTR 250L Observational Astronomy Lab
ASTR 294 Special Topics in Astronomy

Required HSGC Project

ASTR 299 HSGC project: research, internship, community service

Elective Physical Sciences & Math

PHYS (122, 151, 152, 170, 272)
CHEM (100, 151, 152, 161, 162)
MATH (100 and above)

Elective Earth Science

MET 101 Intro to Meteorology
GEOG 101 Natural Environment
GG 101 Introduction to Geology
GG 102 Historical Geology
GG 103 Geology of Hawaiian Islands
GIS 150 Introduction to GIS/GPS

Director of Center for Aerospace Education



Dr. Joseph Ciotti