

# SAS SPECTRUM eNEWS

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## The SAS National Meeting in Reno

This year the SAS held the National Meeting at SciX in Reno, Nevada, at the Grand Sierra Resort, just miles away from Virginia City and Lake Tahoe. Attendees of SciX were arriving just as the Street Vibrations motorcycle rally was ending. SAS members were invited to an outing in Virginia City on Sunday, September 28, visiting the Delta Saloon and Cafe and the Wild West Show just after lunch, and student SAS members had a great time at a pub crawl in downtown Reno in the evening.



*The national meeting in Reno*



*The SAS crowd warming up at the Delta Saloon and Café.*



*The Virginia City Wild West Show*





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## SAS Travel Grants

This year the SAS awarded five travel grants on Sunday afternoon. The grants are awarded on a competitive basis. The applications from both student and research adviser are evaluated on both merit and financial need.



*Orlando Carrillo - Idaho State University*



*Bennet Davidson - University of Illinois Chicago*



*Hari Sreedhar - University of Illinois Chicago*



*Alister Tencate - Idaho State University*



*Alex White - Idaho State University*



# Application of Spectroscopic Parameters in Evaluation of Water Quality

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## SAS Student Poster Session

The annual SAS sponsored student poster session was held on Sunday afternoon. Four students were recognized for the most outstanding presentations and receive a plaque and a free one-year membership in the SAS. The awards were presented by Chad Atkins, SAS Student Representative.



*Brett Brownfield - Outlier Detection by Fusion of Outlier Multiple X and Y Merits using Sum of Ranking Differences*



*Bradley Moran - Assessing Intrinsic Active Site Electric Fields via Stark Deconvolution*



*Marie Richard-Lacroix - Simple and Accurate New Method for Orientation Quantification using Polarized Raman Spectroscopy*



*Hiroto Tanaka - Electronic Transitions of Water/Carboxylic Acid Binary Solutions Studied by Far Ultraviolet Spectroscopy*

## SAS Congratulates William E. Moerner for Winning the 2014 Nobel Prize in Chemistry

The SAS congratulates one of our members, Prof. William E. Moerner, for his contribution to the 2014 Nobel Prize in Chemistry along with joint awardees Eric Betzig and Stefan W. Hell. Dr. Moerner was the first investigator to image a single biological molecule using optical methods in 1989. The resolution of the image was defined by the Abbe diffraction limit, but while working as a postdoc for Roger Tsien he noticed that the emission of green fluorescent protein could be stimulated and reactivated using 488 and 405 nm light. The ability to modulate the emission and the use of trapping techniques, both microfluidic and laser, allows nanoscopic imaging of isolated molecules. In the Moerner group, the technique has been used to image neurotransmitter proteins in cellular membranes as well as studying the intermediate states of and electron transfer events in proteins.

A number of Focal Point articles in Applied Spectroscopy have highlighted the importance of super-resolution and nanoscopic imaging:

Richard A. Keller, W. Patrick Ambrose, Peter M. Goodwin, James H. Jett, John C. Martin, Ming Wu, "Single Molecule Fluorescence Analysis in Solution". Appl. Spectrosc. 1996. 50(7): 12-32. doi: 10.1366/0003702963905600.

Katrin Katrin, Harald Kneipp, "Single-Molecule Raman Scattering". Appl. Spectrosc. 2006. 60(12): 322-334. doi: 10.1366/000370206779321418.

B. O. Leung, K. C. Chou, "Review of Super-Resolution Fluorescence Microscopy for Biology". Appl. Spectrosc. 65(9): 967-980. doi: 10.1366/11-06398