



# IN VITRO AND ALTERNATIVE METHODS (IVAM) Specialty Section Newsletter

Volume I, Issue I

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## IVAM SPECIALTY SECTION

Last year, the *In Vitro* Specialty Section (IVSS) was renamed to the **IVAM SS** to better reflect the focus and goals of the development of alternative methods for the reduction, replacement, and refining of animals in toxicology testing. Founded in 1994, the SS has since effectively promoted its role and fulfilled its goals through the efforts of concerned members with expertise in the application of *in vitro* techniques that address problems of cellular toxicity.

IVAM areas of interest include: understanding basic cellular processes involved in the induction of adverse outcomes of specific mammalian organs; the development of simple to complex cellular and sub-cellular systems to predict toxicity *in vivo*; and, evaluation of *in vitro* tests as applications for risk assessment.

Other significant topics of interest include *in vitro* test validation, especially for evaluating all aspects of test development and test method acceptance for experimental or regulatory purposes. The IVAM SS conducts regular meetings throughout the year and also at the annual SOT meetings to discuss these topics.

In addition, the IVAM SS sponsors three student awards for Best Poster/Presentation/Abstract on subjects related to *in vitro* toxicology, as well as continuing education courses and symposia at annual meetings.

Currently elected officials consist of the President, Vice-President, Vice President-Elect, Secretary/Treasurer, Councilors, Past-President, Student Representative, Vice-Student Representative, and Post-doc/Fellow representative.

## Call for Nominations of Executive Committee Officers:

VICE-PRESIDENT ELECT  
COUNCILOR  
VICE STUDENT REPRESENTATIVE  
POST-DOC/FELLOW REPRESENTATIVE



Nominations for new Executive Committee Officers are now being accepted. Support your IVAM by nominating an individual whom you think may be able to serve our needs and goals as an officer of the In Vitro Specialty Section. Self-nominations may also be sent. Nominations will be collected and a ballot will be sent to IVAM members. New officers will be sworn in and take office next May. Please send your nominations to David Allen, VP at [allen7@niehs.nih.gov](mailto:allen7@niehs.nih.gov), who will serve as Nomination Committee Chairperson.

Serving as an elected officer helps shape the IVAM and through your leadership helps advance the application of *in vitro* techniques.

The Vice-President Elect is a very important leadership position for the Specialty Section. The elected individual will serve for one year as Vice President after one year of serving as VP Elect and then become President of the In Vitro Specialty Section.

Councilors serve two years and aid in the development of IVAM and often lead key committees.

2008-20089

### Executive

#### Committee:

President: Frank A. Barile  
Vice President: David Allen  
Vice President-Elect: Sue M. Ford  
Secretary-Treasurer: Sharon Meyer  
Councilor: Brian Cummings  
Councilor: Renee M. Gardner  
Past-President: Dan Kemp  
Student Representative: Ann Marie Matei  
Vice Student Representative: Haitian Lu  
Post-doc/Fellow representative: Kristina Wolf

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Paracelsus 1493-1541

**“All things are  
poisons and  
nothing is  
without poison,  
only the dose  
permits  
something not  
to be  
poisonous.”**

## A MESSAGE FROM THE PRESIDENT

Formerly known as the In Vitro Specialty Section (IVSS), the new In Vitro & Alternative Methods (IVAM) Specialty Section has developed into an impressive network of scientists and students who have made significant advancements and contributions to ***in vitro* toxicology**. This year IVAM will focus on: 1. growing its membership, particularly through increasing student awareness and participation; 2. recruiting active participation from its membership; 3. soliciting contributions from members for committee work; and, 4. establishing an effective communication network within the *in vitro* community. Increasing funding and sponsorship for IVAM activities and awards is also important in order to advance the goals of IVAM and build

on its achievements.

The IVAM SS Executive Committee needs input regarding programs for future Society of Toxicology meetings. Sponsorship of workshops, continuing education programs, and symposia are all important for the advancement and understanding of *in vitro* and cytotoxicology techniques. Sponsorship also allows IVAM SS members to actively participate in and help in the conduct of the programs of interest to the Specialty Section, particularly at the annual SOT meeting. As President, I ask that all SS members consider active involvement in the SS by offering your time, effort, and experience as well as partaking in program organization and nomination of topics for symposia.

As new *in vitro* test methods are developed and validated, the IVAM SS is poised to be at the forefront as a leader in the advancement of *in vitro* sciences. The participation and contributions of government and industry leaders will follow. Finally, IVAM SS members can also promote *in vitro* sciences by serving on committees, participating in review sections and actively advocating for the funding and development of *in vitro* methods and technologies.

Regards,

Frank A. Barile, Ph.D.  
President, IVAM Specialty Section

## Goals of the In Vitro and Alternative Methods Specialty Section



- To increase the membership
- Establishing a committee structure to provide a mechanism for active participation of our membership
- Enhancing the website so it truly adds value to our IVAM membership
- Producing a great program for the upcoming SOT Annual Meeting

## A MESSAGE FROM THE PAST-PRESIDENT



Mathieu Orfila 1787-1853



It has been a pleasure serving as President of the *InVitro* and Alternative methods specialty section. During my tenure as VP-elect, VP, President and now Past-President this specialty section has gone through a multitude of changes.

Thanks to the great people I have worked with (Julio Davila, Sidney Green, George DeGeorge, and Vincent Murphy) and am still working with (Frank Barile, David Allen, Sue Ford, Brian Cummings, Renee Gardner and all the other members of IVAM) we have made many strides into transforming this specialty section into a more member focused group and it all started with a name change!

One of the major changes that has occurred while I have been involved with this specialty section was to change the name from the *in-vitro* specialty section to IVAM. We felt this better captured the focus of our membership and hopefully the future direction of in vitro research. We

felt the previous name was almost exclusive for *in vitro* work and we wanted everyone in SOT to recognize that we also want to be involved in any alternative methods that could potentially reduce the number of animals used in scientific research.

This specialty section has also made tremendous strides in submitting symposium, roundtable, and CE course ideas. I know with all of the great ideas that we have received this will only continue to grow under Frank's leadership. While not all of the ideas that were submitted have been accepted for future SOT meetings Frank and Dave are working diligently on getting feedback from SOT-HQ on how we could rework some of these fantastic ideas to get them into future SOT programs.

Another big change for the specialty section was moving the reception from an evening hors d'oeuvres reception to a luncheon reception which was one of the most

highly attended receptions we had! It appears that this format will continue in the future.

And finally, the best part with being involved in this specialty section was the student awards. It is truly amazing how much fantastic and exciting research is being done in this arena, and the most difficult part is to rank this research for the awarding process. Many of the students who have won awards have become very active members of this specialty section and that has truly enriched our membership.

So I would like to thank everyone for giving me the opportunity to serve on this great specialty section. I look forward to future meetings, under this great Executive Committee, which will only continue to strengthen this specialty section.

Regards,  
*Daniel C Kemp*

Daniel Kemp, PhD  
Past-President –IVAM Specialty Section

## Colgate-Palmolive Grants for Alternative Research

**The IVAM SS is proud to announce its participation with the Colgate-Palmolive Grants for Alternative Research.** This research award program identifies and supports efforts that promote, develop, refine, or validate scientifically acceptable animal alternative methods to facilitate the safety assessment of new chemicals and formulations. Scientists at any stage of their career may submit a proposal. High priority will be given to projects that use *in vitro* or non-animal models and focus on:



Reproductive and Developmental toxicology  
Neurotoxicology  
Systemic toxicology  
Sensitization  
Acute toxicity

The maximum award in any one year will be \$40,000.

Award applications are due at SOT Headquarters by **October 9<sup>th</sup> deadline**. For more information, go to [www.toxicology.org](http://www.toxicology.org) (select "Awards and Fellowships")

Other grants sponsored by Colgate-Palmolive through SOT, and are endorsed by other specialty sections include:

## Student/Post-Doc Awards 2009

Every year the IVAM recognizes outstanding student scientists for their work in the field of *In Vitro* Toxicology. Abstract submission deadline for the 2009 SOT Annual meeting is **01 January 2009**.



### REQUIREMENTS:

Provide a letter of support from an advisor.  
Poster must be presented at the annual SOT meeting.



The winners receive awards up to \$500 and are for either graduate students or post-doctoral fellows. Award recipients will be announced at the IVAM Lunch reception at the Annual Meeting in Baltimore

## 2008 IVAM SPECIALTY SECTION STUDENT AWARDS

And the Winners are...

At the National Meeting in Seattle 2008 the IVAM Specialty Section honored it's own during a luncheon at the Sheraton Grand Ballroom. This well attended meeting was highlighted by announcement of the IVAM SS Student Awards. These awards highlight the interest of the specialty section, which include studies of the basic mechanism of cellular injury for target organ systems and development of in vitro tests as alternatives to animal research. Each award winner received a plaque and a check for \$500, \$300 or \$200.

The first place winner was Kristina Wolf from the Eshelman School of Pharmacy at The University of North Carolina at Chapel Hill. The title of her abstract was: "Use of Rat and Human Sandwich-Cultured Hepatocytes and a Cassette Dosing Approach to Assess Inhibition of Bile Acid Transport."

The second place winner was Nicholas Radio from the U.S. Environmental Protection Agency, National Health and Environmental Effects Research Laboratory. Title: "Comparison of Neuroscreen-I and Cerebellar Granule Cell Cultures for Evaluating Neurite Outgrowth Using the ArrayScan High Content Analysis System."

The third place winner was Leshuai Zhang from the Center for Chemical Toxicology Research and Pharmacokinetics at North Carolina State University. Title: "Biological Interaction of Quantum Dots Nanoparticle in Skin and Human Epidermal Keratinocytes."

The IVAM had numerous student submissions this year. We would like to thank the students that participated as well as the IVAM executive committee (EC) members who reviewed the abstracts.

[The deadline for the upcoming 2009 IVAM awards to be presented at the SOT 48<sup>th</sup> Annual Meeting & ToxExpo in Baltimore is 01 January 2009](http://www.toxicology.org/IS). For information and application, go to <http://www.toxicology.org/IS>

The IVAM Specialty Section also awarded plaques of recognition commemorating the service of several outgoing officers. These included Dr. Daniel Kemp, who completed his term as President; Dr. Sue Ford for her service as Secretary/Treasurer; Dr. Vincent Murphy for his service as a Councilor, Prajakta Palkar who served as the Student Representative and Dr. Sonia Miranda who served as the Postdoctoral Fellow Representative. The IVAM thanks these individuals for their hard work and service.

**"Students Must Be Present to Win the 2008 IVAM Student Award"**





MB Research Labs



## MB RESEARCH BEST POSTER: DISTINCTION IN PRACTICAL IN VITRO AND ALTERNATIVE METHODS TOXICOLOGY

This MB Research award is a new award for the IVAM Specialty Section. This award will be open to Post-Doctoral and Fellow students. The official title of the award is "MB Research Award for Distinction in Practical In Vitro and Alternative Toxicology Methods," and is meant to focus on the practical aspects of in vitro or alternative methods as opposed to basic research or mechanism based research. This award will have an independent panel of judges composed of MB Research staff and IVAM executive council members. This award will be judged on best abstract submitted. Only abstracts submitted for the Annual Society of Toxicology meeting will be considered for this award. The deadline for applying to the MB Research Award is **01 January 2009**. If you are interested in being considered for this award, please send abstracts to [edelacruz@mbresearch](mailto:edelacruz@mbresearch) or [degeorge@mbresearch.com](mailto:degeorge@mbresearch.com).

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## MEMBER STATISTICS

Recent membership statistics (as of June 2008):



	Full	Assoc	Student	Total
2008	125	30	23	180*
2007	107	26	24	157
2006	90	22	16	128
2005	100	25	21	146
2004	74	20	14	108
2003	66	20	0	86

includes 2 post-doctoral members for 2008



As of June 2008, IVAM has a total of 180 members, which is up from 157 members at this same time last year. More toxicologists are discovering the uses of *in vitro* methods to quickly and cost-effectively evaluate the potential benefits of the newly developed technologies. Each member can actively participate in the growth of the IVAM by increasing awareness of the functions and goals of the IVAM to colleagues and students. In particular, jointly we can concentrate our efforts toward recruiting student and post-doctoral representation, both of which represent the future of *in vitro* methods.

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## Developing Tomorrow's *In Vitro* Toxicology Leaders

Students are a critical component of IVAM. Many student members of SOT do not realize that their membership entitles them to a specialty section membership at no additional cost. Student members are needed to expand exposure of the IVAM and develop the leaders of tomorrow's toxicology laboratories.

Inviting students to join the IVAM and encouraging them to participate in poster sessions, educational programs and the IVAM Student/Post-Doc Awards may help form a lasting bond between the students and the IVAM.

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## Advances in *In Vitro* Toxicology: Books, Methods, Programs

### Websites

National Center for Computational Toxicology—<http://www.ncbi.nlm.nih.gov/sites/entrez/>  
National Institute for Public Health and the Environment—<http://www.rivm.nl/interspeciesinfo/>  
Toxicology Data Network—<http://toxnet.nlm.nih.gov/>

### Books

**Principles of Toxicology Testing** by Frank A. Barile  
**Toxicity Testing in the 21st Century: A Vision and a Strategy** by The National Academic Press  
**Clinical Toxicology: Principles and Mechanisms** by Frank A. Barile  
**Principles and Practice of Toxicology in Public Health** by Ira S. Richards  
**Mechanistic Toxicology: The Molecular Basis of How Chemicals Disrupt Biological Targets, Second Edition** by Urs A. Boelsterli  
**Clarke's Analytical Forensic Toxicology** by Anthony C. Moffat  
**Molecular and Biochemical Toxicology** by Robert C. Smart and Ernest Hodgson




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## ANNOUNCEMENT –IVAM EXECUTIVE OFFICER ELECTION DATE

An Election Ballot will be sent by mail to all IVAM members at the beginning of the new year. The new election date has been set for **Feb 15th** to facilitate a smoother transition between incoming and outgoing Executive Committee Officers.




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## Important Dates to Remember

The following are important deadlines:

SOT Abstract Submission Deadline:	<b>Oct. 3<sup>rd</sup>, 2008</b>
SOT 2009 Award Nominations:	<b>Oct. 9<sup>th</sup>, 2008</b>
Colgate-Palmolive Grants for Alternative Research	<b>Oct. 9<sup>th</sup>, 2008</b>
IVAM Student Award Application Deadline:	<b>Jan. 1<sup>st</sup>, 2009</b>
MB Research Best Poster: Distinction in Practical <i>In Vitro</i> and Alternative Methods Toxicology:	<b>Jan. 1<sup>st</sup>, 2009</b>
IVAM Nomination Committee Announces Candidates for Executive Committee:	<b>Feb 15<sup>th</sup>, 2009</b>





## IVAM Goals:

Produce a program for the upcoming SOT membership that both entices and enlightens

Establish a committee structure to provide a mechanism for active participation of our membership

Increase IVAM membership

<http://www.toxicology.org/isot/ss/specsection.asp#INVITRO>

Stay tuned for future Newsletters with updates on the "Colgate-Palmolive Post-Doctoral Fellowship in In Vitro Toxicology," and the "Colgate-Palmolive Grant for Alternative Research."



## Stakeholders Engaged in the IVAM Mission



An increasing number of government, industrial, academic, and private organizations are involved in promoting, advancing, and supporting the 3R's (reduction, refinement, and replacement of animals in toxicological testing). In this issue of the IVAM newsletter, we focus on efforts within the U.S. Federal government related to research, development, translation, and validation of alternative test methods that reduce, refine, or replace the use of animals in toxicology testing.

### ICCVAM

The ICCVAM Authorization Act of 2000 established the Interagency Coordinating Committee on the Validation of Alternative Methods (ICCVAM). The law was enacted "to establish, wherever feasible, guidelines, recommendations, and regulations that promote the regulatory acceptance of new or revised scientifically valid toxicological tests that protect human and animal health and the environment while reducing, refining, or replacing animal tests and ensuring human safety and product effectiveness." The purposes of ICCVAM, as stated in the law, are to:

- Increase the efficiency and effectiveness of U.S. Federal agency test method review
- Eliminate unnecessary duplication of effort and share experience among U.S. Federal regulatory agencies
- Optimize utilization of scientific expertise outside the U.S. Federal government
- Ensure that new and revised test methods are validated to meet the needs of U.S. Federal agencies
- Reduce, refine, and/or replace the use of animals in testing where feasible

ICCVAM is a permanent interagency committee of the National Institute of Environmental Health Sciences (NIEHS) administered by the National Toxicology Program (NTP) Interagency Center for the Evaluation of Alternative Toxicological Methods (NICEATM).

### NICEATM

NICEATM was established to:

- Administer ICCVAM
- Provide technical and scientific support and coordination for ICCVAM and ICCVAM working groups, peer review panels, expert panels, workshops, validation efforts, and the scientific advisory committee
- Organize committee-related activities, such as peer reviews and workshops for test methods of interest to U.S. Federal agencies
- Provide a mechanism for communication among agencies as well as between agencies and test method developers

NICEATM provides a range of scientific and operational support for ICCVAM test method evaluations, including evaluating submissions to ICCVAM and assembling current information about toxicity test methods. As resources allow, NICEATM also conducts and coordinates international validation studies to evaluate potential new alternative test methods that may reduce, replace, or refine animal use for toxicity testing and that may provide improved safety assessments for people, animals, and the environment.

### SACATM

The Scientific Advisory Committee on Alternative Toxicological Methods (SACATM) was established in 2002 to advise the NIEHS Director, ICCVAM, and NICEATM regarding statutorily mandated ICCVAM functions. SACATM also provides advice to NIEHS and NICEATM on NICEATM activities. SACATM is comprised of representatives from industries regulated by the ICCVAM member agencies, national animal protection organizations, and other ICCVAM stakeholder groups such as academic institutions, state government agencies, international regulatory bodies, or test method developers.

For more information about **ICCVAM**, **NICEATM**, and/or **SACATM**, go to:

<http://iccvam.niehs.nih.gov>. The achievements accomplished by these and other groups active in the area of alternative approaches to toxicology testing will be outlined and summarized in later issues of the IVAM Newsletter.

## See you in Baltimore in 2009



### Baltimore, Maryland

#### The Host City

Baltimore, Maryland, is the host-city for the Society of Toxicology's 48<sup>th</sup> Annual Meeting. Scientific Sessions will be held at the Baltimore Convention Center during the week of March 15–19, 2009.

Baltimore, known as "Charm City" for its hospitality, offers a world of unique attractions, entertainment, fine dining, and one-of-a-kind experiences. The crown jewel and an iconic landmark of Baltimore is the popular and scenic Inner Harbor where you'll find the world-famous National Aquarium. Surrounding the Inner Harbor, discover Baltimore's rich history in the city's many charming and historic neighborhoods. Whether you're strolling past unique shops on the old cobblestone streets of Fell's Point or experiencing the culture of Baltimore's Mount Vernon Place, each neighborhood has something unique to offer. Baltimore is also home to many national historic landmarks, such as Fort McHenry and the Star-Spangled Banner Flag House. The city was also influential in the shipbuilding and transportation industries and is home to the first public railroad in the United States.

While Baltimore has certainly played a crucial part in America's history and takes pride in its heritage, it is continuing to rapidly develop. Baltimore is now a major travel destination and welcomes 12 million business and leisure visitors each year. Even better, most sites and neighborhoods are within walking distance of each other, making Baltimore an ideal place for business as well as pleasure—the perfect city to host SOT's 2009 Annual Meeting!

#### Baltimore Fun Facts!

- The Baltimore's World Trade Center is the world's largest five-sided building.
- The first printing of the Star Spangled Banner took place in Baltimore in 1814. The original manuscript, written by Francis Key Scott, is on display at the Maryland Historical Society.
- Baltimore was home to the first ice cream factory in America in 1851.
- The first umbrella used in the United States was in Baltimore in 1772. Almost sixty years later, the city built the first American umbrella factory.
- Baltimore College of Dental Surgery was the first dental college in the world, which started in 1839.
- Built in 1827, the Baltimore and Ohio Railroad was the first public carrier railway in the U.S.
- In 1844, Samuel Morse operated the first telegraph line in the United States, which went between Washington, DC and Baltimore.
- Baltimore is home to the first formal monument to George Washington in the United States. Completed July 4, 1829, it still stands at Mount Vernon.

#### Looking for more?

Come early or stay after the SOT Annual Meeting and explore the surrounding nearby cities of the East Coast. Baltimore is easily accessible to many major cities, such as Washington, D.C., New York City, and Philadelphia. Only about 30 miles south of Baltimore is Maryland's quaint seaport town of Annapolis.

Believe it or not, we haven't even covered half of the many things to see and do in Baltimore. For a complete listing and other information about the city, call 877-BALTIMORE or visit [www.baltimore.org](http://www.baltimore.org), created by the **Baltimore Area Convention and Visitors Association**. They even have an interactive map that allows you to search and map out attractions, restaurants, historic sights and much more. The Baltimore Convention and Visitor Association will also be running two information desks at the Convention Center during the Annual Meeting from 10:00 AM–5:00 PM.

