Report on DRI’s Diversity Programs

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“There never were in the world two opinions alike, no more than two hairs or two grains; the most universal quality is diversity.” – French philosopher Michel de Montaigne
Report Outline & Speakers

- Commitments, Values, Goals, Challenges, & Response – S. Wells
- Educational Outreach & Scholarship Programs – S. Wells & Dr. G. Hallar
- Diversity Outreach in Research Programs – J. Gardner
- DRI’s Mentoring Program – Drs. M. Young and K. Chief
- Conclusions – S. Wells

MOU Signing in UAE  DRI Open House
DRI’s Commitments & Values

- Top leadership commitment to diversity is part of DRI’s strategic plan.
- We recognize diversity as a process.
- We embrace all dimensions of diversity.
- Diversity is a shared responsibility for each member of the Institute.
DRI Diversity Goals

- Foster a campus environment that respects differences and encourages inclusiveness.
- Increase recruitment, retention, and representation of underrepresented groups.
- Build and strengthen partnerships with diverse communities, education and business, civic and community organizations.
- Develop and execute a comprehensive Diversity Communication Plan.

Image provided by Duane Moser (DRI)
Challenges for Achieving Diversity & Excellence in the Science & Engineering Workforce

- Only 5% of America’s 132-million-person workforce consists of engineers, scientists, and advanced degree technologists.

- Despite decades of effort to broaden its base, the US science and engineering workforce remains about 75% male and 80% white.

- NSHE system has the challenge of discovering better ways to prepare and attract underrepresented students to scientific disciplines.
"expanding the gateway"

DRI: Responses to Challenges

We implement strategically selected initiatives to achieve maximum impact on key K-12 science education challenges.

- DRI’s Science Box Program
- GreenPower
- Shadow Ridge/Tule Springs Geoscience Education Project
- Outreach programs at DRI’s Storm Peak Laboratory
- DRI and Nevada State College, NSF Teacher Enhancement Program and EPSCoR grant: “Increasing Diversity in Nevada”
- EPSCoR grant “Nevada Infrastructure for Climate Change – Science, Education and Outreach”
- Intel International Science and Engineering Fair
Science Box Program

- Portable suitcases containing scientific specimens or multicultural artifacts as well as curriculum material

- Supports professional development of teachers while directly impacting all of Nevada’s K-12 teachers and students who use the boxes in their classrooms.

- In 2006 about 260 teachers used the boxes, reaching an estimated 8000 students.
GreenPower supports non-fossil fuel energy demonstration projects and education at schools in both northern and southern Nevada.

8-year-old program involves partnerships in both northern and southern Nevada with the local power companies, their customers, and school districts.

A classroom component designed to make students more aware of renewable energy potential.
Shadow Ridge/Tule Springs Geoscience Education Project

- NSF-funded collaboration among UNLV, DRI, Nevada Power, & the Shadow Ridge High School in Las Vegas.
- Purpose: design an innovative earth system science curriculum.
- Incorporates authentic research at the Tule Springs archaeological and paleontological site into the curricula (the site < 300 ft from school).
- Project resulted in initiation of the first earth science honors class in the Clark County School District and involves about 165 students per semester.
NSF EPSCoR Grant Programs

Dr. Paul Buck – DRI and Nevada State College
- NSF Teacher Enhancement Program
- EPSCoR grant “Increasing Diversity in Nevada”

Dr. Gayle Dana – NSF EPSCoR Director
- EPSCoR grant “Nevada Infrastructure for Climate Change – Science, Education, and Outreach”
NSF Teacher Enhancement Program

- 3-year program funded by the National Science Foundation’s Teacher Enhancement Program.

- Dr. Buck is the Director of the “Increasing Diversity in Nevada” (IDIN) component of the NSHE’s most recent EPSCoR grant.

- IDIN aims to increase the number of students from underrepresented groups graduating from NSHE campuses with degrees in science, math, engineering, and technology.

- Dr. Buck leads after-school science enrichment programs.
Training of middle school teachers to directly impact student achievement, at targeted schools where 80% of population are minorities.

Facilitate movement of students in K-12 program up through the pipeline to undergraduate scholarship programs.

Tutoring and mentoring opportunities for 100% of students involved in outreach at high school, community college and university level.

Supplemental startup funds to encourage hiring of faculty from underrepresented groups.
Intel International Science and Engineering Fair

Intel ISEF 2009 will be hosted by Gathering Genius, Inc. (G²) in Reno

- 1500-1600 of the brightest high school students from 57 countries around the world compete for top prizes.

The mission of G²:

- increase state excellence, competitiveness, & participation in science, technology, engineering & math fields (STEM) in Nevada.
- Host 2009 Intel ISEF in Nevada
- DRI along with several NSHE institutions and their faculty members are actively involved in the G² mission.
Welcome to the DRI's Storm Peak Laboratory
A Research and Educational Facility for the Atmospheric Sciences

Located at 10,500 ft on Mt. Werner near Steamboat Springs, CO

One of the few world-wide, high elevation, mountain-top atmospheric research facilities which are readily accessible under all weather conditions.

What does this have to do with diversity?
Storm Peak Laboratory Outreach Programs

Dr. Gannet Hallar, Storm Peak Laboratory Director

- **ASCENT** – Atmospheric Science Collaborations and Enriching Networks
- **GRASP** – Geoscience Research at SPL
- 5th and 6th Grade School Weather and Climate Education Program

*Image by Gannet Hallar, Storm Peak Laboratory*
Geosciences has the poorest diversity record of all science and engineering disciplines.

GRASP, successful in the recruitment of minorities in geosciences,
- combined a network of minority and majority institutions with supportive, challenging, and hands-on research opportunities for students.

Thesis programs employ academic and social integration, knowledge and skill development, support and motivation, and monitoring and advising.
Science Collaborations and Enriching NetWorks (ASCENT)

- Summer workshop program to initiate positive professional relationships among female faculty of different ranks and postdoctoral researchers.

5th and 6th Grade School Weather and Climate Education Program

- inspire local students with science, while teaching them skills needed for success.
Established in memory of General Frederick Lander, a hero of the American Civil War, through an endowment from the estate of his niece, Anna Lander McDonnell.

Annual awards of $3,000 to American Indian or Alaskan Native students at UNLV and UNR.

Administered by DRI’s Division Earth and Ecosystem Sciences of DRI

• in collaboration with the scholarship offices of the two universities, is open to juniors and seniors with an overall grade point average of 3.0 or better; and
• Since 1990, there have been 26 recipients.
DRI’s Diversity Outreach in Research Program (DOR) administered by Special Assistant to the President, Mr. John Gardner, in collaboration with DRI Diversity Officer:

- initiates partnerships with minority serving universities (MSI);
- promotes excellence in collaborative research between DRI and MSI;
- Promotes opportunities for faculty visits, future post-doc positions and for collaborations/partnerships on grants and proposals.

Also directed towards the 15 government agencies who are looking to sponsor minority and majority collaborations and partnerships for grants and contracts.
DOR Program: Results

Visits by minority serving institutions and government agencies:

• 12 universities and 6 government agencies;
• Introduction to research programs & future opportunities to collaborate with DRI.

MOU’s with minority institutes for research

• Faculty and student collaboration on grants and future opportunities for post-doc positions.

MOU signing with TSU
Networking activities:

- Participation in the minority chambers: Urban, Latin, and Asian.
- NSHE diversity campus programs.
- Supports of ethnic and diversity programs on all NSHE campuses & community educational diversity programs.

Chancellor’s Diversity forums
DOR Results, cont.

DRI Special Assistant to the President:

- Serves on minority national organizational boards
  - American Association of Blacks in Education,
- has working relationship with the White House Initiative for Historically Black Colleges and universities.
- provides opportunities to introduce DRI to the nation’s minority colleges and universities.
“enhancing mentorship”
DRI’s Mentoring Program
by
Dr. Michael Young, DHS Acting Executive Director

Supports DRI’s diversity goal to increase recruitment, retention, and representation of underrepresented groups:

- Provides new faculty with a formal mechanism for receiving information and guidance required to effectively integrate and be successful in their new position at DRI;
- Is an integral part of the new faculty start-up package; and
- Has funding of about 80 hours of salary support used during start-up period.
“How I have benefited from mentoring”
by
Dr. Karletta Chief, DRI Post-Doctoral Fellow

- Regular communication between mentee and mentor regarding current research and grant opportunities
- Funding to attend NSF On the Cutting Edge Workshop “Preparing for an Academic Career in the Geosciences”
- Funding to develop grant writing skills by attending the NSF Grant writing workshop at UNLV
- Faculty and professional development through mentee advising
- Funding for continuing education and training (attended Campbell Scientific Short Course)
Dr. Karletta Chief

“I support and encourage DRI to actively seek to hire qualified diverse candidates by:”

- Recruiting candidates at conferences attended by diverse participants
- Informing candidates on research and professional opportunities at DRI and what it means to be funded on soft money
- Seeking, recruiting, and hiring qualified undergraduate students to conduct summer undergraduate research at DRI
- Mentoring students at UNLV and UNR; guiding students to seek research opportunities; and encouraging students to attend graduate school.
Conclusions

“Expanding the gateway”
- Support DRI’s K-12 education initiatives such as
  - NSF EPSCoR and grants and Storm Peak Outreach programs.

“Creating networks & partners”
- Reach beyond organization borders to promote excellence and diversity with research collaboration partners, as well as civic and community organizations.

“Enhancing mentorship”
- Support mentoring to increase the recruitment, retention, and representation of the underrepresented groups (minorities, women, and disabled).

“Strengthening our environment”
- Support inclusive work environment at DRI where everyone is welcomed, respected, and valued for their unique contributions.