Publications and Presentations

Journal Articles


Conference Abstracts/Presentations


New Projects

The Circuit Rider Program and the US Universities Water, Sanitation and Hygiene Consortium

**PI:** Braimah Apambire  
**Agency:** Wallace Genetic Foundation  
**Amount:** $50,000  
**Summary:** Circuit Rider: Create a TT Program to assist nongovernmental organizations and local governments to create Circuit Rider programs that will provide long-term, regular support to communities that want to keep their drinking water, sanitation and hygiene systems working well into the future. WASH: The overall goal of the Consortium is to increase coordination and communication among academic institutions and external partners who work in global safe drinking water, sanitation and hygiene (WASH) and provide opportunities for collaborative learning and research in low to high-income countries worldwide.

NSF EPSCoR Track 3 CLASSP

**PI:** Kumud Acharya  
**CoPI(s):** Henry Sun  
**Agency:** Nevada System of Higher Education  
**Amount:** $91,714.14  
**Summary:** This EPSCoR Track 3 proposal addresses the overarching question: how can innovative, cyber-enabled instructional methods transform Science, Technology, Engineering, and Mathematics (STEM) education and increase opportunities for underrepresented populations? A cyberlearning infrastructure (CI) methodology will be developed, implemented, and tested elevate STEM learning opportunities and success for underrepresented minorities and rural students. This approach combines a proven system for online inquiry with a feedback system based on what we know about videogames. As a way to target STEM practices (e.g., justifying claims, citing evidence), reward structures based on learning achievements and desired behaviors will be incorporated into the existing pedagogical framework. This system will be developed in concert with a community of practitioners within the existing GearUp network, an existing project that addresses the college preparation of underrepresented populations in Nevada. The primary target audience is middle school students from GearUp schools.
Paleo Lake Impact Assessment

**PI:** Dave Decker  
**CoPI(s):** Ken Adams  
**Agency:** Jacobs Technology  
**Amount:** $200,000  
**Summary:** DRI will continue the geologic mapping begun in FY 2012 to extend the map extent to all area within the 692 m contour interval, which is the historic high stand of China Lake at the end of the last ice-age. This work is significant in that it will aid in directing archaeological investigation resources to those areas where significant archeological resources may be found – namely along the ancient shoreline and in areas where no subsequent surface soil displacement has occurred.

Improving Irrigation Water Use Estimates with Remote Sensing Technologies: A Feasibility Study for Texas

**PI:** Justin Huntington  
**Agency:** University of Texas at Austin  
**Amount:** $76,086  
**Summary:** Remote sensing has the potential to improve estimates of consumptive water use by irrigation. This project will assess the feasibility of the current state-of-the-science remote sensing approaches to quantify irrigation water use at high spatial resolution. Evapotranspiration, precipitation, and time integration algorithms will be evaluated to assess their feasibility in Texas.


- **Jaime Myers** - Graduate Research Assistant (Rina Schumer NNSC)

DHS Announcements

- Tracy Backes successfully defended her dissertation titled “Combined role of low- and mid-level jets and atmospheric rivers on winter precipitation in the Eastern Sierra Nevada” under Rina Schumer for Master of Science in Hydrologic Sciences at University of Nevada, Reno on November 1, 2013.

- Chris Pearson successfully defended his dissertation titled “Nutrient and mercury concentrations and loads in Lake Tahoe Basin Snowpack” under Rina Schumer and Daniel Obrist for Master of Science in Hydrologic Sciences at University of Nevada, Reno on November 19, 2013.

Did You Know...

- Anna Knust, a former DRI faculty member, is expecting her second child – a baby girl in April!
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<th>Date Submitted</th>
<th>PI, Co-PI</th>
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<tr>
<td>16-Oct-13</td>
<td>Rajagopal, Sesh</td>
<td>Developing Curriculum for Education in Sustainable Water Science and Technology in India and U.S.</td>
<td>U.S. India Educational Foundation</td>
<td>$67,132</td>
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<tr>
<td>15-Nov-13</td>
<td>McConnell, Joe R</td>
<td>Collaborative Research: Reconstruction of Carbon Monoxide in the Pre-Industrial Arctic Atmosphere from Ice Cores at Summit, Greenland</td>
<td>National Science Foundation</td>
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<td>18-Nov-13</td>
<td>McConnell, Joe R</td>
<td>Collaborative Proposal: New Views of Quaternary Climate and Environmental Change from Continuous Analysis of GISP2 Ice Core</td>
<td>National Science Foundation</td>
<td>$1,072,355</td>
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<td>18-Nov-13</td>
<td>Sada, Don W</td>
<td>Collaborative Research: Tectonic and climatic forcing of hydrological systems in the southern Great Basin: Implications for ancient and future aquatic system resilience</td>
<td>National Science Foundation</td>
<td>$284,152</td>
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<td>11-Dec-13</td>
<td>Zhang, Yong</td>
<td>Collaborative Research: Groundwater Quality Sustainability Due to Climate Change</td>
<td>National Science Foundation</td>
<td>$257,083</td>
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<td>12-Dec-13</td>
<td>Chen, Li</td>
<td>Scaling and Modeling of the Rainfall-Infiltration-Runoff Process in Arid and Semi-arid Regions</td>
<td>National Science Foundation</td>
<td>$331,494</td>
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<td>16-Dec-13</td>
<td>McConnell, Joe R</td>
<td>Collaborative Research: Reconstructing atmospheric synoptic climatology and sea ice cover using Greenland ice cores and self-organizing maps</td>
<td>National Science Foundation</td>
<td>$157,048</td>
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<td>17-Dec-13</td>
<td>Chen, Li</td>
<td>Modeling rainfall-runoff processes in post-wildfire watersheds</td>
<td>Joint Fire Science Program</td>
<td>$307,210</td>
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<td>20-Dec-13</td>
<td>McConnell, Joe R</td>
<td>Collaborative Research: Quantifying fresh water fluxes from NE Greenland ice streams and impacts on Atlantic Meridional Overturning Circulation and climate during the Common Era</td>
<td>National Science Foundation</td>
<td>$1,423,358</td>
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