

Environmental & Molecular Toxicology

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Dept. Of Environmental & Molecular Toxicology Newsletter

2007, Issue 11

September 2007

EMT in the Press!

Novice surfer **Staci Simonich** of Corvallis used a vacation day to hit the waves near Devils Punch Bowl north of Newport.

Photo Credit: Brent Wojahn, Oregonian



Jennifer Field

"OSU researchers devise way to detect traces of drugs from teaspoon of wastewater"

Oregon State University researchers have figured out how to detect traces of drugs, from cocaine to caffeine, using just a teaspoon of wastewater from a city's sewage treatment plant....

[Read Full Story](#)

Dave Stone

Voice of America, July 27 2007

Dave Stone, new director of NPIC, spoke with Voice of America who chose NPIC as their science-based website of the week.

[Hear the Interview](#)

Robert Tanguay

"OSU to study nanotech's safety" - Gazette Times, Corvallis

Advances in the field of nanotechnology have resulted in miniscule man-made particles showing up in a vast array of consumer products. In computer equipment, medical and dental compounds, cosmetics - even in stain-guard coatings on fabrics - these nanomaterials promise a multitude of high-tech benefits. The use and development of nanotechnology is expected to grow by leaps and bounds in the next several years....

[Read Full Story](#)

EPA STAR Award

OSU Research Newsletter

Dave Williams

American Fitness Magazine, Sept/Oct 2007

"Protecting Pee Wee"

A Recent study from the Linus Pauling institute (LPI) at Oregon State University studied the survival rate of the offspring of pregnant mice who were exposed to a single high dose of dibenzopyrene, a potent carcinogen, and received Indole-3-carbinol (I3C), a chemoprotective supplement....

[View PDF Full Article](#)

OSU President's Report 2007

"Discovery in Diet: Impact on Cancer Risk"

Cancer may begin, and could be won or lost, well before we are born. The battle may, in fact, have started with what our mothers ate....

[View 2007 President's Report](#)

Recent Graduates

Katherine Johnson - Ph.D.

Junga Lee - Ph.D.

Tyler Norby - M.S.

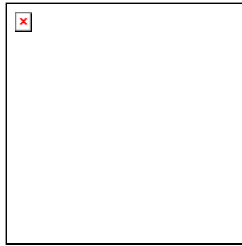
Toby Primbs - Ph.D.

Crystal Usenko completed her MS degree in the spring and is now working at Baylor University.

Sasha Usenko - Ph.D.

New Faces

New Faculty

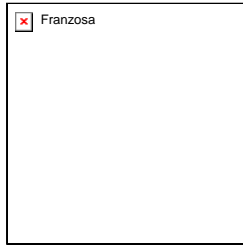


In March 2007, Dave Stone joined the faculty of EMT as an assistant professor. Dave comes from the Oregon Health Division where he was employed as a public health toxicologist. Dave's primary appointment is with extension services to provide expertise and research on environmental health issues important to Oregonians. On July 1, Dave became the new director of the National Pesticide Information Center after the retirement of Dr. Terry Miller. In addition to leading NPIC, student mentoring and providing extension outreach, Dr. Stone is developing an undergraduate course on introductory toxicology.

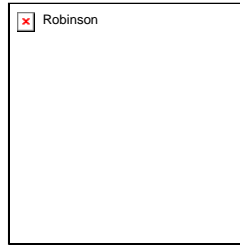
[Faculty Web Page](#)

Dave Stone
NPIC Director

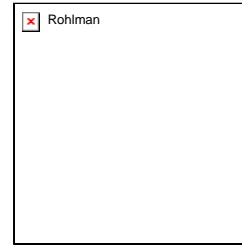
1st Year Students



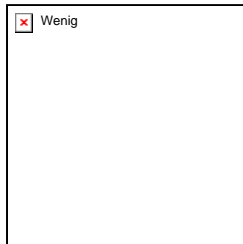
Jill Franzosa



Joshua Robinson

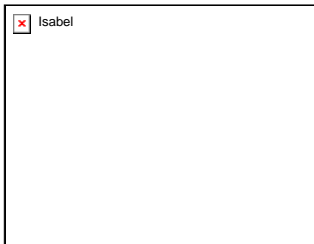


Diana Rohlman

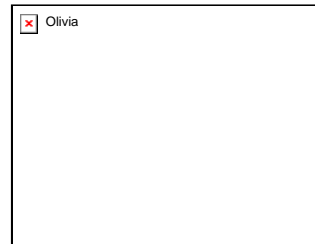


Shannon Wenig

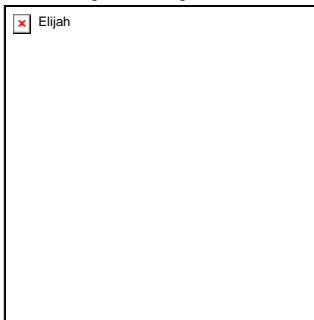
Babbies!!



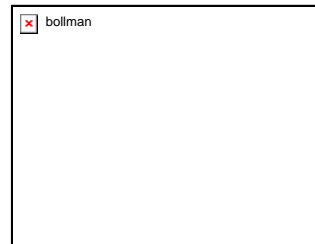
Isabel Hillwalker
Born June 7, 2007
to Wendy and Gary Hillwalker



Olivia Lucia Castro
Born September 21, 2007
9lbs 12oz

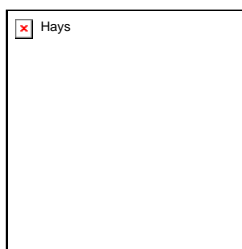
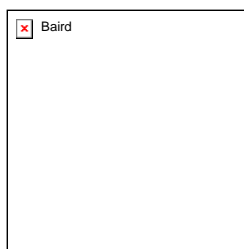


Elijah Nephi Perry
Born August 26, 2007
to Kristin and Nephi Perry
8lbs, 21inches long

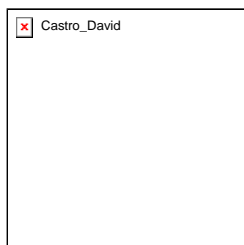


Matthew David Bollman
Born August 12, 2007
6lbs 7ozs
19.5 inches long

Awards



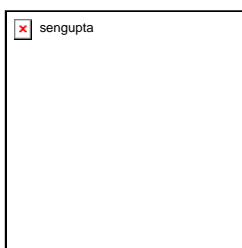
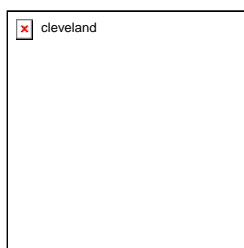
John Hays & William Baird were recognized as elected fellows to the American Association of the Advancement of Science.
[Full Listing.](#)



David Casto
 AACR Meeting: Minority in Cancer Research Recipient SOT
 Meeting: 3rd Place Carcinogenesis Specialty Section



Abby Benninghoff
 NIEHS/EPA Translation of Basic Animal Research to Understand Human Disease conference travel award.



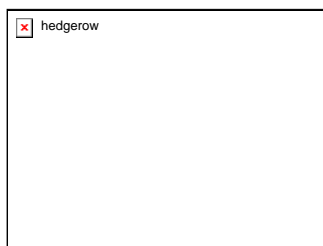
Kate Cleveland and Sumitra Sengupta won poster awards at PANWAT.

Lab News

IPPC

Paul Jepson and the Integrated Plant Protection Center (IPPC) take the lead in a Global Environment Facility (GEF)-funded research project in the Niger and Senegal River Basins in West Africa that is being coordinated by the UN Food and Agriculture Organization (FAO) in Rome. The project aims to reduce pesticide-pollution, human and environmental risks in six West African countries. Co-PI's and collaborators on the project include Kim Anderson, Jeff Jenkins, Dan Sudakin and Dave Stone in EMT and John Bolte in Bioengineering. Funds totalling nearly \$400,000 in the last year have enabled the OSU team to assist in developing analytical and environmental monitoring capacity at a laboratory in Senegal, and in developing novel approaches to human health and environmental risk assessment applicable to West Africa. The program should continue for the next four years. For further details, contact Paul at jepsonp@science.oregonstate.edu, or see the IPPC website at <http://ipmnet.org/>

A New Western Region Conservation Biological Control Work Group is Formed



Gwendolyn Ellen at the Integrated Plant Protection Center and 16 other collaborators across the Northwest have been granted USDA-CSREES funds from the Western Integrated Pest Management Center (WIPMC) in Davis, California to create the first Western Region Conservation Biological Control (CBC) Work Group. Twenty-nine participants from a diverse group working in CBC including industry representatives, conservationists, farmers and researchers from WA, OR, ID and CA, met in Portland this May to create the mission and objectives for the group. These were molded into a formal proposal to the WIPMC by Gwendolyn Ellen this summer.

[Read PDF Full Article](#)

Intro to the IPPC

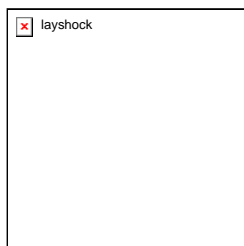
The latest edition of The Western IPM Center newsletter 'The Western Front' from UC Davis, includes several brief vignettes about the programs and activities of the IPPC.

Much of our work has direct connections to toxicology, but you might be interested to see how we weave this into programs that also include expertise in ecology, climatology and mathematical modeling.

[Read the complete newsletter](#)

Simonich Lab

Julie Layshock was recently awarded two grants:



- NSF EAPSI 2007: East Asia and Pacific Summer Institute grant for study in China in the summer of 2007.
- EPA STAR fellowship (2007-2010) for full support for 3 years of graduate study.

Sudakin Lab

Dan Sudakin and Laura Power have just recieved a copy of their new publication in the Journal of Clinical Toxicology, entitled:

"Pyrethrin and Pyrethroid Exposures in the United States: A Longitudinal Analysis of Incidents Reported to Poison Centers." Journal of Medical Toxicology, Volume 3 (3), September 2007, pages 94-100.

Tanguay Lab

New Grants

PI (Tanguay/Lein, EMT and OHSU)
The Johns Hopkins Center for Alternatives to Animal Testing
Zebrafish as an In Vivo Model System for Identifying Developmental Neurotoxicants

This project was refunded and is now aimed at validating the zebrafish model using a set of known human neurotoxicants.

PI (Tanguay)
National Science Foundation
Chemical genetics to define regenerative pathways

The goal of this proposal is to define the molecular and cellular mechanisms controlling regeneration in zebrafish using chemical genetics.

PI (Mathew and Tanguay)
American Heart Association
Molecular Signaling and Tissue Regeneration

This is a predoctoral award aimed and evaluating the role of beta catenin in tissue regeneration.

PI (Tanguay)
Air Force Research Laboratory
In vivo platform for nanomaterial toxicity testing.

I am the Director of a subgroup aimed at defining the toxicity of novel engineered ONAMI nanomaterials, with a goal of synthesizing less toxic nanomaterials.

PI (Tanguay, Lee and Harper)
Air Force Research Laboratory
Computational and analytical tools to support the development of environmentally-benign nanomaterials

The objective of this award is to develop an expert system to predict the biological activity of unsynthesized nanomaterials and provide the computational and analytic tools to suggest material design or redesign that may minimize hazard.

PI (Tanguay/Svoboda)
R01 Developmental Toxicity of Nicotine

The goal of these studies is to understand the risk that nicotine exposure poses during early stages of vertebrate development.

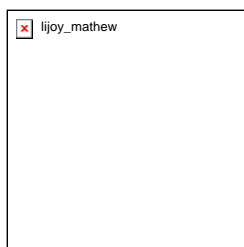
PI (Hutchison University of Oregon, Tanguay Co-director)
Keck Foundation Grant
Biological Interactions of Precision Engineered Nanoparticles

The proposed project aims to elucidate the mechanisms by which precisely engineered nanoparticles interact with biological systems and use this understanding to design novel materials that elicit specific biological effects.

Awards

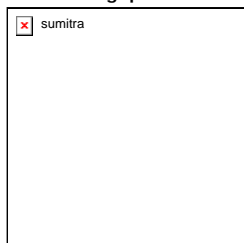
Lijoy Mathew

- Received the Oregon Laurels Graduate Scholarship.



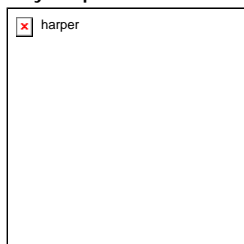
- Won first place Student Award for the Molecular Biology Specialty Section at the SOT meeting in Charlotte, NC.
- Won an ASBMB travel fellowship to present at the FASEB meeting in Washington D.C.
- Won a SOT travel award to present at the SOT meeting in Charlotte, NC.

Sumitra Sengupta



- Received honorable mention for the Molecular Biology Specialty Section student award at the SOT meeting in Charlotte, NC.
- Received a best poster Award for the Drug Discovery and Toxicology SOT specialty Section at the SOT meeting in Charlotte, NC.
- Received the best poster Award for PANWAT meeting held at the University of Washington, September 14-15, 2007.

Stacy Harper



- Dr. Stacey Harper received a best presentation at the annual PANWAT held at the University of Washington, September 14-15, 2007.

New Publications

Isaacson, C., Usenko, C.Y., Tanguay, R.L., Field, J.A. Quantification of Fullerenes by LC-ESI/MS and its Application to in Vivo Toxicity Assays. (*In Press*, Analytical Chemistry).

Harper, S.L., J.A. Dahl, B.L.S. Maddux, R.L. Tanguay and J.E. Hutchison. Proactively designing nanomaterials to enhance performance and minimize hazard. (*In Press*, International Journal of Nanotechnology)

Usenko, C.Y., Harper, S.L., and Tanguay, R.L. (2007) *In vivo* evaluation of carbon fullerene toxicity using embryonic zebrafish. Carbon 45: 1891-1898

Mathew, L., Sengupta, S., Andreassen, E.A., Peterson, R.T., and Tanguay, R.L. Unraveling vertebrate tissue regeneration in vivo using chemical genetics. (*In Press*, J Biol Chem).

Harper, S.L., B.L.S. Maddux, J.E. Hutchison, C. Usenko and R.L. Tanguay. Biodistribution and toxicity of nanomaterials *in vivo*: effects of composition, size, surface functionalization and route of exposure. (*In Press*, Journal of Experimental Nanoscience).

Sorensen, J.S., Forbey K.C., Tanguay, R.L., and McLeod, B. Tissue distribution of cytochrome p450 cyp3a enzymes in brushtail possums (*trichosurus vulpecula*) exposed to eucalyptus terpenes. (*In Press*, Comp Biochem and Physiol)

Andreassen, E.A., Mathew, L., Loehr, C. Hasson, R. and Tanguay, R.L. (2007) AHR activation impairs extracellular matrix remodeling during tissue regeneration. Toxicol Sci 95(1): p. 215-26.

Other News

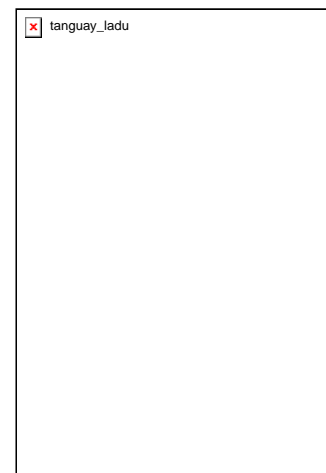
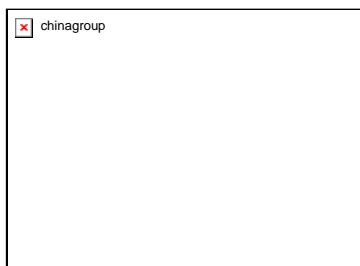
Lisa Duong has joined the laboratory and is working on the developmental responses to chemical exposures in zebrafish.

Dr. Tanguay received indefinite tenure effective June 2007.

Kate Saili has joined the laboratory and is exploring the mechanism controlling the inflammatory responses resulting from chemical and nanomaterial exposure.

Jane La Du and **Robert Tanguay** traveled to China November 2006 to help set up a laboratory at Wenzhou Medical College. Robert also taught a short course in Molecular Toxicology (right).

Lisa Duong and **Robert Tanguay** made another trip to China in August, 2007 to train students in the Tanguay China laboratory.



Williams Lab

New Manuscripts

David Castro

- Chemoprevention of Dibenzo[a,I]Pyrene Transplacental Carcinogenesis in Mice Born to Mothers Administered Green Tea: Primary Role of Caffeine. Carcinogenesis; In review
- A model for the study of maternal dietary inhibition of transplacental carcinogenesis. Review Article. Research Advances in Carcinogenesis. Global Research Network.

Abby Benninghoff & Dave Williams

- Benninghoff, A.D. and Williams, D.E. (2007) Identification of a transcriptional fingerprint of estrogen exposure in rainbow trout liver. Toxicological Sciences. Advance Access published online on September 6, 2007.

Past Issues

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If there is any information that YOU would like to include in the next newsletter, which is scheduled for January 1, 2007, please e-mail the [EMT Student Employee](#).



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