



SoCal SETAC NEWS



Society of Environmental Toxicology and Chemistry
Southern California Chapter

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President's Corner....

LAN WIBORG

SoCAL SETAC PRESIDENT

As one of the most active regional chapters of SETAC N.A., many of our members are undoubtedly putting the finishing touches on their presentations for the 2004 SETAC World Congress in Portland, Oregon (November 14-18). Whether you are planning to present or kick back and soak up all the latest in environmental toxicology and chemistry, we would love to see you at one of the Southern California chapter events, which include:

1. Regional Chapter booth (11:00 AM to 1:00 PM, Monday, 15 Nov. 2004)
2. So Cal regional chapter meeting (Noon, Wednesday, 17 Nov 2004), and
3. So Cal Happy Hour (Evening, Tuesday 16 Nov. 2004)

As always, these events are open to all So Cal SETAC members and guests, and the regional chapter booth and meeting locations will be provided in the World Congress meeting program. We will also have a "Chapter Poster" (prepared by board member Ken Schiff with assistance from Liesl Tiefenthaler) on display in the Exhibit Hall throughout the conference, and we hope you will stop by and check it out.

The World Congress also provides an opportunity for the President and Vice President of each regional chapter to meet in person and present the activities of our respective chapters during the past year. Thanks to your enthusiasm and support of chapter events, Dan and I will have plenty to report!

In fact, since our very successful 2004 Annual Meeting in San Diego, the chapter has hosted Parts I and II of the Bioassessment Workshop (taught by Jim Harrington of CA DFG in San Diego), as well as an outstanding dinner meeting entitled "Use of Antioxidant Transcriptional Markers in Rainbow Trout in Sub-Alpine Lakes" in Fullerton (presented by Chris Marwood of UC Santa Barbara). We have received lots of positive feedback from the workshop/meeting participants, and we hope you will join us for the upcoming dinner meeting in Irvine, featuring Ken Schiff of Southern California Coastal Water Research Project. Registration material for Ken's presentation on "Copper Emission from Antifouling Paint on Recreational Vessels" will be included in the next newsletter.

Another recent chapter activity involved events which occurred on the other side of the continent. As many of you may have heard, Hurricane Ivan wreaked havoc on the SETAC N.A. office in Pensacola, and several members of the SETAC organization suffered extensive loss of personal property. During the most recent So Cal SETAC board meeting, the officers and directors unanimously decided to make a small donation toward the recovery efforts on behalf of the chapter. If you would like to make an individual or corporate contribution, please contact Dan Schlenk (daniel.schlenk@ucr.edu) for more information.

In closing, I would like to extend a special acknowledgment to all those who have served the chapter in the past and for their ongoing support of chapter activities. It was only on the drive home from the recent Fullerton dinner meeting that I realized that we had four "retired" past presidents in attendance (sorry Phil, you are still on the hook for the 2005 annual meeting!), and I had missed a golden opportunity to recognize their outstanding contributions to the chapter.

Here's a belated "Thank You", in order of service years, to Marilyn Schwartz, Joe Gully, Kat Prickett, and Steve Bay, whose vision, hard work, generosity, and faith sustained the chapter through the "resurrection" years.



Crazy Ivan....Give me earthquakes any day.

Excerpts from SETAC Globe article by Rod Parrish



Search and rescue divers look for sunken vehicles and bodies along the breaks in the Escambia Bay Bridge on Interstate 10. An estimated 40-foot storm surge knocked out portions of the bridge, isolating the Pensacola Bay area and delaying traffic and relief efforts in the weeks after Hurricane Ivan struck the area on Sept. 16.

Although we received only about 8 inches of rain over a 24-hour period, there were sustained winds greater than 75 miles per hour for about 14 hours consecutively. Maximum winds were near 130 miles per hour when the storm hit the coast. Tens of thousands of trees were blown over, many with their intact root ball attached. Many others were shredded and twisted, with limbs torn off. And all the leaves were blown off almost all trees, exceptions being cedars, pines, and some magnolias. Water lifted large, concrete sections of an interstate highway bridge just east of Pensacola, causing major traffic problems for all east-west auto and truck traffic in the southern U.S. for several weeks.

Fortunately, no SETAC staff suffered injury. All of us had roof damage, power outages, contaminated drinking water, telephone outages, and yard damage. The homes of two people, Linda Longsworth and Mimi Meredith, were flooded and most of their possessions severely damaged or destroyed. The SETAC Office suffered some broken windows and water damage but there was no loss of data or equipment. [Note: Photographs be seen at www.pensacolajournal.com.]

SoCal SETAC 2004 Fall Dinner Meeting

Use of Antioxidant Transcriptional Markers in Rainbow Trout in Sierra Nevada Sub- Alpine Lakes

Presented by Dr. Chris Marwood

Assistant Professor,

Bren School of Environmental Management,
University of California Santa Barbara

Contributed By Mary Ann Irwin, Board member

We would like to thank everyone who joined us for the SoCal SETAC Dinner Meeting on September 23, 2004 at the Old Spaghetti Factory in Fullerton, CA. We had a great turnout of about 25 people to dive into the scrumptious Italian food, gather with friends, and listen to the presentation given by our board member Chris Marwood. Dr. Marwood presented some of his field research, which was conducted at several sub-alpine lakes on the California/Nevada border.



Transcriptional markers have been shown to be indicative of many environmental stressors. The broad concept is that exposure of an organism to a contaminant will cause changes in the regulation of specific genes. This in turn causes changes in levels of mRNA, through transcription. This ultimately leads to changes in the levels of enzymes that deal with that particular

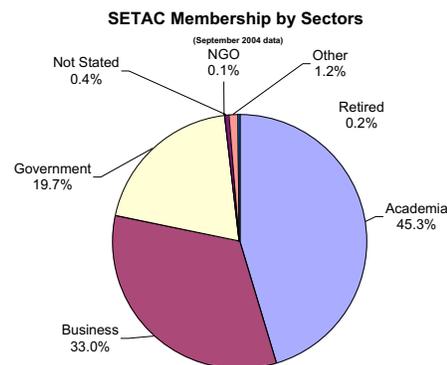
contaminant, or its effects. Transcriptional markers look specifically at the increased levels of mRNA involved in this pathway. Increases in these transcriptional markers indicate exposure to bioavailable contaminants as well as potentially adverse physiological effects.

Dr. Marwood's research focused on expanding on the use of these types of biomarkers by developing methods to detect markers of oxidative stress. Oxidative stress can eventually lead to death in fish through asphyxiation due to membrane disruption in the gill, or diminished photosynthetic capacity in the chloroplast of plants, therefore biomarkers which indicate oxidative stress can give early warning signs for potential impacts on an organismal scale. He focused on changes in levels of mRNA encoding antioxidant enzymes such as glutathione-S-transferase, glutathione peroxidase and superoxide dismutase in the presence of ultraviolet light and contaminants known to produce oxidative reactive species. These types of contaminants include polycyclic aromatic hydrocarbons (PAHs) produced by two-stroke engines, which are found on jet skis and other pleasure craft used on water bodies such as Lake Tahoe.

The general test design was to place rainbow trout in cages placed in various locations within lakes deemed to have low, medium and high impact from human use. The fish were exposed for forty-eight hours, after which tissue samples were collected and analyzed for levels of antioxidant enzyme-encoding mRNA via polymerase chain reaction (PCR). The water around the cages was analyzed for PAHs, other hydrocarbons, and metals as well as nutrients. Physical measurements included light levels and habitat assessments. Tahoe city had the highest levels of oxidative stress transcriptional markers, as well as the only measurable PAHs. Other sampling locations had varying levels of the transcriptional markers that did not correlate well with the level of impact from human use. Variability was attributed to the size of the fish as well as the hatchery from which they were taken. Overall it appeared that oxidative stress transcriptional markers have the potential to be good biomarkers for contaminant exposure, but the researcher using them needs to take into account natural variability, temporal effects, genetic differences, metabolic status, health, size and age of the test organism. The researcher needs to manage this variability to distinguish differences due to anthropogenic effects.

For more information visit Chris Marwood's website at <http://fiesta.bren.ucsb.edu/~marwood/>.

Ever wonder how is SETAC divided worldwide?



Bioassessment Workshop Recap

*Contributed by Phil Markle
LA County Sanitation District*

SoCal SETAC recently hosted two workshops dealing with Aquatic Ecological Bioassessment. Both workshops were taught by California Department of Fish and Game Environmental Scientist, Jim Harrington. Jim Harrington has been leading the development of Rapid Bioassessment techniques in California since 1993, is a member of several U.S. EPA workgroups on integrating biological assessment into water quality regulation and is a co-author of a soon to be published SETAC Pellston Workshop entitled

“Ecological Assessment of our Aquatic Resources: Application, Implementation, and Interpretation”. The first workshop was held on June 22-24, 2004 at the San Diego Regional Water Quality Control Board Offices in San Diego, CA. This workshop was attended by 20 individuals and focused on the design of both rapid and fully integrated freshwater ecological assessments. This included two days of actual “in the field” sampling and evaluations of physical habitats and biotic sampling with an emphasis on the “California Stream Bioassessment (CSBP)” procedure.



The second workshop was held on August 24-26, 2004 at the San Diego State University Campus. This workshop was attended by 13 individuals and focused on the family-level taxonomic identification of freshwater invertebrates. Using samples collected during Part 1, participants worked in groups to accurately identify the invertebrates

and ultimately use this data set to calculate and interpret the biological metrics. Also included were examples on how to insure data quality.



The expenses incurred by SoCal SETAC in hosting these workshops totaled \$9,601.38 and income through the payment of registration fees was \$7,440.00. This resulted in a net loss for the Chapter of \$2,161.38. Although hosting these workshops resulted in a significant net loss of revenue for the Chapter, the Board of SoCal SETAC is none-the-less pleased to have been able to offer these courses for the first time in the southern California area to our members. We would also like to specifically thank David Gibson of the San Diego Regional Water Quality Control Board, Andrew Bohonak of San Diego State University and of course Jim Harrington for their help and assistance in hosting and coordinating these courses.





Meet the Board

Mary Ann Irwin

***Doctoral Student
Environmental Toxicology Graduate
Program
U.C. Riverside***



I was born and raised in Salem, Oregon, so if you look carefully between my toes you might see webbing from growing up in the rain. When I was eleven I

took a trip with my family down to San Diego. We went to Sea World and of course from that moment on I wanted to be a dolphin trainer. This desire was tempered once I started taking French lessons, and I started considering a career in international affairs, maybe as a spy. In high school I came up with the brilliant compromise of marrying one of Jacques Cousteau's grandsons. But once I got to college (University of Puget Sound in Tacoma, Washington) my compromise turned into the more practical one of a major in Biology and a minor in French.

I spent the summer between my sophomore and junior years studying in Avignon, France. It was an absolutely fabulous time. Between the Pink Floyd concert in Marseille and going to a beach with my French host family where the only required clothing was shoes, I was able to do a lot of sightseeing in southern France and Monaco. While my friends and I were too young to go into the casino at Monte Carlo, I was able to see the oceanographic museum where there is a large collection of sea creatures collected by none other than ... Jacques Cousteau himself. For some reason my friends weren't as excited about that as I was. And yes, Nice is nice.

After college I took an assortment of jobs including spotted owl surveyor for the Oregon Department of Fish

and Wildlife, and fisheries observer for the National Marine Fisheries Service on fishing boats off of Alaska and California. While I didn't get to train dolphins, I did get to dissect them as an observer on the swordfish boats off California. Close enough, I guess.

After the stint as an observer I taught at the Orange County Marine Institute for three years. So I got to spend a lot of time on the water trawling, doing plankton tows and benthic grabs, water quality sampling, whale watching; teaching kids to be little marine biologists.

After this I finally got a "real job" working for MEC Analytical Systems, Inc. in Carlsbad. I worked there for six years, working my way from bioassay technician to laboratory manager to project manager in the toxicology department. I was also one of their research divers. It's here that I developed my love for the toxicology field, which eventually led to my desire to go back to school to get a PhD in Environmental Toxicology. I'm currently starting my second year at UC Riverside working with Dan Schlenk studying endocrine disruption in fish, specifically vitellogenin induction and sex reversal in flatfish. And while my French has gotten rusty over the past few years, I'm happy with the career I finally chose.



Meet the Board –Round II

Ken Schiff

Southern California Coastal Water Research Project



Work Rules

In my office at the Southern California Coastal Water Research Project, right above my desk, I have a list of 10 work rules. I read them frequently, just to remind myself of what's important. When I refer to one of them during a conversation, I always get a response that goes something like, "I noticed those and wondered what they were about". I figured one good way to get to know me is to go through them and tell you a story about how they came to be. As you'll soon see, they give you some insight into what I'm all about.

- 1) Give thanks for your blessings everyday.

In my keepsakes box at home, I have a 4th grade school assignment entitled "What I want to be when I grow up". There, in my newly learned handwriting, it says "Oceanographer" (what we used to call marine biologists long ago). Just the fact that I work at the job of my childhood dreams is a reason to skip to work everyday.

- 2) Health and family first.

Finding balance with work helps me keep perspective. Anybody that has been to my office knows that my family is my number one priority. Plastered across my file cabinets is my magnetic photo gallery, filled with highlights of our family memories. Thankfully, I've always been pretty healthy, so I started a new program about a year ago. It not only makes me feel good, but it

makes all the other parts of my life fit together. Since May I will have run four races including a half marathon and a triathlon.

- 3) Be fair and honest in all your dealings.

My father-in-law taught me this rule. He was a guy who started his own business and grew it up into a large company with dozens of employees covering several states. I was talking to some of his work friends and they all said that he was tough, but was always honest and never oversold his worth. In the end, I think he got more business because of his honesty. Hundreds of people showed up to his funeral, many of them his business competitors.

- 4) Be true to yourself

I was a new, young Lab Director and my collaborator was an older, more experienced scientist from a big name school and he wanted his way. I succumbed, even though I didn't think he was right. As I started to leave, I realized I couldn't represent myself or our science in the way that he wanted without losing my integrity. I marched back into his office and gave him two choices, maintain our character or dissolve the partnership. Stick to what you know to be true and you'll rarely go wrong.

- 5) Work hard so you can take pride in all you do.

I've seen far too many people try to skate by doing the minimum, a skill I perfected in my undergraduate days. This realization slapped me in the face on my last day of school at San Diego State. I had spent more time windsurfing than studying and my statistics professor said matter-of-factly as he handed me my grade, "you did well, but you could have done better". That stuck with me throughout graduate school at Cal State Long Beach, where I graduated with honors and saw my mom cry during my hooding ceremony. What I've learned in my experience is that the things you remember, the projects you are most proud of, are the ones that you toiled, sweated and poured your last ounce of energy into.

- 6) You never know when your actions will affect someone else, take the time to be compassionate.

I'm sure everyone has a story of a person who has affected their life, so here's one story of compassion that happened on my first day of work. I had moved my entire family from San Diego three days earlier to be

closer to my new job in Orange County. My one year-old son had not been feeling well, but I was excited and anxious, so I left early for work and my wife took him to our previous doctor over an hour away. I got the phone call about 9:30 that morning, as he was being admitted to the hospital. I walked into my new supervisor's office and said, "dock my pay, fire me if you have to, but I'm leaving". Without hesitation, my new supervisor said, "go, do what you need to do, and we'll worry about all the little stuff later". She is a living example of this rule.

- 7) Before you accuse another, examine your own motivations.

It's easy to get irate, especially at the office. Accusations fly when times get tough and work gossip is relentless. I learned this rule when I let my own lips get too loose about another employee. I felt she was unfair and closed-minded. As I drove home that day, I heard Eric Clapton preaching to me through the radio, "before you accuse me, take a look at yourself". How right he was! My actions were just as despicable. Oftentimes, we dislike others because they mirror the things we dislike about ourselves.

- 8) Keep your promises. If you're not able to keep your promise, make sure you tell the person – before the deadline.

Everyone I talk to is so busy nowadays that it seems they have more to do than they can ever hope to accomplish. Keeping promises is harder than ever, but it's critically important to honor your commitments. I've also been in the situation when I can't honor my commitments. And you know what, most people are understanding, but only when you approach them with your problem ahead of time. By being proactive, you demonstrate not only your remorse, but that you honor the impact it will have on them. They can then make the necessary changes to their schedules and honor the commitments they have made.

- 9) Serve as a role model to others; this will keep you in their minds after you're gone.

Dr. Donald Reish was my graduate advisor and is the epitome of a role model for scientists. We recently had a "Reish-ite reunion" after a scientific conference where an all day symposium in his honor had been held. Dozens of his academic offspring came from all over the country, many of whom I had never met, but heard of through our lunchtime stories around the cribbage board.

Although I've told him many times, I still don't think he knows the magnitude of the positive impact he's had on my life.

- 10) Stay organized or your mess will result in other people's emergencies.

How many people know this rule from the reverse! I've put out so many fires caused by others I should drive a red truck and have a Dalmatian. I keep this rule because of a previous supervisor who was habitually disorganized. I can't count the number of late nights I spent cleaning up her messes, which were almost always preventable.

If you haven't noticed it yet, my work rules are really life rules. They're rules to live by and it's funny that I even need to hang them up to remind me. Every once in awhile though, I get reminded that work, like life, is all about the relationships you build. It's how you treat others that's an even more important legacy than the number of publications on your resume.



CALENDAR OF EVENTS

Contributed by Daniel Schlenk

November 2004 Meetings

SRA EA/ KOSET / SETAC AP Joint Conference on Risk Assessment and Management, 4 - 6 November 2004, SK Telecom Center, Ewha Womans University (Seoul, Korea). Theme: "Sharing Experience of Human and Ecological Risk Science and Management in Asia/Pacific Region". <http://www.koset.org>
<http://www.setac.org/asiapacific.html> or

Fourth SETAC World Congress "SETAC: 25 Years of Interdisciplinary Science Serving Global Society" 14-18 November 2004. The meeting will recognize more than 2 decades of SETAC members' contribution to environmental science, including landmark research on endocrine disruption, environmental impacts of metals, persistent organic pollutants (POPs) and more. <http://www.setac.org>

December 2004 Meetings

Ecological Risk Assessment Methods for Arid Environments A continuing education workshop and field trip to be held in conjunction with the **Society for Risk Analysis Annual Meeting** 8:00 am - 5:00 pm; Sunday, 5 December 2004 Wyndham Hotel & Resort, Palm Springs, California.
http://www.neptuneandco.com/eecai_sra.htm.

Other 2005 Meetings

1st International Conference on Engineering for Waste Treatment: Beneficial Use of Waste and by-Products, 17-19 May 2005, Albi, France. ABSTRACT DEADLINE IS 15 SEPTEMBER 2004.
www.enstimac.fr/heberges/wasteeng2005/

SOT 44th Annual Meeting. New Orleans, Louisiana, USA. Sponsored by the Society of Toxicology (SOT). ABSTRACT DEADLINE is October 3, 2004
www.toxicology.org

SETAC Europe 15th Annual Meeting, May 22-26 2005 in Lille, France. "The Raison d'Être of environmental toxicology and chemistry".
www.setac.org

4th International Conference on Hormesis: implications for toxicology, medicine and risk assessment
 June 6-8, 2005
 University of Massachusetts at Amherst
www.belleonline.com
 Deadline for Abstract Submissions is
 DECEMBER 3, 2004

RESOURCES FOR TEACHERS

Contributed by Lan Wiborg

The Recycle City Web site is a project of the U.S. Environmental Protection Agency's Region 9 office in San Francisco. It was brought to life on Earth Day 1997 and now includes the "Dumptown" game and activities which promote environmental awareness and impart important lessons on recycling.

About the game: As Dumptown's new City



Manager you'll see Dumptown at its worst — it's littered, polluted, and nothing is being recycled or reused. There are many trash cans and dumpsters, but no recycling bins. That means all of the trash is going right into the landfill just outside town, where it isn't doing anyone any good. However, you can start programs that encourage Dumptown's citizens and businesses to recycle and reduce waste.

You have 10 programs to work with. Each time you try out a new one, you can see immediately how the Dumptown landscape changes. You also see how much waste you are saving from going into the landfill. Oh, and because the people of Dumptown are paying for these programs, we've given you a way to keep track of how much money you're spending on their behalf. (That way, you won't lose your job by going too far over budget.)

If you haven't looked around Dumptown yet, do it now before you start the game. Then, roll up your sleeves and get to work turning Dumptown into Recycle City!

<http://www.epa.gov/recyclecity/mainmap.htm>

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We're proud to announce the
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FREE Generic Job Announcements and INEXPENSIVE Commercial Advertisements/ Announcements are being accepted for future issues of SoCal SETAC News

Free job postings are limited to 5 lines at publication width (3.25 in., 10 point, Times New Roman font) and are subject to edit as needed to format the newsletter. Job announcements beyond the 5-line limit described or including logos can be purchased at the commercial rates. Per issue ad rates are:

Full Page: \$100

Half Page: \$75

Quarter Page: \$50

Eighth Page: \$35

Please send camera-ready advertisements or job listings to Dan Schlenk (Daniel.Schlenk@ucr.edu) for inclusion in the next issue of SoCal SETAC News.



SoCal SETAC Officers – Fiscal Year 2004-2005

POSITION	NAME & AFFILIATION	RESPONSIBILITIES
Past President	Philip Markle L.A. County Sanitation Districts pmarkle@lacsds.org	Advisor/Stand-in for President and Vice-President Program Committee Chair for SoCal SETAC Annual Meeting
President	Lan Wiborg City of San Diego LWiborg@sandiego.gov	National SETAC Liaison Board Agenda & Action Items
Vice-President	Daniel Schlenk UC Riverside daniel.schlenk@ucr.edu	Newsletter Editor
Treasurer	Carlita Barton L.A. County Sanitation Districts cbarton@lacsds.org	Maintain Chapter Finances/Non-profit status Meeting Finances & Contracts
Secretary	Brian Hester MEC Analytical hester@mecanalytical.com	Membership Maintenance Recording board meeting minutes Election Coordinator
Webmasters	Jon Ball City of Los Angeles jball@san.lacity.org	Maintains and updates SoCal SETAC web site
Historian	Jeff Armstrong Orange County Sanitation District jarmstrong@ocsd.com	Maintains So Cal SETAC archives

SoCal SETAC Board of Directors

Board Member (2003-2005)	Jan Gan UC Riverside jgan@mail.ucr.edu	Board Member (2004-2006)	Mary Ann Irwin UC Riverside mirwi002@student.ucr.edu
Board Member (2004-2006)	Howard Bailey AMEC Earth and Environmental howard.bailey@amec.com	Board Member (2004-2006)	Chris Marwood UC Santa Barbara marwood@bren.ucsb.edu
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