



**California/Nevada Section
Bimonthly Update
March 1, 2010
Twenty-Fifth Edition**

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- * **CA/NV Section Meeting**

On the evening of February 10th, 2010, 137 members, students, and guests met for our CA/NV Section Meeting. It was held after the World Ag Expo/Tulare Farm Show at the Edison AgTAC Center in Tulare, CA. Mike Grundvig, Alternate ASABE CA/NV Delegate to the California Legislative Council of Professional Engineers (CLCPE) provided a licensure update. The draft By-Laws were formally adopted by unanimous vote. A new slate of officers was approved and is listed below. On top of school reports from Butte College, Cal Poly SLO, CSU Fresno, Modesto JC, and UC Davis, three guest schools, Harmony Magnet Academy of Engineering, Iowa State University, and Oklahoma State University, gave us reports of their activities. Additionally, ASABE President Ron Yoder joined us from University of Nebraska at Lincoln with two of his students. He gave us a status update on a few key society opportunities and issues. Last, but far from least, Claude Brown, PE, showed us the variety of machinery that AIM has developed for the winegrape and other industries since their inception in 1979. Thanks to all officers and attendees and we hope to see you again very soon!

- * **2010-2012 Section Officers**

Congratulations to our new and continuing officers! Please contact us as needed.

Past Chair - Victor Duraj, UC Davis Western Center for Ag Equipment and Technology
Chair - Carolyn M. Jones, PE, USDA NRCS Napa County
Vice Chair - Dr. Balaji Sethuramasamyraja, CSU Fresno Industrial Technology
Secretary/Treasurer - Dr. Stuart Styles, PE, Cal Poly Irrigation Training & Research Center
Program Chair - Traeger Cotten, PE, Southern California Edison
Awards Chair - Dr. Richard Cavaletto, PE, Cal Poly BioResources and Agricultural Engineering
Membership Chair - Betsy K. Gerwig, PE, JM Lord, Inc.
Industry/Student Liaison - Willi Ortner, Heinzen Manufacturing, Inc.
Public Relations - Bob Coates, UC Davis Biological and Agricultural Engineering
Career Development - Dr. Andy Holtz, PE, Cal Poly BioResources and Agricultural Engineering

*** 2010 Section Meeting Sponsors**

On behalf of the Section, we thank our generous members who directly, or through their companies, donated to our program this year. Your support has been vital in sponsoring our activities!

Ag Industrial Manufacturing

Claude Brown, PE & Paul Burkner, PE, Lodi, CA

www.agindustrialmanufacturing.com

Bently Agrowdynamics

Donald E. Bently, PE & Jim Usher, PE, Minden, NV

www.bentlyagrowdynamics.com

Hydratec

Bill Loflin, Delano, CA

www.hydratec.com

Irrigation Design and Construction

Michael Conrad, Patterson, CA

John Deere Water Tech. (Roberts Irrigation)

Paul McFadden, Patterson, CA

www.johndeerewater.com

Provost & Pritchard

Kevin Johansen, Fresno, CA

www.ppeng.com

Rain for Rent

Mike Grundvig, PE, Bakersfield, CA

www.rainforrent.com

TechnoFlo Systems

Steve Huth, Porterville, CA

www.technoflo.com

Valley Irrigation Service

Patrick Murray, Madera, CA

*** 2010 Poster Awards**

Congratulations to our Poster Competition winners! We had three entries in each category.

Undergraduate Poster: Waste Water Management in a Food Processing Facility- A Spatial Approach by Chris Medeiros and Balaji Sethuramasamyraja, CSU Fresno

Graduate Poster Prize: Geospatial Wine Grape Quality Modeling for Optimum Sampling Strategy by George M. Mazhuvancheriparambath, Balaji Sethuramasamyraja, Harvinder Singh, Sivakumar Sachidhanantham and Robert L. Wample, CSU Fresno

*** Engineer of the Year, Mike Grundvig, PE, Rain for Rent**

Mike Grundvig has worked with Rain for Rent for over 26 years. He has been Divisional Manager/Vice President for over 9 years, and was previously a Branch Manager and Engineering Manager. He is responsible for all sales and operational issues, including P&L for the Western Division. As Engineering Manager, his work covered all aspects of engineering for company manufacturing processes and tooling design, irrigation systems domestically and internationally (travels took him to England, Egypt, Cameroon, Mexico, Costa Rica, Hawaii, and Taiwan), and special design and installation projects.

Before working with Rain for Rent, Mr. Grundvig was as associate engineer for Boyle Engineering, where their primary focus was agricultural projects (Irvine Ranch being one key customer). He is a proud Cal Poly BRAE graduate.

Mike and Rain for Rent have been supportive of ASABE by sponsoring student attendance to our annual meetings for several years.

*** ASABE New Face & 1-2-3-4-5 Member Highlight – Nate Green, MS, EIT, E & J Gallo Winery, Modesto, CA**



Nate Green was just honored as one of five of the sixteen engineers will be selected as e-Weeks' New Faces of Engineering. Congratulations, Nate!

Whether for our convenience, preference, or safety, most of the food we enjoy requires some measure of processing. Engineers like Nate Green ensure those processes result in food that is safe, nutritious, and affordable.

Since graduation Nate Green has been employed in the food industry, at E & J Gallo Winery, and previously at Diamond Foods Inc, as a design engineer and project manager. The projects he has worked on include the design and installation of equipment for bottling wine and

processing and packaging snack foods, like California almonds. He has also worked with other engineers to address worker safety issues and regulatory compliance. These accomplishments have resulted in increased plant capacity and efficiency. He has done this while maintaining a safe and positive work environment. His efforts enable his employer to remain competitive in the marketplace, and they help ensure affordability to the consumer.

Nate holds a bachelor of science degree in BioResource and Agricultural Engineering and also a master's degree in engineering from Cal Poly San Luis Obispo. He has been a member of ASABE since 2000.

One - piece of advice I'd give new graduates:

1 - You can learn something from everyone you meet, even if it is what not to do.

Two - things I learned on the job that I didn't learn in college:

1 - Communication is the key to every step of every project.

2 - It's cheaper, and usually faster, to get buy in during the design stage than to have change orders in the installation phase.

Three - concepts I learned in college that I use regularly:

1 - Get your hands dirty if you really want to understand the problem.

2 - K.I.S.S. - Keep It Simple Stupid.

3 - Group work is more productive than trying to do everything yourself.

Four - favorite technical aspects of my job:

1 - Using my shop skills to contribute towards a project completion that's on a tight timeline.

2 - Seeing drawings, budgets, and timelines come to life in steel and wire.

3 - Working with a great team to over-deliver while under-spending.

4 - Approving half million dollar purchases.

Five - places I've been or things I've seen in my career:

1 - The Tulare Farm Show (World Ag Expo) - WOW!

2 - Pack Expo in Chicago and Las Vegas - talk about automation.

3 - Filling bottles of wine coolers at 1,200 bottles per minute.

4 - Standing on top of a tank holding over 1 million gallons of wine.

5 - Taking a nationwide product rollout from concept to full production with all new equipment in 10 weeks.

*** ¼ Scale Tractor Teams' Websites**

Cal Poly's Poly Built - <http://www.quarterscale.calpoly.edu/>

Modesto J.C.'s Pullin' Pirates - <http://virtual.yosemite.cc.ca.us/agens/clubs/AgMech/scale.htm>

*** E-Week Presentation**

On February 16th, Dr. Stuart Styles joined a local water district manager and a Cal Poly student to make two presentations at the Harmony Magnet School of Engineering in Strathmore and one at the Redwood Campus of Summit Charter Academy in Porterville discussing their roles and responsibilities as engineers.

*** Bently Biofuels & UCD - More, Better Biodiesel**

Yields of biodiesel from oilseed crops such as safflower could be increased by up to 24 percent using a new process developed by chemists at UC Davis. The method converts both plant oils and carbohydrates into biodiesel in a single process, and should also improve the performance characteristics of biodiesel, especially in cold weather. A paper describing the method, which has been patented, is online in the journal Energy & Fuels.

Conventional biodiesel production extracts plant oils and then converts them into fatty acid esters that can be used to power engines, said Mark Mascall, professor of chemistry at UC Davis and co-author of the paper with postdoctoral researcher Edward Nikitin. That leaves behind the carbohydrate portion of the plant — the sugars, starches, and cellulose that make up stems, leaves, seed husks and other structures.

The new process converts those carbohydrates into chemicals called levulinic acid esters — at the same time and in the same vessel that the oils are converted to fatty acid esters — resulting in a fuel cocktail that performs better at low temperatures than conventional biodiesel.

The fuel cocktail has a similar boiling range to conventional biodiesel, but is thinner; it becomes waxy at a lower temperature. Performance at low temperatures is a significant problem with B100 (conventional biodiesel), Mascall said.

"Our hope is that this blend of levulinate esters and biodiesel would perform better over a wider range of temperatures than biodiesel," Mascall said. Levulinate esters are nontoxic and are used as food additives, Mascall said. Costs of the new process may be somewhat higher than for conventional biodiesel production, but should be offset by improved fuel yields and performance, he said.

The researchers are partnering with Bently Biofuels of Minden, Nev., to test the performance of levulinate/B100 blends.

http://www.news.ucdavis.edu/search/news_detail.lasso?id=9401

*** Henry High School Engineering, Math, & Science Career Exploration Fair, March 3, San Diego**

The Employer Outreach Specialist with Patrick Henry High School in San Diego is holding the

5th Annual Engineering, Math, and Science Career Exploration Fair on Wednesday, March 3, 2010, 8:30-11:30 am. The school has a National Academy Foundation Engineering and Design Academy and would like a member of ASABE in the San Diego area to talk with students about what they do and how a student can pursue a career in the field. The purpose of the Career Exploration Fair is to connect the student learning to engineering and related careers. This event has become a vital part of their learning. A representative from ASABE participated in their Career Fair last year - which they greatly appreciated!!! Exhibitors are provided a continental breakfast. The media, including Fox News, are invited to come to the event.

For more information about the Henry High Engineering and Design Academy, please visit their new website (partially under construction) at www.PatrickHenryEDA.org or contact Yvonne Walden at ywalden@sandi.net. Pictures from previous Career Fairs are at http://www.henry.sandi.net/departments/eos/2007_career_fair/index.htm.

*** Practical Approaches to Erosion Control & Land Restoration, April 30th, Sacramento**

Julie Etra of the International Erosion Control Association (IECA) and Mike Harding, both Certified Professionals in Erosion and Sediment Control (CPESC), will be presenting the latest methods for controlling erosion from land development and for restoring disturbed land in an intensive course. Until recently, many standard design practices led to serious erosion problems. Now, state stormwater permit requirements mandate control of erosion, and improved professional practices are available to prevent future erosion difficulties. For more information, visit www.extension.ucdavis.edu/landuse/.

*** Salmonid Restoration and American Fisheries Society Cal-Neva Conference, March 10-13**

The 28th Annual Salmonid Restoration Conference and 44th Annual American Fisheries Society Cal-Neva Conference will be held March 10-13, 2010 at the Redding Convention Center. The theme of the conference is Fisheries Restoration and Science in a Changing Climate. The first two days will be filled with symposia, workshops, continuing education classes, and field tours on technical, biological, and policy-related topics including water quality and TMDLs, floodplain restoration, and fish passage and habitat restoration design and engineering. For more information, visit www.calsalmon.org and/or www.afs-calneva.org.

- Bimonthly Update contributors: Carolyn M. Jones, Victor Duraj, Stuart Styles, Nate Green, Andy Fell (UCD News Service), Julie Etra (IECA).
- For previous editions of the Update, please visit www.asabecanv.org.
- If you have questions or comments, feel free to contact Carolyn at carolyn.jones@ca.usda.gov.
- If you have ideas for Update items, let us know.