

## BIOLOGICAL MODELING SPECIALTY SECTION NEWSLETTER

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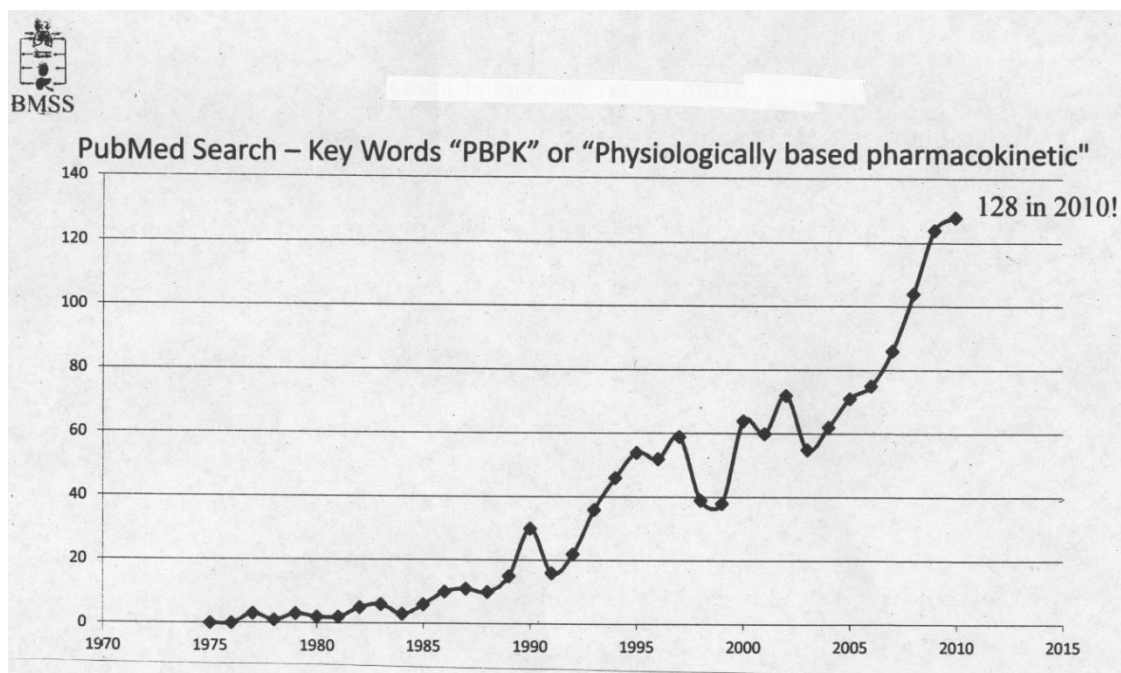
July/August 2011

Welcome to a new year, which should see significant innovations and advances in biological modeling. There will be numerous opportunities in our discipline, as it is an integral part of implementation the National Research Council's recommendations for "Toxicity Testing in the 21<sup>st</sup> Century." Those of you who attended our annual reception at the 2011 SOT meeting in Washington, DC, heard about a number of new federal research initiations at the U.S. EPA and FDA/NCTR. Jeff Fisher described *in silico* activities at FDA/NCTR, which included: development of QSAR and SAR endocrine disruptor and liver toxicity databases; utilization of 3-D drug-protein and QSADockingR computations; development of PBPK models for bisphenol A, methylphenidate and isoflavone; and construction of BBDR modeling of the maturing thyroid axis. Annie Jarabek, Lyle Burgoon, John Wambaugh and Nicole Kleinstreuer of the U.S. EPA discussed several new risk assessment initiatives involving biological modeling at their agency, including: Global to Genome (G2G) Project; Advancing to the Next Generation (NexGen) of Risk Assessment Project; the Virtual Liver Project; Virtual Embryo Tools and Models; and Developmental Toxicology (DevTox) Predictive Modeling Strategy. Extramural funding may become available through EPA STAR Grants and Cooperative Agreements. Four grants were awarded in 2011, under the Subheading "Computational Toxicology: Biologically-Based Multi-Scale Modeling."

2010 was the first year that BMSS used features of ToXchange to improve communications and to allow active member participation in decision making and planning future activities of BMSS. Preferences for professional activities were determined by voting on a ToXchange poll, as was selection of the winner of the Best Paper Award from a list of 10 manuscripts. BMSS was singled out at the 2010 SOT Specialty Section Presidents and Officers meeting for making the greatest use of ToXchange. Rob DeWoskin, our Past President, is to be congratulated for spearheading this effort. Let's continue to increase the use of this resource to communicate about events, funding announcements/sources, planned and ongoing research projects, open modeling positions, modeling resources, and other announcements pertaining to biological modeling. Contact Jim Bruckner ([bruckner@uga.edu](mailto:bruckner@uga.edu)) or Hisham El-Masri ([el-masri.hisham@epa.gov](mailto:el-masri.hisham@epa.gov)) about information you would like to have included on ToXchange or in the next BMSS Newsletter.

*Jim Bruckner*  
*President of BMSS*

## Growth in PBPK Modeling and Resulting Publications



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

As announced previously, the 2011 winner of this award was Anne Loccisano for her work entitled “Development of Human Gestation and Lactation PBPK Models for Perfluorooctanoate (PFOA) and Perfluorooctanesulfonate.” Anne is a postdoctoral fellow, under the direction of Mel Andersen and Harvey Clewell, at the Hamner Institutes.

Both graduate and postdoctoral students are eligible to apply for the award. Each applicant must be sponsored by his/her major professor, who must write a letter of recommendation (2-page maximum) to accompany the Abstract of the presentation the student will make at the 2012 SOT Annual Meeting in San Francisco. The applications should be submitted by January 9, 2012, to Jim Bruckner ([bruckner@uga.edu](mailto:bruckner@uga.edu)), Hisham El-Masri ([el-masri.hisham@epa.gov](mailto:el-masri.hisham@epa.gov)) or Cecilia Tan ([tan.cecilia@epa.gov](mailto:tan.cecilia@epa.gov)).

You can make a contribution to the Perry J. Gehring Biological Modeling Student Award Endowment Fund [here](#).

## BMSS Best Paper Award

As announced previously, the winners of the Best Paper Award published in 2010 were Nicholas Luke, Reeder Sams, Mike DeVito, Rory Conolly and Hisham El-Masri for their manuscript

entitled "Development of Quantitative Model Incorporating Key Events in a Hepatotoxic Mode of Action to Predict Tumor Incidence." If you have read a quality article that is published in a peer-reviewed journal and related to modeling, that you would like to nominate, submit the Abstract and a PDF of the article (if possible) to Cecilia Tan ([tan.cecilia@epa.gov](mailto:tan.cecilia@epa.gov)) in November or December, 2011. You are also welcome to submit a paper of your own or that of a colleague, so long as it is published in calendar year 2011.

### **New BMSS Officers and Student Representatives in 2012**

We will need to elect a new Secretary-Treasurer, to replace Jerry Campbell, who has done a fine job for the last 2 years. We certainly appreciate the time he has devoted. BMSS will also elect an additional Councilor. Miyuki Breen, our new Graduate Student Representative, will likely receive her Ph.D. in 2012, and then take the place of Susan Ritger Crowell as Postdoctoral Student Representative. A new Graduate Student Representative would then need to be selected. Susan has served both as the Graduate Student and the Postdoctoral Representative and has played a very active role on the Executive Committee. She has been a big help with several BMSS activities, including preparation of the BMSS poster displayed at the 2011 SOT meeting in Washington, DC. BMSS members who would like to be a candidate for one of the aforementioned offices are encouraged to send your name and a one-paragraph biosketch to Jim Bruckner ([bruckner@uga.edu](mailto:bruckner@uga.edu)) or Hisham El-Masri ([el-masri.hisham@epa.gov](mailto:el-masri.hisham@epa.gov)) by December 16, 2011.

Hisham has graciously agreed to serve as the BMSS Web Site Liaison and as our ToXchange Community Site Administrator, as well as Vice President. The two new positions' activities include making modifications or updates to our site on ToXchange and assisting me with posting pertinent announcements, dates, lists, documents and other items on the web.

### **BMSS Sponsored and Endorsed Sections for the 2012 SOT Annual Meeting**

The following proposals have been approved by BMSS Council and submitted to the SOT Continuing Education and Scientific Program Committees for review.

- Sponsor:        Discovering Novel Hypotheses for Mechanisms of Toxicity from High-Content Data Sets (Symposium or Workshop)
- Key Data Investigation Strategies for Characterization of Toxicity Mechanisms (Symposium or Workshop)
- The Impact of Global Climate Change on Environmental Toxicology and Chemistry (Workshop)

Sponsor: Specialized Techniques for Dose-Response Assessment and Risk Assessment of Chemical Mixtures (Advanced Continuing Education)

Advanced Applications of Dosimetry Modeling in Risk Assessment (Advanced Continuing Education)

The Use of Physiologically Based Pharmacokinetic Modeling to Inform Early Life Sensitivity to Chemical Toxicity (Advanced Continuing Education)

Basic Concepts of Dosimetry Modeling Applied to Risk Assessment (Basic Continuing Education)

Transforming Environmental Health Protection: Results from the Tox21 Consortium (Symposium)

Linking Exposure Science to Current and Future Pesticide Risk Assessment: From Biomonitoring to Modeling to High ... (Symposium)

A Systems Toxicology Approach to Understanding Traditional and Emerging Chemical Threats (Symposium)

Meeting the Challenge of Nanomaterial Hazard Assessment with QSAR: Opportunities, Challenges and Success (Symposium)

The Use of Emerging Science and Research Approaches for Regulatory and Environmental Health Decisions (Workshop)

Global to Genome (G2G): Specification of a Computational Platform for Seamless Data Flow and Computational Modeling in Support of ... (Workshop)

Nanotoxicology: Nano-QSARs and Computational Modeling: Strategies, Challenges and Recent Advances (Workshop)

**BMSS 2011 Numbers Corner** (as of May 31, 2011)

Number of Active Members: 129

Operating Funds: \$9,512

Perry J. Gehring Endowment Net Assets: \$33,078