





FACULTY were honored with a number of prestigious awards, including a noteworthy 12 National Science Foundation CAREER Awards, Governor's Medals for Science and Technology, and yet another Carnegie Professor of the Year.

STUDENT quality was demonstrated through competitive efforts, from Engineering undergrads capturing First Place overall for the third time at the NASA Student Rocket event to a doctoral student who received an IBM Smarter Planet Innovations Award for computer models that alleviate traffic congestion.

RESEARCH Awards reached an all-time high, surpassing \$200 million. These and countless other accomplishments push the boundaries of higher education, elevating the standards of learning at USU and beyond.

The university proudly shares a handful of these extraordinary accomplishments from the past year.



PROFESSIONAL ACHIEVEMENTS AND AWARDS

DOUGLAS JACKSON-SMITH, Sociology, AGree Research Committee — one of nine members responsible for commissioning studies and facilitating dialogue about methods for improving the country's food and agricultural systems.

SANDRA GILLAM, Communicative Disorders and Deaf Education, Editor, *American Journal of Speech Language Pathology*.

ROBERT SCHMIDT, Environment and Society, 2011 NASPA Outstanding Faculty Award: Service Learning Coordinator.

J.R. DENNISON, Physics, National Research Council of the National Academies Research Associateship.

BONNIE PITBLADO, Anthropology, *American Anthropology Association/Oxford University Press Award* for Excellence in Undergraduate Teaching.

JACK SCHMIDT, Watershed Sciences, U.S. Geological Survey Appointment and *National Park Service Director's Award*.

WYNN WALKER, Civil and Environmental

RECOGNIZED FOR HIS DEDICATION to students and contributions to the field of math education, **Jim Cangelosi** was named a 2011 Carnegie Professor of the Year, one of 31 professors from across the nation selected for this year's prestigious honor. Cangelosi, a Louisiana native, is the 11th Utah State professor to receive the award since the program's 1981 inception. USU boasts more Carnegie Professors of the Year than any other of its peer institutions.

Engineering, *USU International Professor of the Year Award*.

JUAN VILLALBA, Wildland Resources, United Nations Food and Agriculture Organization Panel Appointment.

BRIAN WARNICK, Agricultural Systems Technology and Education, *Outstanding Early Career Member Award*, American Association for Agricultural Education.

LON YOUNGBERG, Welding Technology, USU Eastern, *Gold Medal in Welding Fabrication*, 2011 Skills USA National.

LAURIE MCNEILL, Civil and Environmental Engineering, *Outstanding Young Alumna*, Virginia Tech.

RAY REUTZEL, Endowed Chair, Emma Eccles Jones Center for Early Childhood

Education, *Inductee to the International Reading Hall of Fame*.

CINDY DEWEY, Music, Appointed Chair for the National Association of Teachers of Singing.

JIM BARTA, Teacher Education and Leadership, elected President of the North American Study Group in Ethnomathematics.

FRY STREET QUARTET, Music, *Utah Best in State Award* for Instrumental Group.

LINDA L'AI, Edith Bowen Laboratory School, *Presidential Award for Excellence in Mathematics and Science Teaching*.

JANIS BOETTINGER, Plants Soils, and Climate, presented with the 2011 Cooperator Achievement Award from The National Cooperative Soil Survey.

FACULTY PUBLICATIONS, PRESENTATIONS, PERFORMANCES, AND KEYNOTES

As a top-tier research institution, Utah State's faculty push their expertise to the forefront of their respective fields. As a land-grant institution, this expertise is shared with the state, the nation, and the world. Here is a glimpse of what USU faculty shared with the world in 2011.

CHRISTY M. GLASS and **ERIC REITHER**, Sociology, Social Work, and Anthropology, published an op-ed in the *New York Times*, "Overweight and Undereducated, Obesity Impacts One's Health and Income."

NSF CAREER AWARD

The National Science Foundation's most prestigious honor given to young faculty is the CAREER Award. Only professionals capable of integrating cutting-edge research and teaching opportunities who show promise for leadership in their field are bestowed with this honor. Is it any surprise that Utah State had 12 recipients of the award in 2011? The following are the CAREER Award recipients and the titles of the grant proposals.

OENARDI LAWANTO: Cognitive and Megacognitive Activities in Engineering Design Education.

DAVID ROSENBERG: Near Optimal Water Management to Improve Environment and Ecological Decision Making.

PETER ADLER: Forecasting Climate Change Impacts on Plant Communities? When Do Species Interactions Matter?

WEI REN: Distributed Multi-vehicle Cooperative Control — A Consensus Theoretical Approach.

ANTHONY LOWRY, Geology, and **Marta Perez-Gussinye** of Royal Holloway, University of London, published "The Role of Crustal Quartz in Controlling Cordilleran Deformation," in the journal *Nature*.

SARAH CLARK, School of Teacher Education and Leadership, presented "Putting it to the test: Examining the use of standardized test scores to select teacher candidates into teacher preparation programs" at the World Federation of Association of Teacher Education Conference.

J.A. TAINTER, Environment and Society Department, gave the keynote address to the Office of the U.S. Secretary of Defense Highlands Forum XLIV.

JAN J. SOJKA, **MICHAEL NICOLLS**, **ANTHONY VAN EYKEN**, **CRAIG HEINSELMAN**, AND **DIETER BILITZA**, The Center for Atmospheric & Space Sciences, published "Solar Minimum Polar Cap and Auroral Ion Temperature Observations" in *Advances in Space Research*.

CLAUDIA RADEL: Gendered Transitional Labor Migration, Agriculture, and Environmental Change in Mesoamerica.

BRIAN BELLAND: Supporting Middle School Students' Construction of Evidence-based Arguments.

SEAN JOHNSON: Structural Studies of Ski 2-like RNA Helicases.

VICTOR LEE: Engaging Elementary Students in Data Analysis through Study of Physical Activities.

BRIAN McCUSKEY, Department of English, published "Last Words in Deadwood: Literacy and Mortality on the Frontier" in *The Journal of Popular Culture*.

DAN BRYCE, Computer Science Department, published "State Agnostic Planning Graphs: Deterministic, Non-Determinists and Probabilistic Planning" in *Artificial Intelligence*.

E. JANE KELLY, **THOMAS J. BALDWIN**, and **KERRY A. ROOD**, Animal, Dairy and Veterinary Sciences, published "Pathology in Practice: *Echinococcus granulosus* infection in a Utah sheep" in the *Journal of the American Veterinary Medical Association*.

CAMILLE LITALIEN, Theatre Arts Department, performed *The White Box Project*, in New York City.

RICHARD JOHNSON AND **LARRY WALTHER**, School of Accountancy, published "Interpreting 'Legally Permissible' in Applying Fair Value Guidelines," in *The CPA Journal*.

ANTHONY LOWRY: Earth Rheology and Deformation Processes.

TAMMY RITTENOUR: Understanding Processes Related to Arroyo Systems, Southern Utah.

ETHAN WHITE: Advancing Macroecology Using Informatics and Entropy Maximization.

CHRIS WINSTEAD: Low-energy Circuits for Implantable Networks.

NSF CAREER AWARD RECIPIENT

Chris Winstead is working to create artificial communication networks that can bypass damaged neural circuits in the body.





FULBRIGHT SCHOLARSHIPS

FACULTY

DAVID HOLE, Plants, Soils, and Climate: Cambodia.

RON RYEL, Wildland Resources: Portugal.

SHERRY MARX, Teacher Education and Leadership: Hungary.

DALE ZOBELL, Animal, Dairy, and Veterinary Sciences: Indonesia.

WAYNE WURTSBAUGH, Watershed Sciences: Argentina.

ZSOLT UGRAY, Management Information Systems: Hungary.

STEPHEN BIALKOWSKI, Chemistry and Biochemistry: Slovenia.

EUGENE W. SCHUPP, Wildland Resources: Portugal.

STUDENTS

ZACHARY MAUGHAN, German / American Studies: Germany.

ABIGAIL JENSEN, Business: Mexico.

THE GOVERNOR'S MEDAL FOR SCIENCE AND TECHNOLOGY is an annual award bestowed upon Utah's innovators, entrepreneurs, educators, and science industry pioneers. Over 24 years, Utah State has claimed 34 recipients of the award and, in 2011, two more Aggies joined the ranks: **Byard D. Wood** and **Bruce Bugbee**. Through his five-decade career, Wood, department head and professor of Mechanical and Aerospace Engineering, has impacted Utah's science and technology with a commitment to developing sustainable, renewable energies, including solar and biofuels, and by educating the next generation of Utah's bright and promising engineers. Bugbee, professor in the department of Plants, Soils, and Climate, has had a profound scholarly impact on both teaching and research, having mentored 32 graduate students, more than 1,000 undergraduates and whose work with NASA resulted in more than \$2.5 million in research funding at Utah State.

COMMERCIAL ENTERPRISES

Utah State's Space Dynamics Laboratory (SDL) engineering team built a hyperspectral sounder, a severe weather sensor that can detect with extreme accuracy where severe weather will hit — and when. The technology will save millions of dollars for governments around the world and will save millions of lives. SDL is the only place in the world with the know-how to build this sensor. GeoMetWatch, a company partner-

ing with USU Commercial Enterprises, will launch six satellites with STORM sensors in 2014.

A USU Spin-out company received a \$2.7 million grant from the federal transit authority to install an electric mass transit route on the University of Utah campus that uses wireless power transfer — technology developed at Utah State.

USU USTAR's Applied Nutrition Research partnered with USANA to conduct research to see if harmful effects of inversion can be negated through dietary supplements.

“THE CUTTING EDGE”

HARDEEP RAI, Wildland Resources, used computer-automated analyses of the largest taxonomic dataset, finding that dinosaur plants may not be a classic example of “living fossils.”

THE USU EXTENSION CENTER FOR AGRONOMIC AND WOODY BIOFUELS, near the S.L.C. airport, provides research that supports crops and their conversion to biofuels in Utah, the region, and the nation.

THE BIOINNOVATIONS CENTER, a hub for cutting-edge and collaborative research projects, located on USU’s Innovation Campus, has been awarded LEED (Leadership in Energy and Environmental Design) Gold certification by the U.S. Green Building Council.

PETER ADLER, Wildland Resources, challenged a nearly 40 year-old international ecological model shedding new light on ecological debates.



BOOKS

BRADLEY A. WINN, Department of Management, *Oxford Handbook of Positive Organizational Scholarship*.

STEVEN R. SIMMS, Sociology, Social Work and Anthropology, *Traces of Fremont: Society and Rock Art in Ancient Utah*, Utah Book Award.

JOSEPH TAINTER, Environment and Society, *Drilling Down: The Gulf Oil Debacle and Our Energy Dilemma*.

SUSANNE CLEMENT, Quinney Library, *Collection Development in a Changing Environment*.

RAY D. REUTZEL, Endowed Chair, Emma Eccles Jones Center for Early Childhood Education, & R.B. Cooter, *Strategies for Reading Assessment and Instruction: Helping Every Child Succeed*.

JEFF BROADBENT and **JAMES STEELE**, Western Dairy Center, *Lactococpin: The Cell Envelope-Associated Endopeptidase of Lactococci*, An Invited Chapter for the *Handbook of Proteolytic Enzymes*, 3rd Ed.

PATRICIA MOYER-PACKENHAM, School of Teacher Education and Leadership, *Teaching Mathematics with Virtual Manipulatives*.

JESSICA SHUMWAY, Mathematics Education, *Number Sense Routines*.

LEILA SHULTZ, Wildland Resources, *Woody Plants of Utah: A Field Guide with Identification Keys to Native and Naturalized Trees, Shrubs, Cacti, and Vines*.

KATHLEEN W. PIERCY, Family, Consumer, and Human Development, *Working With Aging Families: Therapeutic Solutions for Caregivers, Spouses, and Adult Children*.

JOYCE KINKEAD, English, *Advancing Undergraduate Research: Marketing, Communications, and Fundraising*.

RANDY LEWIS, USTAR professor and Synthetic Bio-manufacturing Center team member, is pioneering research on the production of large quantities of spider silk proteins via goats’ milk. The silk could have many implications in the medical device and equipment market and has even been made into a “bullet-proof” skin.



STUDENT ACHIEVEMENTS

CHIMERA ROCKET TEAM Engineering, took 1st place at the NASA Sponsored University Student Launch Initiative competition in 2009, 2010, and 2011.

OMAR FLOREZ, computer science doctoral student, won the *IBM Smarter Planet Innovations Award* for developing computer models to better alleviate traffic congestion.

DELTA OMEGA, USU's student chapter of the national accounting honors society, Beta Alpha Psi, earned its 35th consecutive "superior" ranking, continuing the longest winning streak in the nation.

MICHAEL RIGLEY, Math/Stats, was named a National Physical Science Consortium Fellow.

WESTERN EQUESTRIAN TEAM, Agriculture, placed 5th at the Intercollegiate Horse Show Association National Championship. The team competed against more than 8,000 students from 340 schools. This was the team's second showing at nationals and its first time placing in the top five.

LUZ MARIA CARRENO, honors student and sociology major, was one of eight undergraduates nationwide selected to participate in a prestigious summer research program at the Population Research Center at the University of Texas at Austin.

COMPUTER SCIENCE TEAM won the *Judges Award* at the AUVSI RoboSub Competition, held at the U.S. Navy SSC Pacific TRANSDEC Facility in San Diego, Calif.

NSF GRADUATE RESEARCH FELLOWS:

SARAH ISERT (MAE)

JUSTIN KOELN (MAE)

ZACH PORTMAN (Biology)

HONORABLE MENTIONS:

JAMES FISHELMAN (CEE)

ZACH BRYM (Ecology)

ATHLETICS

12 of the past 13 years, USU Athletics had the most academic all-league honorees in its conferences (Big West / WAC).

228 Student-Athletes earned academic all-WAC Honors.

MEN'S CROSS COUNTRY

WAC Champions (6 of past 7 years).

MEN'S BASKETBALL

WAC Champions, WAC Tournament Champions, NCAA Tournament Participants, Stew Morrill named Jim Phelan Coach of the Year.

WOMEN'S BASKETBALL

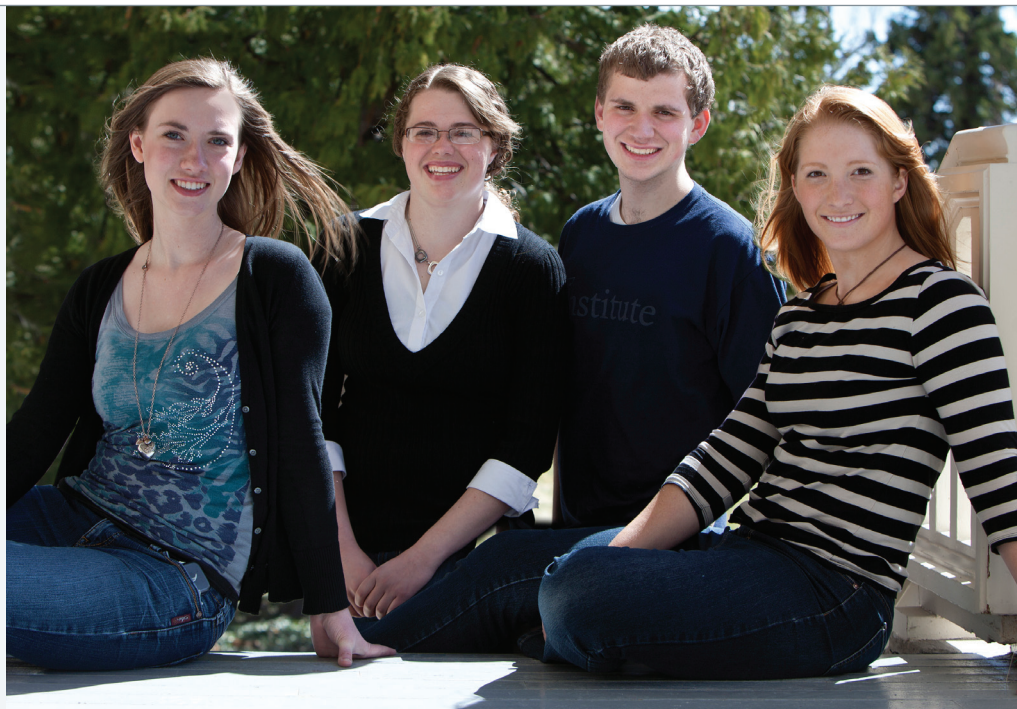
Raegan Pebley named WAC Coach of the Year.

FOOTBALL

Winningest Season since 1979, Famous Idaho Potato Bowl participants, one of 29 teams in the nation recognized by the American Football Coaches Association (AFCA) for academic achievement.

SOCCER

WAC Champions, NCAA Tournament.



GOLDWATER SCHOLARS

Three Utah State University students are 2011 Goldwater Scholars and one Aggie received honorable mention in a prestigious national competition that recognizes outstanding undergraduate achievements in science and mathematics. USU leads the state in the number of 2011 awardees and this year's competition marks the most Utah State students to receive the honor in one year.

BROOKE SILER, Bio Chem/Econ, Goldwater Scholarship

LINSEY JOHNSON, Physics, Goldwater Scholarship

BRIAN TRACY, PHYSICS, Goldwater Scholarship

KAREN NIELSON, MAE, Goldwater Scholarship Honorable Mention

GRANTS AND CAPITAL AWARDS

Research awards for 2011 will surpass an unprecedented \$200 million. The record-breaking number comes a year after the largest jump in research funding in USU's history. The following is just a small sample of the monies awarded across campus.

DOMINICAN REPUBLIC PRESIDENTIAL HIGHER EDUCATION SCHOLARSHIP PROGRAM FOR SUPERIOR STUDENTS: \$4.4 Million. This program, funded by the government of the Dominican Republic, brings highly qualified graduate and undergraduate students to Utah State University. PI/Co-PI: Mary Hubbard, vice provost of International Education; Shelly Hernandez, International Scholarships and Programs.

IME-BECAS PROGRAM GRANT. Sponsored by the Institute for Mexicans Abroad and University of California, Berkeley, the grant supports the educational endeavors of Mexican immigrant students. Accepting department: Access and Diversity Center.

ALTERNATIVE AND UNCONVENTIONAL ENERGY RESEARCH AND DEVELOPMENT GRANT: \$10 Million. This U.S. Department of Energy grant develops enduring research capabilities in a number of energy efficiency and renewable energy areas. PI/Co-PIs: Jeff Muhs, Byard Wood, Kevin Heaslip, Randy Simmons; Energy Dynamics Laboratory.

USDA WATER QUALITY PROGRAM WATERSHED RESEARCH GRANT: \$600,000. The grant was awarded to research nitrate pollution in areas of agricultural watershed.



EDUCATIONAL THEATRE ASSOCIATION RESEARCH GRANT: \$100,000. This grant is to assess the state of theatre education in American high schools, a project last undertaken in 1991 and previously in 1970. PI: Matt Omasta, Theatre Arts Department.

PI: Douglas Jackson-Smith, Sociology, Social Work, and Anthropology Department.

NSF-FUNDED MATH AND SCIENCE PARTNERSHIP PROGRAM EVALUATION: \$14.7 million. This program is funded to examine teacher quality, quantity, and diversity in math and science programs. Co-PI: Patricia Moyer-Packenham, School of Teacher Education and Leadership.

NIFA NATIONAL INSTITUTE OF FOOD & AG - IMPLEMENTATION OF WESTERN REGION SUSTAINABLE AGRICULTURE RESEARCH AND EDUCATION: \$3.1 million. This program offers opportunities to compete for USDA funding for sustainable agriculture research and education grants for institutions, farmers, and ranchers

throughout the Western regions. PI: Phil Rasmussen, Plants, Soils, and Climate Department.

NATIONAL SCIENCE FOUNDATION AERONOMY GRANT: \$552,000. The award will research radar studies of short-term variability in the electrodynamics of the low latitude ionosphere. PI: Bela Fejer, Physics Department.

NATIONAL SCIENCE FOUNDATION'S NATIONAL CENTER FOR AIRBORNE LASER MAPPING SEED GRANT. The grant funds scientists to obtain a high-tech "bird's-eye view" to study the state of Utah's state fish, the imperiled Bonneville cutthroat trout. PI: Ryan Lokteff, Watershed Sciences Department.



"HEROES OF THE YEAR"

— A handful of students and community members were recognized both nationally and internationally for their heroic efforts in lifting a burning car, saving the life of a USU student.



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