



SoCal SETAC NEWS

Society Of Environmental Toxicology and Chemistry
Southern California Chapter

Volume 9, Issue 2

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June 2002

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President's Corner...

KAT PRICKETT
SoCAL SETAC PRESIDENT

It looks like summer is upon us. Semesters are wrapping up, its still light outside when Jeopardy comes on the TV, June-gloom is in full force, and planning for the SoCal SETAC Annual Meeting is well underway. This year's meeting will be held on the campus of UC Riverside, Friday and Saturday, July 12-13. Board members, coordinated by Joe Gully, have put together a wonderful program. We will be offering SETAC NA's TIE WET course Friday, July 12. Instructors will include a number of talented folks from around the country and the state. This is a great opportunity to take this course, especially for folks who don't often get to the national meeting. Our plenary session, *Pharmaceuticals in the Environment*, will provide an overview of the issue, the chemistry involved, the biological effects, potential remedial options, and a regulatory perspective on this very topical issue.

Of course, there will also be the host of contributed papers from you, the members! Papers on any topic of environmental science can be submitted for poster or platform presentation. We will continue our tradition of awarding funds (\$200) to the best student poster. Each student will be given 5 minutes to present his or her research to the group. This year the poster session will be held Saturday during the lunch break (lunch will be provided to all attendees). Look for the second call for abstracts and the registration packet that is included in this issue of the newsletter.

Please also take the time to read through the biographies of this year's Board nominees, included in this issue. We will be sending out ballots shortly by email, and I ask that each of you take the time to vote. It's easy, fast, and fun (well, two out of three, anyway). Newly elected Board members will take office July 1 and will be introduced at the annual meeting.

July 1 will also mean I will be passing the baton on to Steve Bay, our current Vice President, and I will be relieving Joe Gully from his Past President duties. I would like to take some time in my last President's Corner to thank all the Board members for their hard work and support of the chapter this past year. Joe has been a fixture on the Board since before I joined it and has played a large roll in nurturing this chapter into the success it is today. Thanks Joe for all your hard work, dedication, and perspective. We'll miss you at the Board meetings. We will also miss the other Board members who are rotating off the board, Jerry McGowen, Chris Stransky, Tim Mikel, and Dan Schlenk, although you never know who we may see back again through elections or "enforcement" to become an officer. Next issue, the President's Corner will be coming to you from the capable hands of Steve Bay – don't worry Steve, as you know, with all the talented folks currently on the Board and those who will join us in July, all you'll have to worry about is writing this article.

MEET THE BOARD

***Fabienne Reisen, University of
California, Riverside***

I was born in Luxembourg City, Luxembourg (no, this is not in Germany). Luxembourg is a beautiful landlocked country located in the center of Europe between Belgium, France and Germany. It has a population of about 440,000 people and is the smallest of the European Union member states (slightly smaller than Rhode Island). Due to the location of Luxembourg, I can fluently speak four languages (Luxembourgish, French, German, and English). By the time I leave California, I hope to be able to speak Spanish fluently.

I lived in my home country until the age of 18, which is when I graduated from high school and left for college. In fact, Luxembourg does not have a university, so most high school graduates move to neighboring countries to obtain their undergraduate degree. My choice was l' *Ecole Polytechnique Fédérale de Lausanne* in Switzerland, because the university offered an excellent engineering program and the city of Lausanne is very attractive. The completion of my degree in environmental engineering included a practical diploma work, which I did at the Department of Environmental Engineering Sciences at the University of Florida, Gainesville. I worked with Dr Gabriel Bitton on the application of enzymatic assays in the determination of heavy metal toxicity. During the three months spent

(continued on next page)

Meet the board (continued from previous page)

in his laboratory, I developed a research project as well as gained insight into graduate studies in the United States. It was then that I decided to pursue a graduate degree.

After my graduation from engineering school, and while working on my applications for graduate school, I completed an internship at the Public Research Center in Luxembourg, where I participated in the study of the zooplankton in the lake of Esch-sur-Sûre, Luxembourg. During that summer I also did an internship as a research assistant at an environmental consulting firm, where I learned of a Masters degree in Environmental Impact Assessment and Management. Since I had a year to go before starting graduate school, I decided to go to Manchester, UK to pursue a one-year taught Master course.



My thesis explored the use of strategic environmental assessment in the redevelopment process of contaminated land, through a case study of the waterfronts of Liverpool.

Currently, I am a Ph.D. student in Environmental Toxicology at the University of California, Riverside. Under the guidance of my advisor Dr. Janet Arey, I am researching the atmospheric reaction products of volatilized diesel fuel and their potential health effects.

Throughout my education, I had the opportunity to work as an engineer, a manager and a scientist in various places. Not only did I have the opportunity to live in different countries; I have been able to travel to many places in Europe, North and Central America. I also enjoy swimming, hiking and playing the guitar in my free time. One of my specialties is that I can make some amazing and exotic European deserts.

BOARD MEETING MINUTES MARCH 2002

Contributed by Karen Riveles

On March 12, 2002, a SoCal SETAC Officer and Board of Directors meeting were held at SCCWRP in Westminster, CA. Lan Wiborg presented the Treasurer's Report of the chapter's financial activities. We continue to spend \$20/month on the Prodigy Internet service for our website and our domain name has been renewed for another five years. The non-profit application process is still underway, and currently the organization has no tax liability, and the exempt status application is being completed.

Karen Riveles continued with the Secretary's Report updating everyone on the current membership statistics: current members 86, 1 year back 33, and 2+ year back 34. We have received four membership renewals by mail since the last board meeting. We received five memberships from SETAC National to the SoCal Chapter, four were renewals and one was a new member.

Plans for the SoCal SETAC 2002 Annual Meeting were discussed. The location of this year's meeting will be at the University of California Riverside. The dates for the Annual Meeting this year will be Friday July 12th and Saturday July 13th. We worked on a tentative schedule of events with the short course being held on Friday the 12th and the rest of the meeting including a poster session would be on Saturday the 13th.

We discussed possible topics for the short course, plenary session, and platform sessions during the meeting. Some topics that

were discussed include: TIE/TRE, SWAMP, Bight '98, Inland Empire session, water monitoring, pharmaceuticals in the environment, and TMDLs. We will try to identify speakers in these areas that we can invite to fill the sessions, as well as consider submitted papers in these areas.

On June 8th a Short Course at the Southern California Academy of Science (SCAS) Meeting will be offered by Steve Bay and Michelle Anghera. The course will be on how to do Sea Urchin Toxicity Testing. The course will be advertised by SCAS. It will be a 4-hour course geared toward students and faculty. It will include a hands-on portion and application of tests (research/data). The class will be limited to first 20 people who register.

We will also be setting up a table promoting SoCal SETAC at the SCAS meeting. Jeff Armstrong is taking the lead on this effort. We will need **Volunteers** to staff the table. We will hand out business cards, candy, and possibly have another raffle of Long Beach Aquarium tickets.

The upcoming Board and Officers election was our next topic. A general election for new or re-elected board members will take place in May. The nominations are due by May 3rd and will be listed in the May Newsletter. The election will be run via email and open to all current members. Nominations should be sent to Karen via email along with a short biography.

The NEXT SoCal SETAC Board Meeting will be on May 29, 2002 in Los Angeles at Gerry's work. If you are interested in attending please contact Gerry McGowen or another current board member.

NOMINEES FOR SOCAL SETAC BOARD ELECTIONS 2002

SoCal SETAC would like to present the following nominees for the SoCal SETAC Board Election that will take place via email within the next few weeks. Each nominee has written a brief biography. All current members are eligible to vote in the election. Please look for the ballot in your email and take a brief minute to vote. Thank you, Karen Riveles

Nominee # 1. Paul R. Krause
Affiliation: BBL Sciences
Sector: PRIVATE

Paul received his Bachelors degree at Cal State Long Beach in 1984 in the field of marine biology. He went on to finish a Masters degree at Long Beach in 1987 where he looked at the importation rates of trace metals to southern California rocky reefs through the actions of reef fishes. Following a brief stint as a water quality biologist for Orange County, he went to UC Santa Barbara and received his Ph.D. degree in 1993. Paul's field of study was ecological toxicology. His dissertation was centered around the effects of oil production effluents on marine invertebrate reproduction. After graduation he spent time in Texas on a National Academy of Science fellowship before joining MEC Analytical Systems, Inc. in Northern California where he was the laboratory director of a large bioassay laboratory. He recently joined ARCASIS-JSA and is currently the Western Regional Coordinator for the Risk and Associated Services group. Paul is the National Sediment Quality Leader for ARCADIS and supports sediment studies worldwide. Throughout his experience Paul has received several awards for his scientific achievements and has published and presented original research on many topics.

Nominee # 2. Jonathan Ball
Affiliation: City of LA, Env. Mon. Div.
Sector: PUBLIC

I earned my B.S. in Biology from Westmont College (Santa Barbara, CA) in 1995. After a short break from academia, I went to San Diego State University to pursue a Master's degree in Ecology. For my thesis I studied the life history of the intertidal chiton, *Stenoplax conspicua*. I used mark-and-recapture methods in conjunction with size-frequency data to investigate parameters such as growth, survival, and fecundity. Meanwhile, as I was polishing up the details of my thesis, I worked as a student intern for the City of San Diego's Ocean Monitoring program. It was here that I was first exposed to Whole Effluent Toxicity (WET) testing. After finishing my thesis I moved to Los Angeles, where I began working for the LA County Sanitation Districts as a lab technician. I was thoroughly trained in a variety of EPA WET protocols and I was introduced to many of the issues surrounding NPDES permit requirements. Last year, I accepted a position as Water Biologist for the City of Los Angeles where I have continued my work in toxicity testing. Lately, I have been working with other staff at the City to develop methods for a Toxicity Identification Evaluation (TIE) using the algal species *Selenastrum*. Outside of work, my interests include surfing, wood-working, and strumming the guitar.

Nominee # 3 Dr. Daniel Schlenk
Affiliation: U.C. Riverside
Sector: Academic

A summary of Dan Schlenk's qualifications are: Member of SETAC from 1992-present Founding Board Member and Secretary/Treasurer Mid-South SETAC 1995-1996; Vice President 1996-1997; President 1998-1999; Member SETAC Education Committee 1998-present; Member SETAC Organizing Committee for Nashville 2000; Platform Session Co-chair. He holds a BS in Toxicology from Univ. of Louisiana, Monroe 1984; and a PhD in Biochemical Toxicology from Oregon State Univ. 1989. He was a Postdoctoral Fellow at Duke University 1989-1991. Dan currently is a Professor of Aquatic Ecotoxicology at the University of California, Riverside. Dan has been a Board member on the SoCal SETAC Board for almost two years and is seeking re-election.

Only one student position is open on the Board and we have two nominees. Members will be asked to vote for one of the following student nominees:

Nominee # 4. Carlita Matias-Barton
Affiliation: University of San Francisco
Sector: STUDENT

Carlita Matias Barton is currently a graduate student at the University of San Francisco's Environmental Management Master's Program. She received her BS from the University of California, Riverside in Environmental Science and works at the Los Angeles County Sanitation Districts in the Biology Water Quality Laboratory.

Nominee # 5. Shelly Magier
Affiliation: Bren School of Environmental Science and Management
Sector: STUDENT

My informal education began at a very young age in the rocky intertidal of the central coast. Those experiences later took the shape of a B.A. in Biology and Environmental Science from Bowdoin College in Brunswick Maine. I am currently working towards a MESH from the Donald Bren School of Environmental Science and Management at the University of California at Santa Barbara. Before attending Bowdoin College I completed a high school senior project entitled "The effects of pulp mill effluent on sea urchin embryos". After college I was employed at Heal the Bay, a Santa Monica based non-profit. There I became more familiar with Southern California water quality issues. While most of my time was spent taking care of my responsibilities as executive assistant, I had the opportunity to coauthor a proposal for a volunteer pesticide monitoring program that is being implemented in the Malibu Creek watershed. Little did I know that those who proved to be invaluable resources during the course of my high school project, such as Steve Bay, would be the same people that I would be turning to five years later during my research on organophosphate toxicity. Currently I am the project manager of a year-long group project tasked with working towards an implementation plan for the San Francisco Bay PCB TMDL. As my experience suggests, marine environments captivate me. I am fulfilled as long as I am immersed in these fascinating worlds.

Evaluation of the Partial Phase-out of Diazinon and Chlorpyrifos: Newport Bay as a Case Study

By Lee Harrison, Meighan Jackson, Giles Pettifor, Linda Purpus, Jot Splenda, Sarah White, Jim Frew and Arturo Keller
Bren School of Environmental Science and Management, UC Santa Barbara

Diazinon and Chlorpyrifos are two organophosphate (OP) pesticides that contribute significantly to aquatic toxicity in many Southern California freshwater and saltwater environments, and in particular have been identified as important sources of toxicity in Newport Bay (Lee and Taylor, 1999, 2001, SA RWQCB, 2001). In 1993 Orange County completed the "Newport Bay Watershed Toxicity Study," commissioned by the Regional Water Quality Control Board (RWQCB), which found that heavy metals were not the main causes of toxicity as initially expected. The Toxicity Identification Evaluation (TIE) section of the study identified Diazinon and Chlorpyrifos as responsible for approximately 50% of the toxicity in Newport Bay and San Diego Creek (SA RWQCB, 2001).

For this reason, in January 2001, the EPA released a revised risk assessment and an agreement with registered users to phase-out most of the Diazinon uses (USEPA, 2001). Under the agreement, all indoor uses will be terminated, and all outdoor non-agricultural uses will be phased out over the next few years. Retail sales will be banned after December 31, 2002. The EPA expects that these actions will reduce the current residential Diazinon loading from residential users by approximately 75% of current conditions. Additionally 1/3 of agricultural uses of Diazinon will be eliminated. The EPA has also decided to restrict the residential use of Chlorpyrifos by the public because of its potential cumulative toxicity to humans, especially children. The usage of Chlorpyrifos has been restricted as of June 2000, by an agreement between registered users and the EPA. While over-the-counter sales will be restricted, use of Chlorpyrifos for non-structural wood treatment and fire ant eradication will continue by professional users. The EPA has estimated that the phase-out will reduce current concentrations by approximately 50% (USEPA, 2000). These estimates incorporate assumptions of residual uses.

However, there could be a significant OP pesticide load from the remaining uses, which might still be high enough to be of concern in many watersheds. Our analysis focused on Newport Bay due to the availability of data and the documented toxicity due to these widely used pesticides. As Tables 1 and 2 indicate, the use of Diazinon and Chlorpyrifos in Newport Bay had been increasing over the last few years, and although non-permitted residential uses are the major load, the potential load from uses that will not be phased out could be significant, resulting in some uncertainty with regards to the effectiveness of the phase out.

Table 1. Diazinon Use in Newport Bay (lb active ingredient).

Use	1995	1996	1997	1998	1999
Structural	3,493	2,809	3,778	4,615	4,417
Nursery	207	167.8	160.6	242	229
Agriculture	401	149.2	273	173	85.8
Landscape	206	152.4	119	122.4	157.8
Other non-residential	1.96	9.24	0.32	0.34	1.06
Residential (est.)	4,787	3,843	5,042	6,129	5,919
Total	9,096	7,131	9,373	11,282	10,810

Source: CDPR (1999) database.

Table 2. Chlorpyrifos Use in Newport Bay (lb active ingredient).

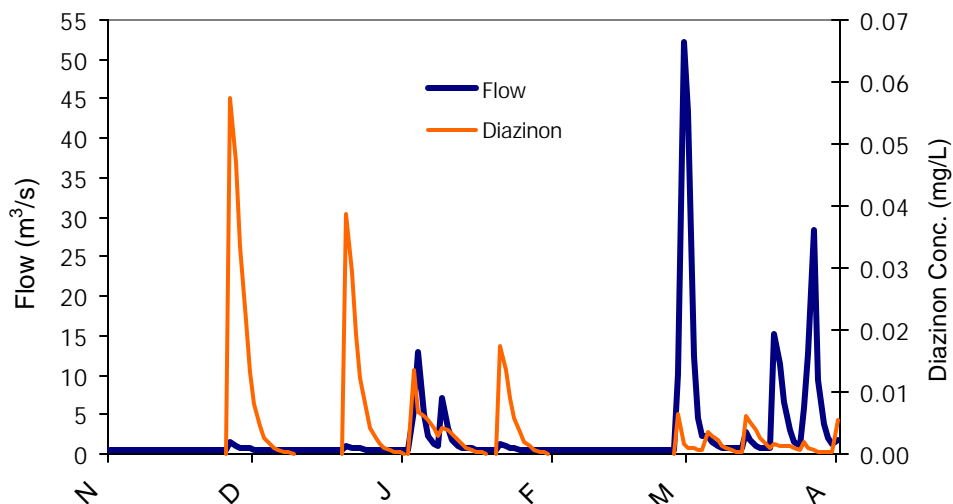
Use	1995	1996	1997	1998	1999
Structural	7,653	14,435	13,973	17,797	14,981
Nursery	130.4	154.4	194.2	198.8	583
Agriculture	283	190.4	290	129	226
Landscape	289	246	275	216	201
Other non-residential	1.4	53.7	0.32	0.32	7.06
Residential (est.)	4,333	8,037	7,772	9,826	8,285
Total	12,689	23,116	22,504	28,167	24,283

Source: Based on CDPR (1999) database

To determine the effectiveness of the phase-out, we implemented two watershed-scale biogeochemical models (HSPF/BASINS and WARMF). These models also allowed us to evaluate a number of potential Best Management Practices (BMPs), to determine their overall effect on OP pesticide load reduction to Newport Bay. The models consider the applicable fate and transport process for the pesticides. Given their physicochemical properties, it became clear that it would be very important to model sediment transport from the land uses where the pesticides are applied to the receiving water bodies, particularly for Chlorpyrifos, which is mostly transported sorbed onto sediment particles.

These models consider landuse, topography, soils, surface perviousness, meteorology, pollutant loading, surface and ground water transport, atmospheric deposition, degradation and other processes. The Newport Bay watershed is rather urbanized (Figure 1), which results in a significant export loading from the landuse surface to the receiving waterbodies. The reduced infiltration of rainfall results in punctuated pulses of stormwater to the creeks in the watershed. The first flush effect is significant, since a significant fraction of the loading is during periods of little or no rain (Figures 2 and 3), allowing for accumulation of the OP pesticides on the land surfaces. Thus, the models have to be able to simulate variable loading over time, and consider the antecedent conditions before the major storm events.

Figure 3. Predicted water flow and Diazinon concentrations in Lower San Diego Creek from November to April



Our watershed modeling analysis indicates that even after the partial phase-out Diazinon would persist in all stormflow events in exceedance of the numeric criteria for aquatic toxicity, while Chlorpyrifos concentrations would mostly fall within the generally accepted criteria for aquatic toxicity. These results would be valid during a range of climatic scenarios, including very wet years and drier years. An important conclusion to be drawn from these model simulations is that the phase-out will be more effective at reducing the number of days above the criteria for Chlorpyrifos than Diazinon during storm flow events. Additionally, we determined that a complete reduction in urban Diazinon uses is necessary, and possibly reduce further agricultural use, to maintain the concentrations of Diazinon in Newport Bay below criteria levels.

The analysis of BMPs indicates that infiltration basins in conjunction with supplemental public education programs would be the most cost-effective solution to reducing OP pesticide-related toxicity. A preliminary estimate indicates that between \$16-\$34 million dollars would be required to implement the necessary number of infiltration basins to bring the concentrations of these OP pesticides below criteria levels. In addition, street sweeping could also be used as a means of removing particles from streets in anticipation of the first flush event in the Fall, at fairly low capital and operating cost. In order to maintain and restore the ecological integrity of the Bay, we also recommend further usage restrictions on both pesticides throughout the watershed.

These results provide scientific support for decision-making stakeholder groups interested in restoring and enhancing the beneficial uses of Newport Bay. Given the uncertainty surrounding the effectiveness of the pesticide phase-out and projected future concentrations, our project provided means to make practical management decisions based on the best available scientific and economic data. For additional information, visit

http://www.bren.ucsb.edu/research/2002Group_Projects/Newport/newport_final.pdf

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Southern California Society of Environmental Toxicology and Chemistry

2002 Annual Meeting

July 12-13, 2002 – University of California, Riverside
Riverside, CA 92521

The Southern California Society of Environmental Toxicology and Chemistry (SoCal SETAC) 2002 Annual Meeting will be held on the campus of UC Riverside on July 12-13. On July 12th, we are offering a **short course on toxicity identification/reduction evaluations** which has been taught at the SETAC North America meeting for several years, but has never been offered on the West Coast. The next day will begin with a **plenary session focused on the presence, risk, and management of pharmaceuticals in the environment**. After the plenary, the poster session will begin with a buffet luncheon served to all registered attendees followed by the student poster presentations. **The best student poster presentation will be awarded \$200, but every student presenter will receive a free 2002-2003 SoCal SETAC membership.** The meeting will conclude with several platform and poster sessions related to environmental toxicology and chemistry.

Meeting details and registration information is available at www.socalsetac.org
Abstract deadline: June 24, 2002

Program Highlights

Friday, July 13

Toxicity Identification/Reduction Evaluation (TIE/TRE) Short Course

The primary objective of this course is to provide a level of awareness of toxicity identification evaluation/ toxicity reduction evaluation (TIE/TRE) procedures to regulators, permittees, and other environmental services professionals. Topics covered include: related permitting issues, TIE/TRE procedures including characterization, identification and confirmation approaches, toxicity treatment evaluations, and case examples of different types of TIE/TREs.

Pre-registration deadline: July 3, 2002

Instructors:

Wayne McCulloch, EA Engineering, Science & Technology, Sparks, MD
Greg Smith, Great Lake Environmental Center, Columbus, OH
Doug Drury, Inland Empire Utilities Agency, Fontana, CA
Bryn Phillips, University of California-Davis, Marine Pollution Studies Laboratory, CA
Karen Larsen, Central Valley Regional Water Quality Control Board, CA

Saturday, July 14

Pharmaceuticals and Personal Care Products in the Environment Plenary

Invited Speakers:	Dr. Daniel Schlenk (UC Riverside):	<i>What is the problem?</i>
	Dr. Steve Goodbred (USGS):	<i>What is out there?</i>
	Mr. James Gray (UC Berkeley):	<i>Fate of estrogenic hormones in constructed wetlands</i>
	Mr. Chris Daughton (USEPA, Las Vegas):	<i>Remediation strategies</i>

Poster Social - Free lunch

Platform Sessions on a Variety of Environmental Issues

CALENDAR OF EVENTS

Contributed by Dan Schlenk

JUNE 2002

Beryllium Research Symposium: Basic Mechanisms and Human Health

25 - 26 June, Bethesda, Maryland

<http://www.ornl.gov/meetings/beryllium/index.html>

JULY 2002

5th International Conference on Arsenic Exposure & Health Effects

14 - 18 July, San Diego California

<http://www.cudenver.edu/as2002>

Third Australian Conference on Life-Cycle Assessment: Life-Cycle Decision Making for Sustainability

17-19 July, Gold Coast, Queensland, Australia

<http://www.environment.gov.au/ssg/symposium/index.html>

To request information symposium@eriss.erin.gov.au or Symposium Secretariat, GPO Box 461, Darwin, NT 0801, Australia. For coordination within the U.S., contact Stephen Domotor, U.S. Department of Energy (Stephen.Domotor@eh.doe.gov; 202-586-0871)

SEPTEMBER 2002

4th European Computational Chemistry Conference (EUCC4)

1 - 6 September, Assisi, Italy

Details on the conference venue, deadlines, proceedings and fees are available on the Web site: <http://www.chm.unipg.it/chimgen/mb/cong/EUCC4/index.html>

6th International Nickel Conference on Ecologic, Toxicologic and Human Health Issues Associated with the Mining, Refining and Production of Nickel and Companion Elements

1 - 6 September, Murmansk, Kola Peninsula, Russia

Information is available on the web at

<http://www.nickelconf.narod.ru>

SEGH 2002 - Heavy Metal contamination and the Quality of Life

4 - 6 September, Debrecen, Hungary. Further information can be found on the following website: www.date.hu/rendez/segh2002

British Toxicology Society Autumn Meeting

8 - 10 September, Manchester, UK. Program details are at www.thebts.org

16th International Symposium, Environmental Informatics

25 - 27 September, Vienna, Austria. See <http://enviroinfo.isep.at>



16-20 November 2002

*“Achieving Global Environmental Quality:
Integrating Science & Management”*

The role of science in establishing management objectives and environmental program strategies has never been more important than it is in today's global society. Many of the proposed sessions and special symposia will reflect this theme, and additional technical sessions will address emerging environmental issues, environmental assessment strategies and methods, and other facets of environmental chemistry and toxicology.

The meeting will start and end a day earlier than in past years — short courses and the opening Reception will be on Saturday and the meeting will end on Wednesday. This will hopefully reduce participants' costs by taking advantage of “Saturday night stay” airline fare reductions.

Special Symposia

- Global Environmental Changes
- Endocrine Disruptors: Policy, Science, and Issues
- Public Concerns: Role of Science & Science Education
- Environmental Chemistry in Ecological Assessments
- Advances in Regional & Coastal Ecological Assessments
- Biological & Chemical Terrorism
- Control of Invasive/Exotic Species

Check www.setac.org for more information

OCTOBER

ECOTOX 2002 - SETAC Latin America 5th Annual Meeting

5 - 9 October, Vitoria, Brazil. Ecotoxicologia e os Novos Desafios no Monitoramento Ambiental. For more information contact Ricardo Mastroti at rrm@aracruz.com.br or see <http://www.ecosistemas.org.br/ecotox/>

NOVEMBER

SETAC North America 23rd Annual Meeting

16 - 20 November, Salt Lake City, Utah, USA. Achieving Global Environmental Quality: Integrating Science & Management

THIS SPACE FOR RENT

CHEAP !!!

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 Steve Bay at steveb@sccwrp.org for inclusion in the next issue of SoCal SETAC News.

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- geology/hydrogeology
- environmental risk management
- forensic chemistry
- natural resource damage assessments, including environmental economics
- aquatic resources
- restoration ecology
- environmental compliance

the Team... the Tools... the Results

ENTRIX

SoCal SETAC Officers and Board of Directors – Fiscal Year 2001-2002

POSITION	NAME & AFFILIATION	RESPONSIBILITIES
Past President	Joe Gully L.A. County Sanitation Districts jgully@lacsdc.org	Advisor/Stand-in for President and Vice-President. Program Committee Chair for SoCal SETAC Annual Meeting
President	Kat Prickett Arcadis JSA kprickett@jsae.com	National SETAC Liaison Board Agenda & Action Items
Vice-President	Steve Bay SCCWRP steveb@sccwrp.org	Newsletter Editor
Treasurer	Lan Wiborg City of San Diego, MWWD L7W@sdcity.sannet.gov	Membership Maintenance Meeting Finances & Contracts Non-Profit Application
Secretary	Karen Riveles UC Riverside karenriv@aol.com	ElectionCoordinator
Board Member (Academic)	Daniel Schlenk UC Riverside Daniel.schlenk@ucr.edu	
Board Member (Private)	Tim Mikel Aquatic Bioassay and Consulting tmikel@pacbell.net	
Board Member (Public)	Gerald McGowen City of Los Angeles, EMD gem@san.ci.la.ca.us	
Board Member (Student)	Fabienne Reisen UC Riverside fabienne_reisen@hotmail.com	
Board Member (Academic)	Arturo Keller UC Santa Barbara keller@bren.ucsb.edu	
Board Member (Private)	Michelle Anghera UC Los Angeles angheras@email.msn.com	
Board Member (Public)	Jeff Armstrong Orange County Sanitation District jarmstrong@ocsd.com	

Membership Reminder

It's time to renew your SoCal SETAC membership!!!

Membership fees for 2002 are now due (all memberships were due for renewal on July 1, 2001). The membership term has been changed to the calendar year (Jan. 1 – Dec. 31); renewals received before the end of 2001 will be valid until December 31 2002.

Please fill out a membership form (found both in this newsletter and on the website) so we can update your contact information. Send the form and your check made out to SoCal SETAC to:

Karen Riveles
SoCal SETAC Secretary
P.O. Box 655
Riverside, CA. 92502

If you have any questions regarding your membership status, you can email Karen at karenriv@aol.com

If you attended the annual meeting, your membership was automatically renewed through December 31 2002.

**SOCIETY OF ENVIRONMENTAL TOXICOLOGY AND CHEMISTRY
SOUTHERN CALIFORNIA CHAPTER
2000-2001 APPLICATION FOR MEMBERSHIP**

Please send application and payment (checks payable to Southern California SETAC) to SoCal SETAC, c/o Karen Riveles, P.O. Box 655, Riverside, CA. 92502. Please do not send cash.

Name _____ Affiliation _____
Address _____ City _____ State _____ Zip _____
Phone No.: _____ FAX No.: _____ E-Mail* _____

*E-Mail address required to receive newsletter.

Category of Employer: (Please check one that applies)

Government _____ Industry/Business _____ Academic _____
Student _____ Consultant _____ Other _____

Technical Background: (Please check one that applies)

Atmospheric Science _____ Engineering _____
Biology _____ Health Science _____
Chemistry _____ Toxicology _____
Earth Science _____
Ecology _____ Other _____

Degree(s) earned: ___ B.A./B.S. ___ M.A./M.S. ___ Ph.D. ___ P.E. ___ Other _____

Class of Membership for which you are applying: (Please check only one)*

Annual membership covers January 1st - December 31st. Dues paid prior to September 1st will apply only to the current membership cycle.

_____	Active Member	\$20.00 per year
_____	Regional Member	\$20.00 per year
_____	Student Member	\$10.00 per year

***Active Members** and **Regional Members** are qualified professionals who share the stated purpose of the Chapter and who have education, training, research or applied experience in environmental toxicology and/or chemistry. **Active Members** must also be members of National SETAC. **Student Members** are individuals who share the stated purpose of the Chapter and are students showing promise of becoming qualified for Regional or Active status at a later date.

Please check here if you would prefer not to be included in the membership directory _____