SoCal SETAC News

Society of Environmental Toxicology and Chemistry
Southern California Chapter

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FEATURE ARTICLE

Stormwater monitoring challenges create opportunities to develop next-generation solutions

Chris Stransky
Amec Foster Wheeler

Brandon Swope and Molly Colvin
SPAWAR Systems Center Pacific

Monitoring and understanding potential impacts from stormwater runoff is much more complex than comparable work targeting point-source discharges. Stormwater managers face unique challenges with regard to accurately characterizing water quality and potential receiving water impacts, even as they are required to comply with discharge permits under the National Pollution Discharge Elimination System (NDPES). Indeed, many discharge permits contain prescriptive requirements for chemistry and toxicity testing, and in some cases bioassessment and habitat characterization for watershed programs.

A 10-minute downpour aftermath – Pacific Beach, San Diego, CA

Stormwater discharge to the Devil's Slide tidepools in La Jolla, CA

However, these monitoring and assessment efforts are not always well-suited to address non-point source contamination as currently applied.

These knowledge gaps have created strategic opportunities for researchers to examine which methods and tools are effective in assessing the likelihood of ecological and human health impacts related to stormwater. Understanding the potential causes of impairment is critical for prioritization of appropriate and cost-effective Best Management Practices (BMPs).

There are a tremendous number of organizations leading up cutting-edge stormwater research in southern California, with a number of our own SoCal SETAC members at the forefront. In this article, we highlight two new projects at SPAWAR Systems Center Pacific (SSC Pac) in San Diego

President's Corner

Keith Maruya, SCCWRP

With the coming of fall, the changing of the Chapter "Guard" has occurred. I want to give my personal thanks to our outgoing officers and board members, namely Rachel Adams, who served as President over the past year, and is leading the charge in planning for the 2018 Chapter Annual Meeting (see *Save the Date*, this issue). Thanks also to Varenka L., Zoe W. and Nate D. for their 2 years of service. Next, I welcome Erika H., Alvina M., Wendy H. and Scott C. to the Board. We say goodbye to Violet Renick, past Board member and hello to Violet, our new Webmaster! Please check out our new website, and make sure you thank Violet for her efforts. Last, I am stoked to serve with Chris Stransky of Amec Foster Wheeler (soon to be Wood Environment & Infrastructure, or just plain Wood) as our incoming Veep. Chris is well-known around these parts, having served as Chapter President way back when. He will take

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which exemplify the innovative technologies and methods being developed to better assess impacts related to highly episodic stormwater discharges from industrial facilities. Although they will be conducted at Navy facilities, the findings from these projects promise to have widespread applicability at industrial sites coast-wide. Both projects are funded by the U.S. Navy Environmental Sustainability Development to Integration Program (NESDI).

The first project is a three-year study using Forward Looking Infrared (FLIR) technology to characterize the mixing zone immediately adjacent to a stormwater outfall. The goal is to develop improved hydrodynamic models to better characterize potential concentrations of contaminants and toxicity in pierside/nearshore surface discharges.

The second project, funded through 2020 and leveraged with U.S. Department of Defense's Environmental Security Technology Certification Program (ESTCP) funding, will literally "chase" storms to validate an improved "pulsed" toxicity testing methodology for linking stormwater discharges to receiving water impacts. Pulsed exposure to contaminated stormwater during toxicity testing has been shown to more accurately mimic real-world exposure conditions, as stormwater discharges tend to be infrequent and episodic rather than continuous.

More detailed write-ups on each project follow.

Stormwater discharge at the onset of a rain event (top) and less than 24 hours later (bottom). Showing episodic nature of events at end-of-pipe and in the receiving environment, Tourmaline Creek, San Diego, CA.

Forward Looking Infrared (FLIR) for Advanced Discharge Characterization

Principal Investigator: Brandon Swope, SSC Pac, San Diego, brandon.swope@navy.mil

A variety of hydrodynamic models have been developed to characterize the potential concentrations of contaminants and toxicity within mixing zones. A mixing zone is defined by the U.S. EPA as an "allocated impact zone where numeric water quality criteria may be exceeded as long as acutely toxic conditions are prevented." Put simply, higher levels of contaminants are allowed in this zone, with the assumption that they will rapidly become diluted within the larger water body. However, current models are not designed to address episodic mixing for pierside/nearshore surface discharges (e.g., stormwater mixing). The aim of this project is to improve our ability to characterize dynamic mixing zones and provide data to enhance these models through the use of Forward Looking Infrared (FLIR) technology.

FLIR cameras are currently used for a wide variety of thermal imagery applications, including military reconnaissance and navigation, crop analysis, animal physiology and law enforcement. The camera in this case can accurately record the temperature differences between the discharge and ambient water, and its fine scale data

History of stormwater discharge permitting

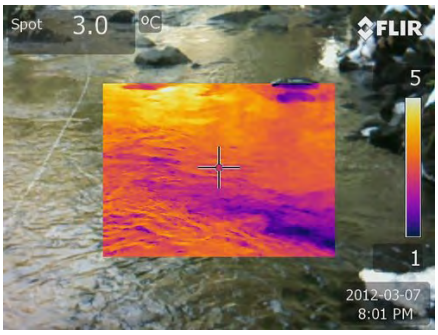
Initially, NDPES permitting focused on point-source discharges -- an emphasis that dates back to passage of the Clean Water Act in 1972. Over the past few decades, the focus of NDPES permitting has increasingly expanded to non-point source runoff.

According to the U.S. EPA, non-point source pollution, including stormwater runoff, is considered the leading remaining cause of water quality problems reported by the States (https://www.epa.gov/nps/what-nonpoint-source). In response, a wide variety of municipal, industrial, agricultural, transportation, and other permits have been developed and enacted over the past few decades throughout the U.S. to monitor and regulate contaminant contributions in stormwater runoff. The State of California is considered a leader with regard to regulatory scrutiny and regulations related to stormwater runoff.

FEATURE ARTICLE (continued)

resolution can adequately record the mixing patterns in structurally complex pierside regions. A validated model utilizing this technology will enable advanced discharge characterization at Navy facilities and others to meet NPDES requirements.

After calibrating the FLIR camera, the project team will demonstrate the utility of FLIR cameras to capture the dynamics of multiple shoreline discharges, and will incorporate FLIR data into three current hydrodynamic models. EPA supports the use of advanced discharge models that integrate the concepts utilized in this project. Incorporating additional capabilities to the suite of hydrodynamic models currently used by the Navy (Curvilinear-grid Hydrodynamics 3D (CH3D), CORMIX mixing zone, and Dynamic Mixing Zone models) will strengthen support for and adoption of these models.



A FLIR image of a temperature gradient in a creek from a tributary – courtesy of USGS.

Demonstration of Improved Toxicity Methodology to Link Stormwater Discharges to Receiving Water Impacts

Principal Investigator: Molly Colvin, SSC Pac, San Diego, mcolvin@spawar.navy.mil

The Navy and many other permittees across the U.S. are required to comply with increasingly stringent water quality requirements associated with industrial stormwater discharges. These requirements generally include end-of-pipe monitoring, enforced by NPDES permits, prior to mixing in the receiving water. Regulatory concern with stormwater discharges is associated with the Clean Water Act's goal to prevent discharge of toxics in toxic amounts. As a result, the existing EPA whole effluent toxicity (WET) test methods developed to assess continuous point source discharges are now being applied to episodic discharges such as stormwater as well. These requirements generally specify end-of-pipe monitoring. However, this type of monitoring is problematic because the exposure conditions at the end-of-pipe are not static. Also, this type of monitoring does not account for the changing magnitude and extent of exposure when contaminants mix in a larger body of water.

WET testing was originally developed to monitor and assess impacts related to continuous point source discharges by taking into account factors such as contaminant bioavailability, and some of the complex effects associated with exposure to multiple contaminants, many of which may not be monitored. However, current standard WET methodologies using continuous exposures may overestimate toxicity associated with the infrequent and episodic nature of stormwater discharges. In some cases the opposite may be true as well where a short-term spike in contaminant levels may result in an underestimate of impacts with current static methods. The key element of exposure duration and integration with receiving waters is missing from current methodologies.

This project plans to develop a more environmentally relevant approach to assess stormwater toxicity by incorporating actual exposure conditions both at the end-of-pipe and in the receiving water. The use of pulsed (intermittent) toxicity exposures has been documented in several studies as an effective way to characterize toxicity in water bodies, in part because pulsed exposures are more characteristic of real-world conditions. However, the development and application of standardized pulsed exposure protocols that are accepted by the regulatory community are currently lacking.

The team is currently gathering historical data on rainfall and mixing zone dynamics at several a variety of locations across the U.S. These data, and the results of other pulsed toxicity studies, will be used to conduct laboratory testing using relevant exposure regimes.

Following refinement of proposed laboratory test methods, we will then start chasing storms to conduct a series of field validation studies. These studies will include standard currently used end-of-pipe and receiving water monitoring and testing protocols, modified testing methods proposed for episodic discharges developed through this program, and concurrent in situ

FEATURE ARTICLE (continued)

toxicity testing and real-time water quality monitoring in the adjacent receiving waters using the passive SEA Ring monitoring platform. The in-situ testing will provide a comparison to results obtained in the laboratory to ensure a realistic and protective assessment approach.

Using the data gathered in the prior steps as a guide, a standardized, scientifically-defensible approach for pulsed exposure assessment will be developed. The ultimate goal is to develop a regulatory-accepted method that has flexibility for site-specific conditions to assess stormwater discharge impacts in the adjacent receiving waters. A user's guide will be produced, and the development of a final report will be coordinated with the State Water Resources Control Board, local Regional Boards, and EPA to seek regulator acceptance of the technology.

Finally, an important component of this program is outreach to the scientific and regulatory community. Collaboration and consensus of a modified testing methodology among toxicological experts, regulators, and dischargers is key for success. For this program we have developed a Pulsed Exposure Scientific Advisory Panel (PESAP). The PESAP will be involved and assist in the following primary tasks:

• Refine a conceptual approach to the problem;

• Help guide any decisions on the experimental approach and validation methodologies;

• Provide peer review on final results and recommendations for final guidance.

These tasks will be accomplished through volunteer-based participation on biannual conference calls and/or meetings. If you are interested in participating on the PESAP, or just staying informed, please contact Molly Colvin at the email address provided above. We will also have a special session on this topic at the National SETAC Meeting in Minneapolis so please come on by and join us Monday November 13th from 12-2 in Room M100E.

PRESIDENT'S CORNER (continued)

charge of our Newsletter and will be looking for timely topics to feature. Please by all means hit Chris up with your ideas!

Our Fall dinner meeting, held on October 5 at Bagby Beer Company in Oceanside, was attended by 55 Chapter members (old and new), and was by all measures a smashing success. Thanks go to our San Diego contingent, especially the folks from Nautilus and Amec, for representing. Kudos also to Dan S., Kimbrie G. and Misty M. for securing the awesome venue. My sincere thanks goes to our guest speaker Dave Weller of NMFS in La Jolla for his talk on bottlenose dolphins as sentinels of ocean health. Dave and I go back a few years and I could not have been happier when he accepted our invitation. Thanks again, buddy. Lastly, thanks to all of the rest of you who attended. Without your support and engagement, our Chapter would not nearly be as successful as it is.

Speaking of excellence, a hearty congrats to our recent student award winners: Nicolette Schuko and Kara Wiggin of CSULB (research grants) and Marissa Giroux of UC Riverside, winner of both a research and travel grant to the SETAC N/A meeting in Minneapolis. The financial health of our Chapter, buoyed by sponsor contributions and your membership dues and attendance at Chapter functions, allowed us to award a total of $3500 to these deserving students. Let's keep up the good work (and keep those contributions coming)!

And speaking of Minneapolis, a number of you I know are attending. While it is always nice to hang out with the SoCal crowd, I encourage you to branch out and mingle with your counterparts from different regions, states and countries.

Think about volunteering as a judge for student presentations. Look for information via email, in this newsletter, and on the website about an informal Chapter get together.

As your incoming President, I will get a little mushy and say that I am honored to serve you all. If our collective showing at the last Annual Meeting and past 2 dinner meetings is an indication of your level of engagement, then I am in for a funtastic year. Please know that I welcome your input on any and all issues that affect our Chapter, and challenge you to volunteer your time and effort in making our community even more diverse and more inclusive. If you are like me, you will find satisfaction in contributing, and you will have a blast meeting new people and reminiscing with old friends.

See you at our next function, if not sooner!

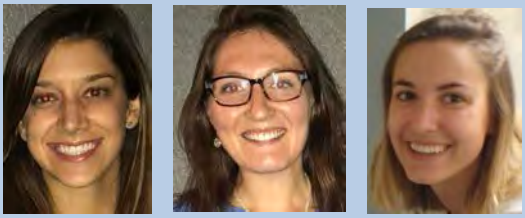
All the best,
Keith (with Dave Weller at Bagby Beer Co.)

SoCal SETAC Student Grant Awards

Rachel Adams

This year we once again received outstanding proposals to review for our annual 2017 SoCal SETAC Grant application. After careful consideration by a panel of three environmental toxicologists and chemists, the 2017 SoCal SETAC Grant awardee is **Nicolette Schuko** of California State University, Long Beach. Nicolettes's grant project is titled, Identifying Transcriptional Effects Caused by Pollutant Induced Changes in Cellular Calcium Signaling Pathways.

Because of the quality of this year's proposals, our reviewers also decided to award two runner-up grants of $500 each to **Marissa Giroux** of the University of California, Riverside and **Kara Wiggin** of California State University, Long Beach. Marissa's grant project is titled, The Effects of Climate Change Stressors and Bifenthrin on the Smoltification of Juvenile Steelhead Trout. Kara's grant project is titled, Presence and Impacts of Microplastic Pollution in Coastal and Estuarine Systems Surrounding Heavily Urbanized Areas.



Nicolette Schuko, Marissa Giroux and Kara Wiggin

On behalf of the proposal reviewers and the entire SoCal SETAC organization, I'd like to thank each of you for submitting your proposals for consideration. The proposals were all very strong and it was a very hard decision to make and took considerable deliberation by the proposal reviewers to choose a winner and runners-up. You should all be proud! Thanks again.

Other Notable Awards

Chris Stransky

We also would like to recognize and congratulate **Elvis Genbo Xu** of UC Riverside for receiving the SETAC Recent Graduate Travel Award to attend the National Meeting in Minneapolis. Elvis will be presenting his award-winning research entitled "Regulation of microRNAs in mahi-mahi (*Coryphaena hippurus*) exposed to Deepwater Horizon Oil" on Wed. Nov. 15th at 10:00 am in Auditorium 3. Nice work Elvis! Please also have a look at the other fellow SoCal SETAC presentations summarized in this newsletter.

Finally, it is with great honor to announce that **Dr. Daniel Schlenk** of UC Riverside has been selected this year to receive the esteemed SETAC Fellows Award based on his numerous significant contributions to environmental research and the SETAC organization throughout his career. Check out these requirements as outlined on the SETAC website: The SETAC Fellows Award was created in 2010 to recognize members demonstrating BOTH (i) significant long-term scientific or science policy contributions and (ii) service and leadership within SETAC. The identification and appointment of Fellow status is intended to provide additional recognition of excellence and contributions of SETAC members to ecotoxicology, environmental chemistry, risk assessment and life cycle assessment. The hallmark of a SETAC Fellow is leadership within the professional and scientific arenas as well as SETAC. While there is no upper limit to the number of Fellows, no more than 1–2% of the membership hold this prestigious recognition. This is truly an inspiring achievement - Congratulations Dan!

Dr. Elvis Genbo Xu and Dr. Daniel Schlenk

MEET THE BOARD

Erika Holland, Cal State Long Beach

Erika Holland, SoCal SETAC Board Member, Academic Sector, hiking in Glacier National Park, MT.

I grew up in northern New Mexico, in a small town called Aztec, so small in fact that I often lie and tell people I am from Colorado. Believe it or not I have heard "New Mexico, is that in the United States?" We were always about 5 minutes from amazing hikes with no one in sight and I felt lucky to grow up in that area full of amazing scenery and probably the best sunsets I have ever seen.

Despite all of the NM beauty, I decided to make my way to San Diego where I completed my Bachelor's of Science in Biology at San Diego State University. While at SDSU, I was fortunate to participate in the CSU Catalina Semester where several faculty from CSU Long Beach helped spark my interest in marine biology and physiology. This lead me to seek further experience in a Master's degree where I used measures of egg health to assess the health of future salmon populations in the American River (Sacramento) at CSU Sacramento.

While in my Master's I worked for the Department of Water Resources assessing invertebrate and fish populations in the Sacramento-San Joaquin Delta and the San Francisco Bay, especially in relation to water diversions. This lead to an interest in water quality and I decided to pursue a doctoral degree in Ecotoxicology at the University of California Davis. Somewhat serendipitously, I was thrown into the world of molecular toxicology working to understand the impact of chemicals that alter calcium-signaling pathways. Calcium is involved in a vast majority of cellular processes and, if altered, may have broad impacts on animal health.

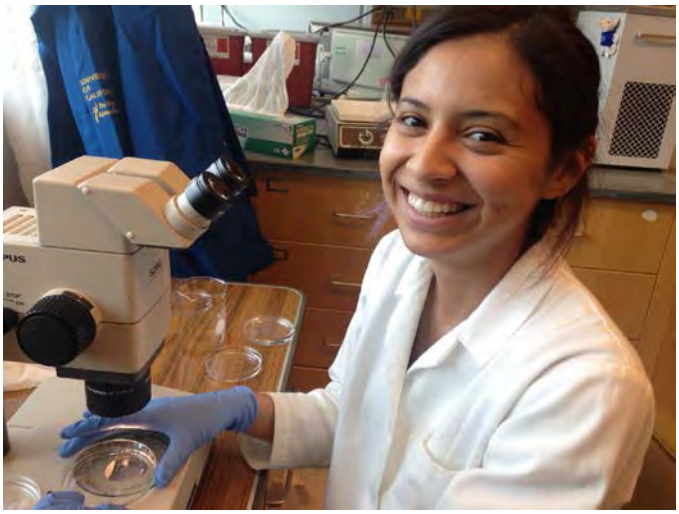
After completing my PhD in Pharmacology and Toxicology, and a stint at Woods Hole Oceanographic Institution (MA), I was honored to return to the CSU system as an Assistant Professor of Aquatic Toxicology at CSU Long Beach. I have been at CSULB for almost two years and am enjoying teaching Molecular Biology and Aquatic Toxicology and mentoring students in both Ecotoxicology and Molecular Toxicology research. The laboratory still has a strong emphasis in calcium pathways but I am excited to see the research group expand to other areas of toxicology including complexities of aquatic systems in southern California. I am excited to be part of the southern California SETAC branch to learn about all the great work going on.

Outside of research and teaching I enjoy anything outdoors from hiking to swimming. I am excited about the warm southern climate as I enjoy landscaping and gardening. Occasionally, I have to return to New Mexico, or otherwise, to get my fix of snow, open space and mountains but I am happy to visit just about anywhere and really enjoy traveling.

STUDENT CORNER

Norma Menjivar-Cervantes, UC Riverside

Norma Menjivar-Cervantes, a B.S. student at the University of California, Riverside recently chatted with Student Board Member Scott Coffin about her research, life goals, and involvement in SETAC.



Norma is a third-year Honors Environmental Engineering B.S. student at UC Riverside. For the past year she has contributed to Dr. Schlenk's Ecological Toxicology lab at UCR, assisting former graduate student Dr. Graciel Diamante's research project, investigating the effects of hydroxylated PAHs on zebrafish development. A proud recent achievement - Norma Menjivar-Cervantes' outstanding performance won her the Best Undergraduate Student Presentation award at the Dana Point 2017 SoCal SETAC meeting.

This past summer, Norma's research was funded by the CNAS Summer Bridge to Research Program in collaboration with the Research in Science and Engineering (RISE) program which is supported by the Hispanic Serving Institute STEM Pathway Project Grant from the U.S. Department of Education.

Norma is a first-generation U.S. Citizen and is the first in her family to attend University. She participates in STEM connections club and California Alliance for Minority Participation (CAMP). Impressively, in addition to her academic achievements as a dedicated researcher, capable lab technician, and full-time student, Norma works part-time in banquet halls and entertainment venues, and is a loving sister - she giggles, reveling in the complete immersion she experiences when playing with her three younger brothers.

Norma chooses to enjoy her rare moments of free time in nature: hiking; "feeling the water in the ocean"; chasing a dark sky to marvel at the stars.

Norma seeks to improve air quality for future generations. She is eager to research ways to decrease air pollution by efficiently tracking automobile particle emissions as a graduate student.

Look out for Norma at future SoCal SETAC meetings!

SOCAL SETAC CALENDAR

November 2017

November 5-9
Coastal and Estuarine Research Federation 24th Biennial Conference | *Providence, RI*

November 12-16
SETAC North America 38th Annual Meeting | *Minneapolis, MN*

January 2018

January 29-February 1, 2018
ESRI Water Conference | *San Diego, CA*

February

February 12-14
Pretreatment, Pollution Prevention, and Stormwater Annual Conference | *Riverside, CA*

March

March 18-22
255th ACS National Meeting & Exposition | *New Orleans, LA*

March 25-27
2018 WateReuse California Annual Conference | *Monterey, CA*

March 26-29
7th Young Environmental Scientists (YES) Meeting | *Madison, WI*

April

April 8-12
The 11th International Conference on Remediation of Chlorinated and Recalcitrant Compounds | *Providence, RI*

April 12-13
SoCal SETAC 2018 Annual Meeting | ***Los Angeles, CA***

April 17-20
CWEA Annual Conference 2018 | *Sacramento, CA*

April 28
Southern California Academy of Sciences Annual Meeting | Santa Monica, CA

May

May 7-8
2018 WE&RF Research Conference | *Atlanta, GA*

May 13-17
SETAC Europe 28th Annual Meeting | *Rome, IT*

June

June 20-23
Association for Environmental Studies and Sciences Conference 2018 | *Washington, DC*

June 25-28
Dredging Summit & Expo 2018 | *Norfolk, VA*

WEBSITE UPDATE

Violet Renick

Greetings SoCal SETAC!

You may have noticed some changes recently in the wild world of the web. That's right, SoCal SETAC has a new website. While it is still a work in progress, we are very excited about the possibilities that the new website will bring for our community. Please take a look, check it out, and learn more about our SoCal SETAC family.

Features of the new website include:

- A blog for members to share accomplishments, news, and regulatory updates
- Photo gallery of previous SoCal SETAC events
- Easy payment/registration for dinner and annual meetings

In order to make this website as awesome and useful as possible, please consider contributing:

- Photos of yourself or colleagues at SoCal SETAC events (like national!)
- News of scientific/professional accomplishments, publications, regulatory updates
- Links to jobs for the job board
- Anything else that might be relevant

And last but not least, stay tuned for future upgrades including:

- An up-to-date calendar of events
- A social media stream including Facebook and/or Instagram posts

If you have any requests or suggestions for improvement, please contact Violet at violetrenick@gmail.com. Thank you and happy clicking!

SETAC North America 38th Annual Meeting

List of SoCal SETAC Presentations

Monday November 13, 2017			**POSTER**		
Session Time	Room	Presenter	Affiliation	ID #	Presentation Title
Poster Display 8:00am–6:30pm Poster Social 5:00pm–6:30 pm	*Remediation/Restoration*				
	Exhibit Hall	Douglas Wolf*	University of California, Riverside	MP200	Effects of Surfactants and Mycobacterium vanbaalenii PYR-1 Bioaugmentation on Polycyclic Aromatic Hydrocarbon Mineralization
	Aquatic Toxicology and Ecology – Part 1				
	Exhibit Hall	Nicolette Andrzejczyk*	University of California, Riverside	MP127	Evaluation of estrogenic activity in a demersal flatfish population near the municipal wastewater outfall of Orange County, California
	Exhibit Hall	Luísa Becker Bertotto*	University of California, Riverside	MP128	Evaluation of the Estrogen Receptor and the Dopamine Signaling Pathway as a Possible Target of Bifenthrin Toxicity in Zebrafish Embryos and Juveniles
	Exhibit Hall	Nicolette Schuko*	California State University, Long Beach	MP142	Pollutant-Induced Changes in RyR and CaV1 Alter DREAM-Mediated Gene Transcription
			PLATFORM		
Time	Room	Presenter	Affiliation	ID #	Presentation Title
	Food Web Models – Lowering Uncertainties in Predictions at Contaminated Sediment Sites				
10:20 AM	101DG	Ashley Parks	Southern California Coastal Water Research Project (SCCWRP)	30	Assessment of sediment contaminant contribution to human health risk via bioaccumulation modeling
	New Approaches to Ecological Risk Assessment – Bridging Adverse Outcome Pathways to Dynamic Energy Budget Models				
1:00 PM	Auditorium 2	Roger Nisbet	University of California Santa Barbara	161	Challenges in incorporating sub-organismal processes represented by quantitative AOPs into dynamic energy budget models
1:20 PM	Auditorium 2	Louise Stevenson*	University of California Santa Barbara	162	Connecting suborganismal and organismal responses using Dynamic Energy Budget Modeling and the ecological model species Fundulus heteroclitus
			SPECIAL TECHNICAL SESSION		
12:00 PM	M100E	Molly Colvin, Chris Stransky, Bryn Phillips, Dr. Tham Hoang, Dr. Howard Bailey, Adrienne Cibor, and Dr. Jerry Diamond	US Navy SPAWAR, Amec Foster Wheeler, UC Davis Granite Canyon, Loyola University, Nautilus Environmental, and Tetra Tech	M100E	Derivation and Demonstration of an Environmentally Relevant Approach for Stormwater Toxicity Testing Compliance Monitoring

Tuesday November 14, 2017			**POSTER**		
Session Time	Room	Presenter	Affiliation	ID #	Presentation Title
Poster Display 8:00am–6:30pm Poster Social 5:00pm–6:30 pm	*Whole Effluent Toxicity Testing – A Science Evolving – Perspectives, Alternatives and Regulatory Limitations*				
	Exhibit Hall	Stephen Clark	Pacific EcoRisk	TP098	Ceriodaphnia dubia Chronic Toxicity Test Variability: Is There a Need for Method Improvement?
			PLATFORM		
Session Time	Room	Presenter	Affiliation	ID #	Presentation Title
	Fate and Effects of Chemicals from Diffuse Sources and Stormwater				
8:40 AM	101EF	Nicholas Hayman	San Diego State University Research Foundation	211	Seasonal Toxicity Observed with Amphipods (Eohaustorius estuarius) at Paleta Creek, San Diego Bay, USA
	Whole Effluent Toxicity Testing: A Science Evolving - Perspectives, Alternatives, and Regulatory Limitations				
2:00 PM	101BI	Stephen Clark	Pacific EcoRisk	276	Ceriodaphnia dubia Chronic Toxicity Test Variability: Is There a Need for Method Improvement?

Wednesday November 15, 2017			**POSTER**		
Session Time	Room	Presenter	Affiliation	ID #	Presentation Title
Poster Display 8:00am–6:30pm Poster Social 5:00pm–6:30 pm	*Unique Laboratory and Field-Based Methods to Address Complex Environmental Issues*				
	Exhibit Hall	Molly Colvin	SPAWAR Systems Center Pacific	WP088	Preliminary Evaluation of Improved Toxicity Testing Methods for Episodic Discharges
			PLATFORM		
Session Time	Room	Presenter	Affiliation	ID #	Presentation Title
	Epigenetic and evolutionary effects of pollutants: new challenges for long-term ERA				
10:00 AM	Auditorium 3	Elvis Genbo Xu	University of California, Riverside	435	Regulation of microRNAs in mahi-mahi (*Coryphaena hippurus*) exposed to Deepwater Horizon oil
	Multiple Stressors II – Assessing Contaminant Effects in Ecosystems with Multiple Stressors				
1:40 PM	200BC	Marissa Giroux*	University of California, Riverside	480	Effects of Temperature and Bifenthrin on the Endocrinology of Juvenile Chinook Salmon (*Oncorhynchus tshawytscha*)
	Screening and Prioritization Methods for Characterizing Risk of Contaminants in the Environment				
1:40 PM	101CH	Keith Maruya	Southern California Coastal Water Research Project (SCCWRP)	457	A screening and prioritization strategy for contaminants of emerging concern in California watebodies
2:00 PM	101CH	Alvine Mehinto	Southern California Coastal Water Research Project (SCCWRP)	456	Test driving new tools for monitoring contaminants of emerging concern in California waterbodies

*student presenter

Thursday November 16, 2017			**POSTER**		
Session Time	Room	Presenter	Affiliation	ID #	Presentation Title
Poster Display 8:00am–6:30pm Poster Social 5:00pm–6:30 pm	*Exposure and Effects of Emerging Contaminants on Aquatic Ecosystems*				
	Exhibit Hall	Denise Li	City of Los Angeles / Public Works	RP003	Assessing the toxicity of clobetasol propionate using in vitro cell assay and in vivo fish model
	Microplastics in the Aquatic Environment – Fate and Effects				
	Exhibit Hall	Scott Coffin*	University of California, Riverside	RP046	Biological activities of extracts from North Pacific Gyre Plastics with UV-treated and untreated materials using in vitro and in vivo models
	Exhibit Hall	Kara Wiggin*	California State University, Long Beach	RP156	Methods for Detecting the Prevalence of Microplastic Pollution Surrounding the Highly Urbanized Area of Long Beach, CA
			PLATFORM		
Session Time	Room	Presenter	Affiliation	ID #	Presentation Title
More Data Is Not Always Better – Using Weight-of-Evidence Approaches in Environmental Risk Characterization					
9:00 AM	200DE	Steve Bay	Southern California Coastal Water Research Project (SCCWRP)	577	Implementing a weight-of-evidence approach for sediment quality management in California: Lessons learned from regional monitoring and TMDLs
Emerging Environmental Chemistry – Trends, Transformations and Fate of Organic Environmental Contaminants - Part 2					
1:20 PM	101DG	Stacia Dudley	University of California, Riverside	638	Metabolism of Pharmaceuticals in Higher Plants

*student presenter

SOCAL SETAC OFFICERS AND BOARD MEMBERS

SoCal SETAC 2017–2018 Officers

Past President	**Rachel Adams** Loyola Marymount University Rachel.Adams@lmu.edu
President	**Keith Maruya** Southern California Coastal Water Research Project keithm@sccwrp.org
Vice President	**Chris Stransky** Amec Foster Wheeler chris.stransky@woodplc.com
Treasurer	**Joe Freas** Aquatic Bioassay & Consulting Joe@aquaticbioassay.com
Secretary	**Misty Mercier** Physis Environmental Laboratories, Inc. mistymercier@physislabs.com
Webmaster	**Violet Renick** City of San Diego vrenick@sandiego.gov

SoCal SETAC 2016–2019 Board Members

Board Member (2016–2018) Academic	**Daniel Schlenk** University of California, Riverside daniel.schlenk@ucr.edu
Board Member (2016–2018) Private	**Kimbrie Gobbi** Amec Foster Wheeler kimbrie.gobbi@woodplc.com
Board Member (2016–2018) Student	**Eilleen Salas** California State University, Long Beach eilleensalas@hotmail.com
Board Member (2016–2018) Public	**Denise Li** City of Los Angeles denise.li@lacity.org
Board Member (2017–2019) Academic	**Erika Holland** California State University, Long Beach erika.holland@csulb.edu
Board Member (2017–2019) Private	**Wendy Rose Hovel** Anchor QEA whovel@anchorqea.com
Board Member (2017–2019) Student	**Scott Coffin** University of California, Riverside scoff003@ucr.edu
Board Member (2017–2019) Public	**Alvine Mehinto** Southern California Coastal Water Research Project alvinam@sccwrp.org

SETAC SCENES

David Weller delivers a captivating dinner presentation on bottlenose dolphins as sentinels of ocean health at Bagby Beer Company in Oceanside during SoCal SETAC's Fall dinner meeting on October 5.


SoCal SETAC
SOCIAL HOUR
at
SETAC Minneapolis
Monday
November 13, 2017
5:30pm to 6:30pm
The Local*
931 Nicollet Mall
Minneapolis, MN 55402
corner of 10th St. & Nicollet Mall
*a no-host event

Southern California Regional Chapter of the
Society of Environmental Toxicology and Chemistry

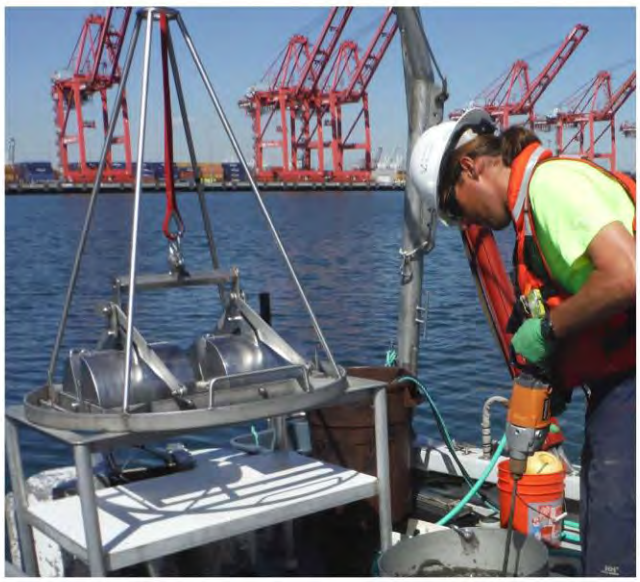
2018 ANNUAL MEETING

Thursday & Friday April 12–13

Loyola Marymount University

Seaver Life Science Building
1 LMU Drive, Los Angeles, CA 90045

more info to follow on our new website
www.socal-setac.org/annual-meeting

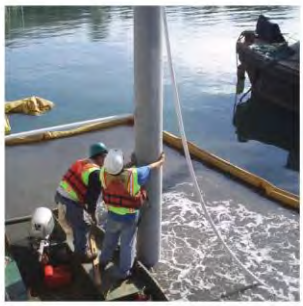


Design, Implementation, and Evaluation of Water and Sediment Quality-related Studies

- Site-specific criteria
- Toxicity identification evaluation
- Sediment quality objectives
- Total Maximum Daily Loads (TMDLs)
- Ultra-low detection limit
- Source tracking
- Stormwater monitoring
- Bioaccumulation modeling
- Chemical fate and transport

Local SETAC Supporters:

Wendy Hovel
Steve Cappellino
Andy Martin
Jack Malone
Adam Gale



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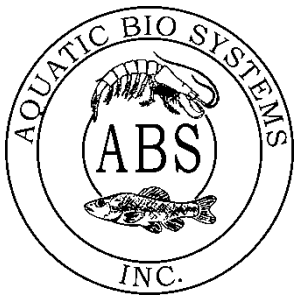

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