



The 94th Annual Meeting of the American Association for the Advancement of Science – Pacific Division took place from June 16-19, 2013 in Las Vegas, Nevada. Above: The Student Union at UNLV, site of the 94th Annual Meeting.



President's Corner

Pamela Marshall, ANAS President

Fellow ANAS Members,

I hope this newsletter finds you well. I wish to report on a few items.

The joint meeting with AAAS Pacific Division was a success, with several students and members presenting posters and talks at the meeting. The setting of UNLV helped to spark enlightening discussions and we connected with many individuals from Nevada. Thank you for helping to make this meeting a success.

I would like to remind you that the Academy has scholarship and granting opportunities. The information can be found at <https://arizonanevadaacademyofscience.org/grants.html>

- The Bud Ellis Scholarship of \$1000 is awarded to an Arizona or Nevada High School senior who will attend an Arizona or Nevada college or university and study science or engineering. Applications are due January 15.

- Three granting opportunities are available, one for high school, one for undergraduate and one for graduate students. High school grants are due December 15 and undergrad and grad grants are due November 15 and March 15.

- We also have an outstanding teacher award, with information here:

<https://arizonanevadaacademyofscience.org/tc/hrwd.html>

I encourage all members to spread the word about our opportunities. Please

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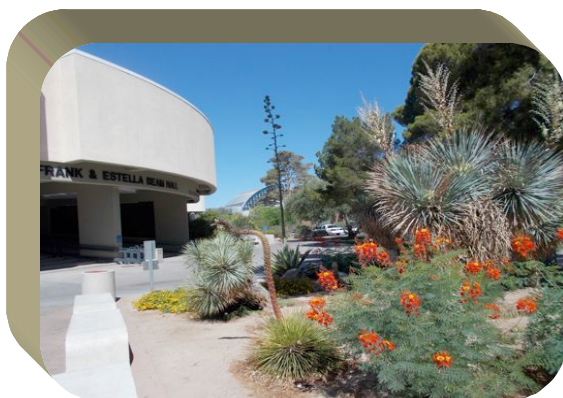
Editor, T. G. Manno, Ph.D., tmanno@cfsd16.org
Top banner photo: A ranch building in Sasabe, AZ.

check back for word on our 2014 meeting as the time approaches.

Sincerely,

Pam Marshall

*Associate Professor, School of Mathematical and Natural Sciences
Arizona State University at the West campus*



Xeriscape landscaping on the UNLV campus



ANAS Proceedings Editor Florence Slater with poster advertisement during the 94th Annual Meeting



ANAS board meeting on June 16, 2013



South Maryland Parkway outside the UNLV Student Union

ARIZONA AND NEVADA MUSEUMS SPECIAL EXHIBITS

Las Vegas Natural History Museum

Las Vegas, NV

<http://www.lvnhm.org/>

Engelstad Family Prehistoric Life Gallery

International Wildlife Gallery

Las Vegas Founders African Galleries

Marine Life Gallery

Geology Gallery

Arizona Museum of Natural History

Mesa, AZ

<http://www.azmnh.org/Home.aspx>

Origins, Paleo Dog Pit, Arizona Through Time, Dinosaur Hall

Rulers of the Prehistoric Skies

Arizona State Museum

Tucson, AZ

<http://www.statemuseum.arizona.edu/>

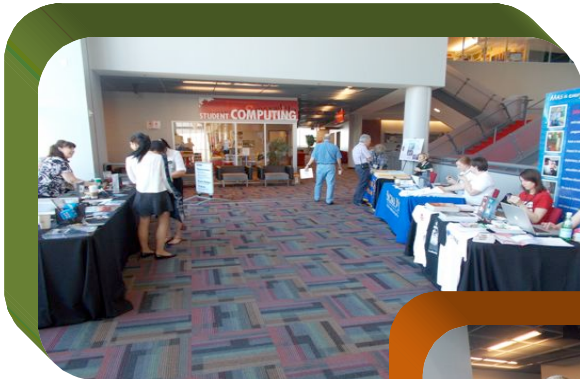
Curtis Reframed: The Arizona Portfolios

A World Separated by Borders

Basketry: An Essential Part of Life



June 16-19, 2013: Arizona-Nevada Academy of Science Joint Meeting with AAAS-PD held at UNLV



Left: Meeting registration at the UNLV Student Union

Right: Treasurer Karen Conzelman (center) seated at ANAS information table with Proceedings Editor Florence Slater (at left) looking over one of the issues of JANAS given away at the meeting.

Center: (From L to R) Students Jennifer Muir, Lorenzo Sanchez, Travel Award winner Jennifer Kepler, and President Pamela Marshall

Highlights

The 57th Annual Meeting of ANAS was held jointly with the 94th meeting of the American Association for the Advancement of Science – Pacific Division in Las Vegas, NV on June 16-19th. Although ANAS attendance at this meeting was rather low, the combined meeting afforded ANAS board members the opportunity to increase awareness of our organization and journal, particularly among individuals from AAAS-PD who live in Nevada, and hopefully boost JANAS manuscript submissions as well as participation and membership in the Academy.

ANAS members authored, co-authored, and orally presented several abstracts at the AAAS-PD 94th Annual Meeting, including:

-*Campanian Dinosaurs of the Southern Basin and Range Province*, ROBERT McCORD (Arizona Museum of Natural History, Mesa)

-*Inhibition of the *Saccharomyces cerevisiae* Low Affinity Calcium Channel*, LORENZO G. SANCHEZ, JENNIFER MUIR, JENNIFER L. KEPLER, and PAMELA A. MARSHALL (School of Mathematical and Natural Sciences, Arizona State University)

-*Analysis of Volutin Formation in *Saccharomyces cerevisiae**, PAMELA A. MARSHALL, DAVID B. De LA ROSA, LORENZO G. SANCHEZ, and MATTHEW L. STARR (School of Mathematical and Natural Sciences, Arizona State University)

-*Social Networking in the Columbian Ground Squirrel*, THEODORE G. MANNO (Research took place at Auburn University)



Columbian ground squirrel with dandelion during Manno's study of mammalian social networking in Alberta, Canada



MORE PHOTOS FROM 57th ANNUAL MEETING



Poster session in the UNLV Student Union



Artistic sign delineating UNLV Student Union



Triple-digit heat on the UNLV campus



Robert McCord, Fellows Committee Chair and Past President, recognizes newly selected ANAS Fellow Pamela Marshall (see page 6 for information on the 2013 Fellows)



Palm trees grace the quad behind the Student Union on the UNLV campus



Refreshments outside poster session in UNLV Student Union

Hydrology Proceedings:

The complete archive of the proceedings volumes of the Hydrology section of ANAS annual meetings, *Hydrology and Water Resources of Arizona and the Southwest*, is in the process of being digitally archived as searchable open source documents by the University of Arizona (UA) library. Go to: <https://arizonanevadaacademyofscience.org/hydrprocd.html> and <http://arizona.openrepository.com/arizona/handle/10150/293741/browse?type=dateissued> for an index of articles and volumes that have been input to date.

The Academy gratefully acknowledges the Kimberly Chapman, UA Assistant Librarian, Scholarly Publishing and Data Management Team (SPDM), for spearheading this project, Peter Ffolliott for donating his complete set of hard copies, and the UA staff for the tedious task of digitizing the 41 volumes and establishment of this important repository. This project completes the process of capturing all of the ANAS journal archives in digital format (*JANAS* is found in digital format on BioOne and JSTOR), thereby improving their visibility and accessibility to the larger scientific community.

NEXT ANAS MEETING!!

The 58th Annual Meeting of ANAS will take place on a date TBA in April, 2014.

It is tentatively planned that NAU will host the meeting.

As usual, the event provides a great opportunity for members and their students to present research in a supportive environment.

Stay posted for further details. We hope you'll make every effort to attend!

Fellows are nominated based on their scientific work and contributions to the Academy from those who have been members and active for at least five years. As established by the by-laws (section 3.40), their selection is confirmed by a vote of the members attending the annual business meeting. It is with pleasure that the Fellows Committee presents the 2013 candidates to become Fellows in the Academy:

Pamela Marshall received a Ph.D. from the University of Texas Southwestern Medical Center and is currently an Associate Professor of Eukaryotic Genetics at Arizona State University, West. Pamela has been a member of the Academy since 2008 and has served the Academy from 2008 to 2011 as Membership Secretary. In addition, she has been active in the Science Olympiad and as Poster Session Chair of the Academy's annual meeting. She has authored over 30 peer-reviewed publications, and has received several patents and significant research grants. She teaches numerous classes and has received multiple teaching honors.

Shafiu Jibrin received a Ph.D. from Carleton University and is currently an Associate Professor of Mathematics at Northern Arizona University. Shafiu has been a member of the Academy since 2006 and has served the Academy from 2007 to 2009 as Director for Northern Arizona, President-Elect from 2010-2011, and President from 2011-2013. In addition, he has been active in the Academy's annual meeting as a session chair and as a meeting chair. He is the author of over a dozen peer-reviewed publications as well as the book, *Redundancy in Semidefinite Programming: Detection and Elimination of Redundant Linear Matrix Inequalities*. He teaches and actively supervises numerous student research projects, both graduate and undergraduate.

ANAS Award Opportunities--

<https://arizonanevadaacademyofscience.org/grants.html>

- Bud Ellis Scholarship of \$1000 is awarded each year to a student attending a Nevada or Arizona high school, who is in the top 10% of his/her graduating class, and who will attend a university in one of those states with a science, math or engineering major. Applications are due January 15 to Stephen M. Shuster.
- Outstanding Teacher Awards are made each year to High School, Middle School, or Elementary School Teachers in Arizona or Nevada to recognize dedication to science teaching. Nominations are due January 31 to Perry Baker.
- Graduate Student Grants-in-Aid of \$300 are made twice a year, each time to two students enrolled in a Graduate Programs at Nevada or Arizona Universities, and who are members of the Academy. Deadlines for submission of applications are November 15 and March 15.
- Undergraduate Student Grants-in-Aid of \$200 are made twice a year, each time to two undergraduate students enrolled in a Science Programs at Nevada or Arizona Universities or Colleges, and who are members of the Academy, or whose advisor is a member of the Academy. Deadlines for submission of applications are November 15 and March 15.
- High School Grants-in-aid of \$100 are made each year to four students in Nevada or Arizona. The funds may be used only for activities and items directly associated with scientific research projects. Applications are due December 15 to Aregai Tecle.
- Outstanding Service Awards are made each year to ANAS members who have distinguished themselves through service to the Academy.

Congratulations to the ANAS Student Travel Award Recipient

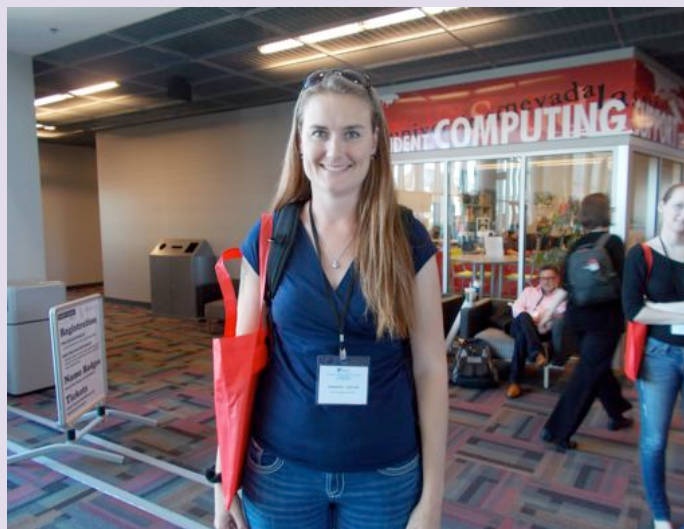
Jennifer L. Kepler is the award recipient for this year's ANAS travel scholarship to attend the joint AAAS/ANAS Pacific Division annual meeting in Las Vegas. Jennifer is a native of Phoenix and resides here with her husband and two children. She enjoys looking at pond water in her microscope, reading, yoga, and going for hikes.



Jennifer graduated in May from Arizona State University West campus with a B.S. in Life Sciences. She is also a graduate of ASU's Barrett Honors College. To complete the Barrett program, a student must successfully defend a creative project or thesis. Jennifer conducted her honors thesis in the lab of Dr. Pamela Marshall, titled: "Deletion mutation analysis identifies the inhibitory action of calmodulin kinase 1 on the vacuole Ca^{2+} exporter during the process of intracellular calcium homeostasis in *Saccharomyces cerevisiae*." Jennifer was also a student of the TRiO Student Support Services STEM (Science Technology Engineering Mathematics) program by which she was awarded Graduate of the Year.

Jennifer and two co-authors, Lorenzo Sanchez and Jennifer Muir, gave a 15-minute oral presentation titled: "Physiological Inhibition of the *Saccharomyces cerevisiae* Low Affinity Calcium Channel" at the AAASPD-ANAS 2013 meeting. The budding yeast, *Saccharomyces cerevisiae*, has at least two inwardly rectifying plasma membrane calcium channel systems: the high affinity calcium channel (HACS), the heterodimer of Cch1p/Mid1p, and the uncloned low affinity calcium channel (LACS). Their research focuses on characterizing the uncloned LACS channel by identifying a chemical inhibitor of the channel. This research also supports other work being done in the lab identifying key proteins involved in calcium homeostasis in yeast and mathematically modeling the process.

Jennifer plans to attend graduate school in the fall of 2014. Her passion lies in molecular biology and microbiology. She is very grateful for the support of ANAS to attend this meeting. The experience was quite valuable as she begins the process of applying to graduate school.



Posting: ANAS Officers Needed

1. President Elect
2. Editor of the Journal

IMPORTANT!

ANAS is now on Facebook

Check it out on the ANAS webpage, or at:
<http://www.facebook.com/pages/Arizona-Nevada-Academy-of-Science/163999350323773>

Meeting information, more photos from the Annual Meeting, ASU's new top 10 species, and more!!

Outstanding Service Award Recipient: Peter Ffolliott

Dr. Peter Ffolliott has been selected by the ANAS Board of Directors to receive the ANAS Outstanding Service Award for 2013. Ffolliott has both a distinguished service record to ANAS and to his profession to deserve the award. He was president of the ANAS in 2005-2006 and its recording secretary in 2004-2005. He spearheaded the publications of the annual ANAS Hydrology section meetings proceedings for many years. Without his leadership and material support that publication would not have been as successful as it has been during the last 40 years. In addition to ANAS, Dr. Ffolliott has served on several Society of American Foresters national committees.

In the area of research, Dr. Ffolliott has a distinguished record in the fields of forestry and forest watershed management in the southwestern United States and in many other arid regions around the world. His research has especially concentrated on the impacts of forest and woodland management on water yield, water quality, snowpack characteristics, erosion and sedimentation. In addition, Ffolliott's research work has spanned the full array of watershed resources including ecology, tree overstories, herbaceous vegetation, fire effects, numerous wildlife species and their habitats. He has conducted research in these areas for more than 40 years advancing our knowledge of southwestern ponderosa pine forest ecosystems, pinyon-juniper woodlands, and the encinal oak woodlands and savannas. Dr. Ffolliott has collaborated closely with scientists from many universities and the U.S. Forest Service's Rocky Mountain Research Station on numerous studies. He was one of the lead scientists on the Beaver Creek Program in central Arizona that studied the impacts of numerous land management options on multiple natural resources. His research and insights have been published in more than 620 authored and co-authored books, journal articles, Forest Service research papers and proceedings to the benefit of public and private land managers and university and other researchers. His sustained activities in the advancement of forest science and forestry education have resulted in his election as a Fellow of the Society of American Foresters and the Arizona-Nevada Academy of Sciences.

Academically, Dr. Ffolliott is well-recognized as a skilled teacher who has mentored many undergraduate and graduate students who are now leaders in forestry and watershed management in the United States and many countries around the world. A partial list of foreign countries from which Ffolliott's students have originated includes Mexico, China, the Philippines, Israel, Jordan, Syria, Brazil, Chile, and India. He has conducted international training classes sponsored by the USDA Forest Service, the Food and Agriculture Organization of the United Nations, and other international programs. Ffolliott has participated in numerous United States government activities, the International Arid Land Consortium, and other international consultations, and was elected a Fellow of the Indian Association of Hydrologists.

Dr. Ffolliott is a co-author of the text: "Hydrology and the Management of Watersheds" which is a basic watershed management text in many forestry schools. The text has had three printings since 1991. He is also a co-author of the book; "Fire's Effects on Ecosystems" which is a standard text and reference book for managers. He is the lead author of "Natural Environments of Arizona." Ffolliott has been a major contributor to the organization of many scientific conferences including the 1994, 2004, and 2012 Madrean Archipelago Conferences in Tucson that brought together scientists and managers from the United States and Mexico to exchange information about this ecologically important trans-border region.

Peter Ffolliott has a distinguished career advancing forest biological science by his research and transferring the information gained to students, researchers, and forest resources managers in the United States and throughout the world. The ANAS Board of Directors congratulates Dr. Ffolliott and is very pleased to give him its Outstanding Service Award for the year 2013.

Congratulations to our new board members:

Pamela Marshall, ASU West:

President (previously President-Elect)

Brian Wainscott, College of Southern Nevada:

Director at Large

Robert Bowker, Glendale Community College:

Recording Secretary

Angela Schwendiman, Glendale Community College:

Membership Secretary

Robert McCord, Arizona Museum of Natural History:

Journal Editor (effective starting with Volume 46; previously Past-President)

Boyd Campbell, Southwest College of Naturopathic Medicine:

Director, Central Arizona (previously Membership Secretary)



Students from Morenci High School compete in the Towers event at the Arizona Science Olympiad



An expert is a person who has made all the mistakes that can be made in a very narrow field.—Niels Bohr

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Invitation for submissions to ANAS newsletter

ANAS members are encouraged to submit materials for publication in the newsletter, including but not limited to the following: articles for a 'Where are they now?' column, ANAS announcements, digital photographs, shout-outs, and special event notifications.

Note from the editor

Please feel free to send comments or questions about the ANAS newsletter!—Theo Manno (tmanno@cfsd16.org)

All photographs in this issue are courtesy of Theo Manno unless stated otherwise.