



Biological Modeling Specialty Section Newsletter

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2009 – 2010
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The Biological Modeling Specialty Section Newsletter is published 3 times/year (February, August and November). If you have any items to contribute, please send it to us by the middle of the month preceding the planned publication date. All comments or suggestions are welcome.

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President's Message

During 2009, SOT continued its efforts to improve the visibility, impact, and funding for toxicology. One area in particular has been the review process for toxicology-oriented grant proposals submitted to NIH through the solicitation of volunteers to serve on study sections and the establishment of the Special Emphasis Panel on Systemic Injury from Environmental Exposures (SIEE). Whether you participate directly in NIH funding or not, you are affected, since NIH is a major contributor to the training of the next generation of toxicologists. While no decisions have been communicated regarding the continuation of the Special Emphasis Panel on Systemic Injury from Environmental Exposures (SIEE), I hope that many of you responded this past summer to the call for letters of support to continue this panel and even support the formation of additional panels that have the appropriate expertise to review toxicology oriented proposals—and for us in particular, modeling oriented proposals.

On another front, the SOT web site has been overhauled in an attempt to make SOT more accessible and useful to the general public, media, and policy makers. SOT Council is now looking to the specialty sections to contribute to this site as well. If you haven't recently done so, please take a look at the BMSS web site and tell me what you think. Just do a Google search on "Biological Modeling SOT" to see what you find. It's okay, I'll wait while you look...Pretty ineffective, isn't it? It looks to me like the kind of page we only want in the members-only section, not as our public face. Thus, I am asking for your help between now and SOT to start improving our web site. Jeff Schroeter has graciously volunteered to be the BMSS web site liaison with SOT so we can tap into SOT staff for help and to facilitate SOT approval of proposed changes. Jeff Fisher and Chuck Timchalk have also volunteered to assist in revising/overhauling our site. With additional help and ideas, we should be able to make rapid improvements in 2010. We need informative, yet eye-catching graphics, descriptions of what we mean by

“biological modeling” (in a toxicology context, of course), short case studies where biological modeling has had an impact on decisions or policies, etc. So please consider helping us out and drop me an e-mail. The public face of BMSS needs it!

I would also like to take the opportunity to introduce a new, trial feature to our newsletter—an OP-ED piece written by one of our colleagues on a topic of interest to BMSS. Our first guest editorial was contributed by Jeff Fisher, one of the Associated Editors for *Toxicological Sciences* who handles many of the modeling papers submitted for publication. His piece focuses on the issue of citation rates and raises an interesting, and somewhat disturbing observation that we may not be citing each other’s works to the extent that we should. Aside from being lazy, this practice actually diminishes our overall impact on toxicology. For more, see Jeff’s editorial below. As with most commentaries, all views expressed are solely those of the contributing author; some of which may be intentionally provocative (we hope) to stimulate thinking and discussion. Also, tell me what you think—is this something we should continue? Are there other subjects and potential guest commentators that would be of interest? My email address is rick.corley@pnl.gov.

Lastly, you should have received confirmation of your abstracts submitted for the 2010 Society of Toxicology Meeting in Salt Lake City, Utah and I hope that most of you are planning to attend all or part of the meeting. BMSS is sponsoring/endorsing several sessions in 2010 and I look forward to seeing you at the BMSS reception on Tuesday, March 9.

Rick Corley
President of BMSS

BMSS Reception at the March SOT Meeting

Rick Corley, President

The 49th Annual SOT Meeting and ToxExpo will be held in Salt Lake City, March 7 – 11, 2010. The BMSS meeting and reception will be held Tuesday evening, March 9, from 6:00 – 7:30 pm. We will pass along the agenda and room location in our next newsletter (February, 2010). After the usual socializing and business agenda, we will feature a keynote speaker with a local flavor, Dr. Chris Johnson, the Director of the Scientific Computing and Imaging Center and Co-Director of the Center for Integrative Biomedical Computing at the University of Utah. Chris is a dynamic speaker and will give us a glimpse into the future of biomedical simulation that should have a positive impact on our future. If you want a preview of Chris’s work and topics that he will cover, you can find additional information at <http://www.sci.utah.edu/>. If you have particular questions that you would like to pass on to Chris prior to the meeting so that he is better prepared to steer discussions towards areas of interest to BMSS, send them along to me and I’ll make sure he gets them.

Also, following last year’s BMSS reception, at the suggestion of our student representative, Susie Crowell (formerly Susie Ritger), several of the officers treated the students and post docs to dinner and drinks. Now that Susie has moved on to become our new Post-Doctoral representative, she is hoping to continue this “tradition” in 2010. So, while spontaneity is fine, if you know that you will be interested in participating (or helping the officers with the bill!) consider contacting Susie at least a week before the meeting so we can determine the right venue that can handle all of us. I’ll remind you in our February

~Guest Commentary~

“Bolstering the Discipline of Biological Modeling within Toxicology and the Broader Computational Community”*Jeff Fisher, University of Georgia*

I have been an Associate Editor for *Toxicological Sciences* for two years. Many of the manuscripts that I receive from the Editor to initiate peer reviews are either PBPK modeling papers or other papers using related computational analysis. Thus, I have the honor of reading many of your great papers that use computational tools to address important toxicological issues. But, how do we evaluate whether or not our research is having an impact on science? One metric that I would like to highlight is the *citation rate*, or the number of times a published paper is cited with your name on it. While I have not carried out a formal *citation rate* evaluation of the BMSS membership, I do have a sense of what constitutes a highly cited PBPK paper. If your modeling paper has been cited 20 to 30 times that is great, in my opinion. If it has been cited over 50 times, wow! Other fields in science may use numbers like 50-100 times for the great status and over 200 times is the wow status, or higher. Of course, other disciplines may have lower citation rates.

As you already know journals like *Toxicological Sciences* periodically evaluates how many times their papers have been cited over a period of time (perhaps 5 years) to determine what areas of toxicology are of the most interest and how they need to position themselves to have more impact. Since our discipline represents a rather small (but growing) number of practicing scientists, our citation rates appear to me to be lower than other prominent disciplines in toxicology. This could have unintended consequences in the future with regard to the general acceptance and funding for biological modeling research. To increase your impact in the field of Biological Modeling and to help us as a community, I encourage you to routinely review and cite previous published computational efforts related to your paper. Citing only your previous work may be ok, but you are selling the discipline short if you don't do a better job of covering your colleagues' work that is relevant to yours. Many people who are not involved in computational toxicology are reluctant to cite computational papers because they are not sure if they understand the paper or the 'bottom-line'. For example, when comparing the citation rate of a published PK analysis of a drug or chemical with a PBPK model using the same data, the latter paper will probably have the lower citation rate. Thus, if we don't take it upon ourselves to cite each other's work where it is appropriate, we face an uphill battle for broader acceptance of what we do. In closing, check out your own H-index value on Web of Knowledge in your spare time-it can be enlightening.

newsletter and provide her new e-mail address at that time.

Become a BMSS Officer or Student Representative in 2010*Rob DeWoskin, Vice President*

Have you ever wondered how the SOT Specialty Sections operate, or wanted to be a

part of the decisions that grow and improve the Biological Modeling Specialty Section? Every year some of the BMSS officers end their term, providing opportunities for others to participate. In 2010, we have three positions opening up if you would like to take a more active role in the BMSS: 1) Vice-President Elect (currently held by Jim

Bruckner [bruckner@rx.uga.edu], who will become the Vice-President in 2010); 2) Secretary Treasurer (currently held by Hugh Barton [Hugh.Barton@pfizer.com], who has admirably served the BMSS for many years), and 3) Student Representative (currently held by Susan Crowell [sritger@gmail.com]). You can submit your own name or someone you know who would like to help guide the BMSS in 2010, and also participate in the many other SOT initiatives to improve communications and collaborations among the different Specialty Sections. Read about the roles and responsibilities for each of these positions in our BMSS charter available at the SOT/BMSS web site (http://www.toxicology.org/ISOT/SS/BMSS/BMSS_BYLAWS.pdf), or feel free to contact any of the officers currently holding positions of interest to you, or any of the other officers (see the cover of the newsletter). Please send your name or your nominations to Jim Bruckner at bruckner@rx.uga.edu by January 1, so we can develop the new ballot for our 2010 officer election!!!

2009 Perry J. Gehring Student Award for Excellence in Biological Modeling

Rob Dewoskin, Vice President

If you are currently a student, post-doc, or mentor consider applying for the 2009 Perry J. Gehring Student Award for Excellence in Biological Modeling. The 2009 awardee was M. Marc-André Verner of the Université du Québec à Montréal, Montréal, QC, Canada, for his presentation “A PBPK modeling tool to predict infant internal exposure to persistent organic chemicals and assess critical periods of susceptibility”. At the BMSS reception last March in Baltimore, Marc received an 8x10 plaque honoring his win, and a \$500 cash award from our corporate sponsor AEGIS Technologies. Aside from the cash, software, and plaque, the award is a great citation for your CV as

you begin your job search. Some years, there are multiple awards!!

In 2010, we aim to beat the previous record number of submissions. Here is the process: each candidate, whose abstract has been accepted by the SOT for presentation at the 2010 Annual Meeting, must submit: (1) a copy of the abstract, (2) a letter (2 pages maximum) discussing the significance and potential impact of the work on toxicology and biological modeling, and (3) a letter of support from their major advisor. The application submission should be submitted as a single PDF file containing all supporting documents. To participate in the BMSS Student Award competition, membership in SOT and/or BMSS is NOT necessary.

Research areas of interest include all aspects of biologically based computational modeling. Areas of interest may include, but are not limited to: subcellular, cellular, tissue, organ or whole-body models of complex biological systems; dosimetry/pharmacokinetic or pharmacodynamic models; biological insights gained through model development and experimental evaluation; statistical or quantitative computational approaches for predicting toxicity or estimating parameters for predictive dose-response models, etc. **The deadline for submission of applications is January 15, 2009.** We encourage all interested graduate and postdoctoral students and their mentors to consider submitting their abstract for consideration. Full applications or questions should be submitted to Rob DeWoskin at dewoskin.rob@epa.gov.