The Post-y

Spring 2011

Semi-annual Newsletter of the Society of Toxicology Postdoctoral Assembly

Inside this issue…

Message From the Chair

Michele LaMerrill

As your 2011-2012 Chair of the SOT PDA, I am committed to continuing to enhance your career development opportunities through SOT. The PDA was very productive last year, with several ambitious new Annual Meeting initiatives. As Vice-Chair of the PDA during the last year, I had the pleasure of working with SOT postdocs, the PDA Board, and SOT Council to pilot Trainee Discussions with the Plenary Speaker, Dr. Tabak, Principal Deputy Director, NIH. The PDA also launched Lunch with a Postdoc through the leadership of outgoing chair, Sarah Campion.

The PDA Board has already begun to plan events for SOT postdoc members through the coming year as well as at the 51st Annual Meeting. The PDA will continue to host our Luncheon and support career development as well as scientific sessions highlighting trainee research. We are working with SOT Council to expand Trainee Discussions with Plenary Speakers in order to provide access for a greater number of trainees to the speakers. We are also working to continue Lunch with a Postdoc. In the meantime, please plan to join the PDA for a webinar on how to write the aims of a NIH career development award to be held during National Postdoc Appreciation week, September 19-23, 2011. We will continue to offer the Best Postdoctoral Publication Award, which you can read about on page 2.

The PDA wants to keep in touch with you to bring you the information you need to succeed. Whether you are a SOT postdoc member or a Postdoctoral Representative for an SOT group, keep in touch via ToXchange or e-mail me at Michele.lamerrill@mssm.edu to let the PDA know what you need to do your very best.

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Message From the Outgoing Chair

Sarah Campion

Once again, the SOT PDA has had an exciting and productive year. It has been a pleasure to serve as the 2010-2011 chair of the PDA. I have been very lucky to have worked with many wonderful people, in particular the 2010-2011 PDA board. Many thanks to Michele La Merrill, Anne Loccisano, Vijay Kale, and Marie Fortin, as well as our SOT liaison Betty Eidemiller and our SOT Council Contact Michael Waalkes for their dedication to the PDA. I would also like to extend many thanks to the SS, SIG, and RC postdoc representatives and all other volunteers who put in their time and effort throughout the year. The many successful activities at the Annual Meeting are evidence of the hard work by all of these individuals. The activities included the 50th Anniversary Silent Auction, Conversation with Dr. Tabak, Lunch with a Postdoc, the PDA Luncheon, the Best Postdoctoral Publication Awards, and the very well attended scientific and career sessions sponsored and organized by the PDA. In addition to these Annual Meeting activities, postdocs remained engaged throughout the year through 2 Web-based career *development sessions: Toxicology Outside of Academia: A World of Opportunities* and *From Postdoc to Permanent Position: A Panel Discussion for Non-U.S. Citizen Early Scientists*. Many of these events and activities were attended and enjoyed by many SOT members other than postdocs, which is a testament to the influence of the PDA throughout the Society. I look forward to hearing about all of the PDA activities and successes in the coming year as we continue to celebrate the Society's 50th Anniversary.

Best Postdoctoral Paper Award

Enrique Fuentes-Mattei

The Postdoctoral Assembly (PDA) of the Society of Toxicology is pleased to announce the 2012 Best Postdoctoral Publication Awards (BPPA). These awards recognize talented and outstanding postdoctoral researchers who have recently published exceptional papers in the field of toxicology as a result of postdoctoral research. The SOT PDA encourages all SOT members to identify and nominate postdoctoral fellows. Three awards, each consisting of a plaque and a $100 cash award, will be presented at the PDA Luncheon during the 2012 SOT Annual Meeting. Further information and application are found at http://www.toxicology.org/ai/spd/PD-PubAwardAnn.asp. For any questions, please contact me or e-mail me at efuentes1@mdanderson.org.

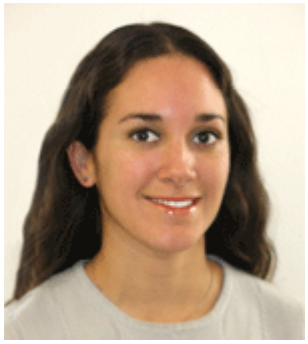
Eligibility for 2012 Nominations

- The research reported in the paper was conducted while the applicant was engaged in a postdoctoral research experience
- Member of SOT or membership application submitted by award application deadline
- First author on a peer-reviewed paper published on-line, in print, or in press, between June 1, 2010, and September 30, 2011
- Application supported by letter from the research advisor
- Only one publication may be submitted by each applicant
- Leaders of the PDA are eligible but applicants will not participate in the award determination

Applications are due by midnight Eastern Time on October 9, 2011.

PDA: the Board

Michele La Merrill, Ph.D., M.P.H., Chair



Dr. La Merrill is a postdoctoral fellow at Mount Sinai School of Medicine in the laboratory of Dr. Christoph Buettner. She is conducting experimental and epidemiologic research on the endocrine and metabolic toxicity of polyhalogenated hydrocarbons with the support of her NIH K99/R00 grant. Michele La Merrill earned her Ph.D. in Toxicology from the University of North Carolina at Chapel Hill for her research on maternal dioxin exposure effects on metabolic syndrome and cancer with the support of her Department of Defense grant as well as her mentors Drs. David Threadgill and Linda Birnbaum.

Dr. La Merrill is Chair of the Society of Toxicology's Postdoctoral Assembly. She is also an outgoing member of the Endocrine Society's Trainee and Career Development Core Committee, where she served on the Trainee Day planning committee. She was the postdoctoral representative for the Occupational and Public Health Specialty Section and volunteered with K-12 Education and Continuing Education as a graduate student member of SOT. As Chair of the PDA, Dr. La Merrill strives to provide SOT postdocs with career development resources needed to succeed. Please contact Dr. La Merrill at Michele.lamerrill@mssm.edu if you would like to share your career development needs or volunteer to help with career development programming efforts.

Enrique Fuentes-Mattei, Ph.D., Vice-Chair

Enrique Fuentes-Mattei had the honor of being elected as the SOT PDA Vice-Chair 2011-2012. He is in his first year of postdoctoral training in the Department of Molecular and Cellular Oncology at the University of Texas M.D. Anderson Cancer Center. Dr. Fuentes-Mattei's main areas of research interest follow his postdoctoral training, which include immunotoxicology, molecular biology, receptor mechanisms, and carcinogenesis.

As the Vice-Chair SOT-PDA, Dr. Fuentes-Mattei wants to welcome you to a new year for great achievements among all our SOT postdoctoral members. It is of his great interest to continue an active leadership role in SOT and contribute in the development of future toxicologists as an officer of the PDA board. His goal in the SOT-PDA is to maintain and improve our SOT postdoctoral network, and foster the development of SOT future leaders from among our postdoctoral members. Our role now is to spread our passion, energy, and enthusiasm to benefit our postdoctoral fellow members, and discover new leaders with the experience and the commitment to serve for the future of SOT. We all are essential components to build bridges with toxicology for a better world and for a less toxic environment for future generations.

PDA: the Board

Ebany Martinez-Finley, Ph.D., Secretary

Dr. Martinez-Finley is currently a postdoctoral fellow in the laboratory of Dr. Michael Aschner at Vanderbilt University Medical Center in the Division of Pediatric Toxicology. For the past year, she has studied methylmercury neurotoxicity and neurodegeneration. Her work has always been "neurotoxic" in nature. Prior to joining VUMC, she completed her Ph.D. at the University of New Mexico School of Medicine in Biomedical Sciences with concentrations in Neurosciences and Toxicology. Her dissertation research project focused on the neurodevelopmental effects of perinatal exposure to arsenic. While at the University of New Mexico, she was a recipient of a Pfizer Predoctoral Fellowship and an F31NRSA from NIEHS.

Dr. Martinez-Finley began her involvement with SOT as an undergraduate, attending the Undergraduate Education Program in 2005. She serves as a peer mentor for the same program. Her service to the Society has also included the Spanish translation of a slide set about toxicology for the SOT Web site. From 2007–2009, she was the graduate student representative for the Mountain West Regional Chapter. As a graduate student she also held several institutional leadership roles including serving as the President of the Biomedical Sciences Student Society, Vice-Chair for the Graduate Research and Development Grant, and as a representative to the Graduate and Professional Student Association. Dr. Martinez-Finley has spent the past year representing postdoc interests at Vanderbilt as the Junior Co-chair to the Vanderbilt Postdoctoral Advisory Committee. She currently holds an adjunct teaching position teaching Anatomy and Physiology to undergraduates. As Secretary of the SOT PDA, she will draw upon what she has learned from previous leadership roles to enhance the experiences of SOT postdocs.

Marie C. Fortin, Ph.D., Treasurer

Marie is conducting her postdoctoral research at the Environmental and Occupational Health Sciences Institute (Rutgers/UMDNJ in New Jersey) where she is affiliated with the toxicology and clinical research departments. She is investigating pesticide metabolism in the laboratory and is also involved in field projects to document exposure to pesticides.

Marie has been involved with SOT for 5 years. She previously served on the World Wide Web Task Force and this is her second term as Treasurer. One of the main roles of the Postdoctoral Assembly is to assist postdocs in their career development. Thus, in addition to the Treasurer duties she hopes to keep on providing information to the membership throughout the year in the form of webinars. She's also planning on contributing to the organization of the postdoctoral networking events for the next SOT meeting in San Francisco. In addition to her work with SOT, she is a member of the American Society of Molecular Biologists, and she also volunteers in local K-12 outreach programs and fundraisers.

PDA: the Board

Larissa M. Williams Ph.D., Councilor

Larissa Williams is a postdoctoral fellow at the Woods Hole Oceanographic Institution (Cape Cod, Massachusetts) where she studies the effect of developmental toxicants on oxidative stress pathway crosstalk with the AHR pathway. Larissa is a graduate of North Carolina State University's Department of Environmental and Molecular Toxicology where she earned a Ph.D. in Environmental Toxicology in 2010. She moved to Cape Cod in October of 2010 and shortly thereafter received an NRSA from the NIEHS to fund her postdoctoral training. She is a marine biologist interested in intersection of evolutionary and developmental biology with toxicology. In addition to being SOT's PDA Councilor, she serves as the Woods Hole Postdoc Association President and is a visiting assistant professor at Wheaton College in Norton, MA.

As Councilor, she will serve as the point of communication with postdoc representatives from Specialty Sections, Special Interest Groups, and Regional Chapters. Additionally, she hopes to coordinate several task forces aimed at institutionalizing involvement of postdoc representatives in career development. Specifically, Larissa and the SOT PDA hope that several white papers will be written by committees from Regional Chapters and Specialty Sections addressing region-specific information on job placement and specialty-specific information on job placement by top employers by sector for postdocs.

Want to become a Representative?

Larissa Williams

There are several vacancies for Postdoctoral Representatives for Regional Chapters, Specialty Sections, and Special Interest Groups. This is a great way for postdocs to acquire leadership experience and meet and interact with toxicologists of all ranks. Please let the specific group know if you would like to serve as their postdoc representative or contact Larissa Williams (lawilliams@whoi.edu) for more information.

Vacancies (as of June 20, 2011)

Regional Chapters	Specialty Sections	Special Interest Groups
Allegheny-Erie	Biotechnology	Korean Toxicologists Association in America
Gulf Coast	Clinical and Translational	Toxicologists of African Origin
Lake Ontario	Ethical, Legal, and Social Issues	
Midwest	Medical Device	
Mountain West	Neurotoxicology	
Northland	Occupational and Public Health	
	Ocular Toxicology	

Making the most of SOT's Web site

Marie C. Fortin

By definition, a postdoctoral position is meant to be temporary and this leaves us – postdocs- with the inevitable task to find a "real" job. Often we postpone it… focusing on scientific research rather than a job search, the former being more rewarding and intellectually stimulating (most of the time!). In the lab or in the field, we feel like we know what we are doing but when it comes to a job search we often feel like we do not know where to start. So here are a couple of places – directly from your favorite society website.

First, there is the Career Resource and Development Services Web page http://www.toxicology.org/ai/crad/crad.asp where you can access the Job Bank https://www.toxicology.org/ai/newcrad/ to search postings or register as a candidate (it's free for members). Also, you can use Mentor Match to be paired with a senior toxicologist with whom you can discuss science and career interests. Finally you can also access the recordings of Education and Career Sessions http://www.toxicology.org/ai/crad/Seminar.asp that have been held at the past SOT meetings.

Second, there is ToXchange – ToXchange http://toxchange.toxicology.org/p/us/in is an online tool to enhance communication between SOT members. A big part of the job hunt is networking and you can use ToXchange to search the member directory, access member CVs or post your own, join *Communities* such as the Postdoctoral Assembly Community, or the Specialty Section, Special Interest Group, or Regional Chapter specific group to stay up-to-date on what is happening.

Finally, we have on the PDA Web page links to access the webinars we have hosted in the past. They provide useful information ranging from the postdoc to faculty transition to careers outside of the academic realm and you can watch them on your own schedule! All of these resources are on the SOT Web site so make the most out of it!

National Postdoctoral Association Annual Meeting

Michele La Merrill

The ninth annual meeting of the National Postdoctoral Association (NPA) was held at the end of March 2011 in Bethesda, Maryland. As the only national venue dedicated solely to the postdoctoral community, this meeting provides an opportunity to share ideas, successes and failures with other people and organizations working on behalf of postdoctoral scholars.

The NPA continues to demonstrate commitment to addressing disparities in the postdoctoral community, providing career development tools, and developing national standards that ensure postdoctoral fellowship success. For instance, in 2010 the NPA International Officers developed an International Postdoc Fellowship Database, and are currently working on a white paper for the visa application of international postdocs.

Visit ToXchange to download the NPA postdoctoral scholar Core Competencies http://toxchange.toxicology.org/p/do/sd/sid=2248&type=0 one page self assessment as well FASEB's Individual Development Plan http://toxchange.toxicology.org/p/do/sd/sid=2247&type=0. These tools will help you self identify your short and long term goals and identify gaps in your skill sets to enable you to take control of your mentoring.

ToXchange It's YOUR Network

The NPA 2012 Annual Meeting will be held March 16-18 at the Sir Francis Drake Hotel in San Francisco, CA

NATIONAL POSTDOCTORAL ASSOCIATION

Finding and Obtaining an Adjunct Teaching Position

Ebany Martinez-Finley

In this ever competitive job market it is imperative that we do what we can to enhance our experiences prior to commencing job searches. Many academic-scientist positions are calling for increasing teaching experience but how do we obtain that experience? It is difficult to incorporate teaching into our 80 hour research week but it is essential that we do so. NIH has addressed this by institutionalizing teaching along with research postdocs. These postdocs, collectively called Institutional Research and Academic Career Development Awards (IRACDA) teaching-research postdocs, are available in 18 different schools in the country. Other schools, have integrated teaching along with research components into their programs. Still others, like Vanderbilt University, offer teaching certificate programs. If none of these opportunities are available to you, how do you obtain teaching experience? Adjunct teaching offers an avenue for you to do this as well as the opportunity to develop your teaching skills.

How do you find these positions? Start by making a comprehensive list of colleges and universities in your logistical area and searching for job openings. Schools that are most likely to be hiring adjuncts are those experiencing large enrollment and have smaller budgets, like community colleges. These schools are happy to pull from a talented, educated pool of professionals, especially because they can pay you a fraction of what you are worth. The upside for you is that you gain the experience that will help you land a job. Networking and contacting the department via email or a phone call is sometimes more productive than waiting for the position announcement. Other types of positions to consider may include teaching online courses, hybrid courses, and evening and weekend continuing-education courses. Museums and libraries also offer classes and therefore are alternative platforms to teach.

What do you need to apply? As with any job you will need to submit a CV. Other things that you will need to think about before applying to these positions are developing a teaching philosophy and documenting evidence of teaching. If you do not yet have any teaching experience consider guest lecturing or other programs, like scientist in the classroom, that will allow you to visit primary and secondary schools and teach a lesson. While this may not be similar to the situation in which you wish to end up, it is teaching experience and will help to broaden your horizons and your CV.

When should you apply? There is no ideal time to submit your application for an adjunct position. Schools typically retain the CVs of possible hires and look at their files when they need to fill a position. However, keep in mind the department may be staffing near the end of the academic year and just before the semester begins someone may not be able to fulfill their contract. You should also follow up your application with a phone call or an e-mail to the department head or the person in charge of hiring. I made a phone inquiry one month after I sent my application and found out the person that did the hiring was on summer vacation and my application had been misplaced. An interview was established during that phone call.

What if you don't have formal experience? You should tailor your cover letter and your CV to frame experiences that may not be considered formal teaching but include a component of teaching such as tutoring, running labs, facilitating workshops, coaching, or leading a discussion group. Your cover letter should also include your specific

Finding and Obtaining an Adjunct Teaching Positionm (continued)

experiences and/or information about how you would lead a classroom.

What should you be prepared for in the interview? Be able to discuss what courses you could teach, your style of teaching, and your reasonable availability. Samples of your syllabi, course designs, and student evaluations will be helpful to demonstrate your aptitude. However, it is important to show your personality and not necessarily depth of knowledge during the interview. Bring your own questions like whether or not you will be expected to hold office hours, if you will be given office space, what your salary will be, and where you will make photocopies?

How should you prepare for teaching? Ask for syllabi from others in the department to see how other instructors structure their courses. This will help you cover material the department feels is important. If you have the opportunity, observe another instructor teaching and ask them to sit-in and observe your teaching to provide you with feedback. Remember to set realistic limits on the amount of time that you spend in the classroom, preparing lectures or labs, grading, and possibly holding office hours.

Adjunct teaching gives you a leg up in many ways. It allows you to experiment with different teaching styles and methods, gives you some insight into different types of institutions, and ultimately makes you a stronger candidate on the academic job market.

The PDA Board wants to include your research in the Post-y. Why? This is a great opportunity to share and gain recognition for your work with your peers. Your article may lead to new collaborations or an invitation to present your work at a conference or an institution where you want to work. Please contact Marie Fortin (fortin@eohsi.rutgers.edu) if you would like to write a 250-500 word essay on your research. Remember your audience is broad, and you should include the overarching relevance to public health and current events.

Postdoctoral Activities at the 50th Annual Meeting

Sarah Campion, Marie Fortin, Michele La Merrill, and Anne Loccisano, 2010–2011 PDA officers

The Postdoctoral Assembly (PDA) organized several exciting events at the 2011 Annual Meeting. These events included a scientific session, a career session, Trainee Discussions with SOT Keynote Plenary Lecturer Lawrence A. Tabak, the PDA Luncheon, and the 50th Anniversary Silent Auction. The scientific session that featured postdoctoral and student speakers was co-hosted with the Student Advisory Council. Below is an overview of the main events that were developed and organized by the PDA based on a needs assessments of the postdoctoral community.

Trainee Discussions with Plenary Speakers

Dr. Tabak was the first speaker in the new program. This year the Post-doctoral Assembly (PDA) piloted a new program called "Trainee Discussions with Plenary Speakers" (TDPS). The goal of the TDPS is to give trainees the opportunity for less formal conversation with the plenary speakers in a small group setting. Dr. Lawrence A. Tabak was the first speaker in this pilot. The session was a great success, with high attendance of the ticket holders and 100 percent of those responding to the feedback survey indicating that they are interested in participating in the event again. This informal one hour session included discussion of experimental techniques, career advice, and other topics one would discuss with a mentor. Participants enjoyed the informality, the interaction, the content, the candor, and the small size of the event. The Scientific Program Committee will be continuing this program as part of the Annual Meeting, with invitations to the designated plenary speakers. Students and postdocs should watch for the opportunity to request tickets for the 2012 events.

Education-Career Development Session

Although not specifically dedicated to postdoctoral members, the Postdoctoral Assembly also hosted a career and development session on the Wednesday morning of the meeting. This session, prepared by Marie Fortin (PDA Treasurer), Anne Loccisano (PDA Councilor), and Sheppard Martin (former SAC officer), was entitled "From Pilot Grants to High-End Journals: The Science of Writing" http://www.toxicology.org/ai/crad/Seminar.asp .The session was very well-attended and well-received despite the early time. Deborah Cory-Slechta, a prolific scientific author and professor at the University of Rochester, Jerrold Heindel, a Health Science Administrator at NIEHS, and Angela K. Eggleston, a senior editor and biology team leader for the scientific journal *Nature*, provided the audience with hands-on strategies to improve scientific writing skills. They also reviewed common mistakes, provided advice on how to convey ideas in an efficient and convincing way, and insight as to what makes a paper or a grant a winning one. Your PDA officers are already working on another career session for next year.

Postdoctoral Activities at the 50th Annual Meeting (continued)

Postdoctoral Scholar and Student Scientific Session

The PDA and the Student Advisory Council (SAC) collaborated again this past year to again develop a successful scientific symposium session for the SOT Annual Meeting. This year's symposium, entitled "Developmental Exposure to Environmental Toxicants: From Persistent Toxicities to Diseases," highlighted novel research involving how exposure to environmental toxicants disrupts developmental pathways and causes adult diseases. The postdoctoral scholar and graduate student presentations included a wide variety of toxicants and disease models to complement the diversity among SOT members. Overall, the symposium was well-attended and well-received. The PDA and SAC will continue to develop scientific symposia to provide students and postdoctoral scholars future opportunities to inform the SOT community about their cutting-edge research.

Postdoctoral Assembly Luncheon

The 2011 SOT Postdoctoral Assembly Luncheon was held on Tuesday, March 8, during the Annual Meeting. The PDA Luncheon is the one event at the Annual Meeting dedicated primarily to postdocs. It provides an opportunity to network with other postdocs and to meet the postdoctoral representatives from the Regional Chapters, Specialty Sections, and Special Interest Groups, and the officers of the PDA Board. The President of SOT, Michael P. Holsapple, gave the welcoming address, during which he thanked postdocs for all of their hard work and urged them to continue their involvement in SOT. Several members of SOT Council also attended this luncheon, and these guests provided postdocs with insight into the inner workings of SOT and career advice through informal conversations at their tables. During the luncheon, Sarah Campion, 2010–2011 PDA Chair, discussed the PDA activities over the past year and presented the Best Postdoctoral Paper Awards winners whose research is highlighted in this edition of the Post-y. The postdoctoral representatives and postdoctoral award recipients were also recognized for their efforts. Following comments from Michele La Merrill, the incoming PDA Chair, about activities that postdocs can look forward to over the coming year, there was a drawing for an exciting list of door prizes. The luncheon was enjoyed and greatly appreciated by all attendees, who look forward to meeting with their fellow postdocs again in 2012 in San Francisco.

SOT 50th Anniversary Silent Auction

In honor of the 50th Anniversary, the Postdoctoral Assembly Board held a Silent Auction at the Annual Meeting in Washington, D.C. We had many wonderful donations for this event, and the PDA Board would like to extend our thanks to both the item donors and bidders http://www.toxicology.org/AI/MEET/AM2011/activities.asp#auction for their contributions and for supporting the PDA. All proceeds from the Silent Auction will go to the SOT Strategic Priorities Endowment Fund, which will help build for the future of SOT. Contributions totaled about $6,433, and since SOT is matching contributions to the Strategic Priorities Endowment Fund, this amount will be doubled! We would like to extend a special thanks to Jim Luyendyk and Mona Holsapple who both volunteered their time at the live event, and we are also grateful to all of the PDA volunteers who assisted with the event.

Thank you to all postdocs, SOT staff, and meeting attendees who made these exciting events a success. Postdocs who have suggestions or ideas for events to implement at the 2012 Annual Meeting are invited to contact the PDA officers http://www.toxicology.org/ai/spd/PD-Officers.asp.

2011 Best Postdoctoral Paper Award Abstracts

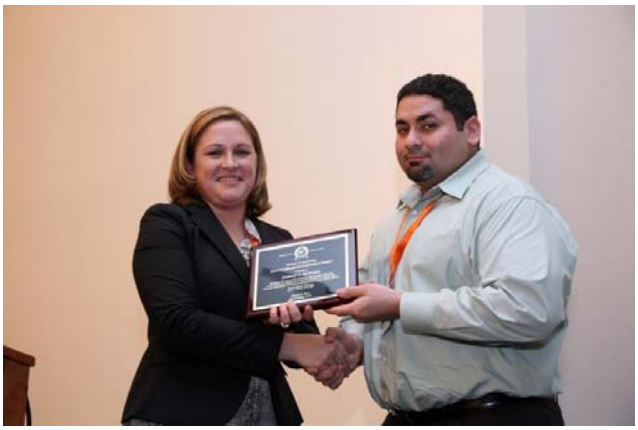
The abstracts for the papers receiving the three 2011 Best Postdoctoral Paper Awards (BPPA) follow. Deadline for applications is October 9, 2011 (see page 2).

Dietrich Bermudez

Modeling the Interaction of Binary and Ternary Mixtures of Estradiol and Bisphenol A or its Analogues in an *in vitro* Estrogen Mediated Transcriptional Activation Assay (T47D-KBluc)

Toxicological Sciences 2010, 116 (2): 477-487 Bermudez, L. Earl Gray Jr., Vickie S. Wilson

Exposure to xenoestrogens occurs against a backdrop to physiological levels of endogenous estrogens. Endogenous estrogen levels vary from low levels in early childhood to high levels during pregnancy and in young women. However, few studies have addressed how xenoestrogens interact with endogenous estrogens. The study was designed to characterize the individual dose-response curves of estradiol-17β (E_2), bisphenol A (BPA), tetrabromo-bisphenol A (TBBPA) and bisphenol AF (BPAF, 4,4'-Hexafluoroisopropylidene diphenol) on estrogen-dependent luciferase expression in T47D-KBluc cells and to determine how binary (8x8 factorial) and ternary (4x4x4 factorial) mixtures of an endogenous estrogen (E_2) interact with BPA and/or , BPAF. Both the binary mixtures of E_2 with BPA and BPAF and the ternary mixture of E_2, BPA and BPAF behaved in an additive manner. My study represents a significant contribution to the field of toxicology by addressing mixture modeling dynamics of endocrine disrupting compounds (EDC) and providing a methodology for accessing said mixtures with an *in vitro* system. *In vitro* modeling is being utilized more frequently for prioritizing possible endocrine disrupters for further research in multi-generational studies and for robust methodology to address and interpret responses from tested chemicals.



Quantitative Assessment of Neurite Outgrowth in Human Embryonic Stem Cell Deived hN2 Cells Using Automated High-Content Image Analysis. Neurotoxicology 2010 31(3) 277-90 Harrill, J.A., Freudenrich, T.M., Machacek, D.W., Stice, S.L., and Mundy, W.R.

Current *in vivo* developmental neurotoxicity studies are costly, time-consuming and labor intensive. A need exists for more efficient and cost effective methods for developmental neurotoxicant hazard identification and characterization. One approach is to examine chemical effects on *in vitro* test systems which model the critical processes of nervous system development, including: neural progenitor cell proliferation, apoptosis, differentiation, neurite outgrowth and synapse formation. Advances in high content image analysis (HCA) technology can be used to measure each of these apical cellular processes in a medium- to high-throughput manner. The paper by Harrill et al. (2010, NeuroToxicology 31(3):277-290) describes the use of a human embryonic stem cell (hESC)-derived neuronal model (i.e. hN2 cells) in an HCA-based assay for quantifying chemical effects on neurite outgrowth. The phenotypic character of the cells was

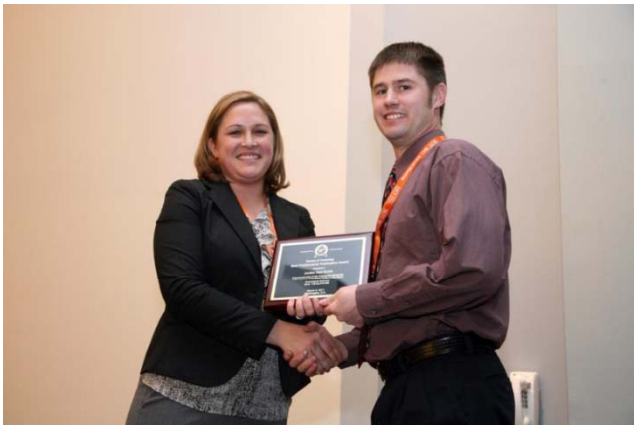
confirmed through immunocytochemistry with a battery of neuronal markers. An HCA assay was then designed, optimized and used to measure the rate of neurite outgrowth in untreated cultures. Cells were then exposed to a variety of chemicals known to inhibit neurite outgrowth during a period of rapid growth in the hN2 model. Neurite lengths and cell viability were measured in parallel in chemical exposure experiments. The data demonstrate a rapid period of neurite outgrowth within the first 24 h after seeding of hN2 cells. In cells exposed during this growth period, a concentration-dependent decrease in neurite outgrowth was observed, in some cases at concentrations which did not concurrently affect cell viability. Collectively, these data demonstrate that hESC-derived neurons can be used to rapidly assess the effects of chemicals on *in vitro* neurite outgrowth.

Jordan N. Smith

Pharmacokinetics of the Chlorpyrifos Metabolite 3,5,6-Trichloro-2-Pyridinol (TCPy) in Rat Saliva

Toxicological Sciences 2010, 113(12):315–325 *Smith, J. N., Wang, J., Lin, Y., and Timchalk, C.*

Toxicity Testing in the 21st Century: A Vision and Strategy highlighted the importance of quantitative exposure data for evaluating human toxicity risk. This report endorses the use of chemical exposure data to provide critical information on magnitude, timing, and duration of a biologically relevant dose delivered to a critical target tissue. Direct measurement of chemical exposures using personal biomonitoring provides the most accurate estimation of a subject's true exposure. In this context, our group has pioneered the development of non-invasive sensors to detect pesticides, metabolites of pesticides, and effects of pesticides in saliva. This paper, *Pharmacokinetics of the chlorpyrifos metabolite 3,5,6-trichloro-2-pyridinol (TCPy) in rat saliva*, quantifies the pharmacokinetics of a metabolite of a pesticide in saliva; examined implications of dose, saliva flow rate, salivary pH, and protein binding on pharmacokinetic disposition; integrated results into a physiologically based pharmacokinetic and pharmacodynamic (PBPK/PD) model for the pesticide; and finally, extrapolated results from the animal model to humans. This paper is novel for salivary pharmacokinetic studies in that it combines *in vivo* experimentation with the predictive capabilities of a PBPK model. This combination establishes utility for non-invasive biomonitoring of pesticides and serves as a potential experimental model for other similar devices assessing exposure of relevant chemicals.



Postdoctoral Assembly Representatives

Specialty Sections

Biological Modeling	Susie Ritger Crowell	sritger@gmail.com	Battelle
Biotechnology	TBA		
Carcinogenesis	Zhengyu Yin	yinz@niehs.nih.gov	NIEHS
Cardiovascular Toxicology	Mayurranjan S. Mitra	mmitra@dom.wustl.edu	Washington University School of Medicine
Comparative and Veterinary	Yogesh Saini	sainiyog@gmail.com	University of North Carolina
Clinical and Translational Toxicology	TBD		
Dermal Toxicology	Lauren Mordasky Markell	lkm162@psu.edu	Pennsylvania State University
Drug Discovery Toxicology	Li Zhan	li.zhan@louisville.edu	University of Louisville
Ethical, Legal, and Social Issues	TBD		
Food Safety	Natalie M. Johnson	nmjohnso@jhsph.edu	Johns Hopkins Bloomberg School of Public Health
Immunotoxicology	Jennifer Franko	sothq@toxicology.org	CDC
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Thank you all for your involvement with SOT!