



# NEWSLETTER

## Happy New Year from BMD

*Thinking about a warmer climate- Kona, HI Site of MARC VIII*



### Executive Committee

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Rolf Zeisler

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Elizabete Fernandes

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Happy New Year from the Biology and Medicine Division! The following pages provide an overview of the Biology and Medicine Divisions upcoming activities and other areas of potential interest to our members. We also are working to update the website. Your feedback is greatly appreciated. Contents include:

1. Chairman's Message
2. Update on Technical Committees
3. Update on BMD Related Position Statements
4. Upcoming Conferences

We hope you find the following information useful and we encourage you to get involved. There are many opportunities for involvement including the executive committee, developing ANS position papers, review of papers for the national meetings, and participation at national meetings by giving papers or helping to organize technical sessions.

Sincerely,

Biology and Medicine Executive Committee

<http://bmd.ans.org>



## CHAIRMAN'S MESSAGE

Welcome again to past and new members of the BMD! In our last newsletter I had the opportunity to present the continued positive trends in the BMD membership numbers, which has added again to our membership in 2007. I have pointed out the challenge to match this trend with increased commitment to the governance of our Division and the Society. This need is easily recognizable, but much more difficult to satisfy in reality. We are, with the help of many new members, in the process of creating a new and younger team for the Division leadership through all levels of the BMD activities. We have a slate of candidates for the executive functions who has subscribed to a renewal of BMD's interest and activities. We are reviewing the activities of the Division's technical committees and the Division's representation within the Society. But most importantly, we need to communicate with our membership in a two-way fashion. You, the member, have to tell us what you are expecting from the Society and this Division and we hope that you will actively contribute to the many things that are going on. We, the Division Officers, Executive and Technical Committee members are here to provide enabling tools to you and communicate with you to enhance your scientific, technical, and professional career.

With this, I want to draw your attention to the many possibilities of the electronic media for communication. BMD is developing its website, <http://bmd.ans.org/>, to a more up-to-date information medium for our members. Did you check it out lately to learn about your Division representatives or conferences relating to our field? Our webmaster hopes that the message board will fill up with items you wish to discuss or with requests you may have. Of course, there is also the more private medium of e-mail; you are welcome to write to any of the listed BMD representatives. In our quest to inform you using the electronic medium, I wish to emphasize that we respect your requests to privacy. However, in many instances an e-mail message to the BMD membership may be more

efficient than a newsletter contribution or a web posting. Hence, I would like to encourage you to sign up with your ANS membership profile to receive such e-mail messages. ANS encourages that you make this a positive decision, please join in.

We are focusing on increasing the diversity of our Executive Committee; I hope that candidates from abroad and our student membership will find the support of BMD members in the upcoming elections. Please return your ballots. Some of our renewed technical committees and their activities are further detailed in this newsletter. Of course our most successful activities, organization of sessions and participation in the ANS meetings, the upcoming topical conferences on Isotopes for Medicine and Industry (June 2008) and Methods and Applications of Radioanalytical Chemistry (MARC-7, April 2009) will continue to be top priorities of the BMD Executive Committee. Please mark your calendars with the dates for the ANS Annual and Winter Meeting and the MARC-9 conference. Another important date is the closure for the applications to the ICAA Young Scientist Award (see below).

Do you, the member, have a contribution to BMD, abstracts for presentations, session topics, technical issues, that you wish to make, please let us know via e-mail or any other means. We, the Executive Committee and the chairs of our Technical and Program Committees are expecting to hear from you.

Rolf Zeisler, Chair



## PROGRAM COMMITTEE REPORT

The Division sponsored 6 sessions at the recent ANS Winter Meeting in Washington D.C. in November with a total of 36 papers presented. Three of the sessions, with nine contributions each, were divided into split sessions. Two sessions were in honor of retiring long-term members Dr. Robert Greenberg and Dr. Richard Lindstrom and covered topics in Metrology and Quality Assurance and Neutron Beam Applications. The third split session dealt with applications of Nuclear Methods to Nano and Micro-Domain sciences. Other sessions focused on nuclear-based imaging techniques and boron neutron capture therapy.

This June, the Division will initiate new programmatic events at the 2008 Annual Meeting in Anaheim. BMD will provide primary sponsorship for the embedded topical "Isotopes for Medicine and Industry". The embedded meeting will showcase our efforts in June, but we will also sponsor our first tutorial session Neutron Activation Analysis – Status after Five Decades. The intent is to provide a comprehensive discussion of the basics of the method, complementary techniques which have been derived to enhance either the sensitivity or applicability of the method, and to take a realistic look at the place activation analysis holds in today's analytical world. The tutorial aims at refreshing knowledge of professionals in the nuclear science and applications domain and providing a glance at the synergistic opportunities for young professionals and older hands alike to integrate activation analysis into today's methods and practice. Additional special sessions planned for the Annual Meeting include studies in Radiochemical Separations and Neutron Depth Profiling.

The 2008 Winter Meeting will be held in Reno, Nevada in November. For that meeting we are planning special sessions on Advances and Issues in Computational Phantom Modeling in collabora-

tion with the Computational Medical Physics Working Group and (Anti) Coincidence Instruments and Software for Activation Analysis and Other Applications. A third special session on body composition measurements and the use of in-vivo techniques is under consideration.

Finally, the eighth installment of the ANS topical meeting, Methods and Applications of Radiochemistry (MARC) will be held in April, 2009. Information and call for papers are anticipated this spring.

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*P.S. Since Dennis has agreed to the nomination for the BMD Vice-Chair position, we are looking for a BMD member who can step up to this important function. Please let any of the BMD officers know if you like to take over this responsibility.*

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## UPCOMING CONFERENCES AND EMBEDDED TOPICAL MEETINGS

## MARC VIII-METHODS AND APPLICATIONS OF RADIOANALYTICAL CHEMISTRY

The Biology and Medicine Division along with the Isotopes and Radiation Division and Northern California section of the ANS will host the 8th International Conference on Methods and Applications of Radioanalytical Chemistry. The conference will be held April 6-11, 2009 in Kona, HI. Over 250 scientists typically attend the meeting. Additional details of the conference and proceedings may be found at the conference website: <http://altmine.mie.uc.edu/nuclear/marc/index.shtml>

Please contact Sam Glover ([sam.glover@uc.edu](mailto:sam.glover@uc.edu)) or Steve LaMont ([lamont@lanl.gov](mailto:lamont@lanl.gov)) with any questions regarding the MARC conference.

Mahalo,  
MARC VII Organizing Committee

## ISOTOPES FOR MEDICINE AND INDUSTRY

The Biology and Medicine Division is co-sponsoring an Embedded Topical Meeting at the American Nuclear Society June 2008 meeting. The program, entitled "Isotopes for Medicine and Industry", will discuss the continuing rapid growth of radioisotopes for both medical and industrial applications and how national and international interest has increasingly developed. The expanding applications and associated production issues surrounding the supply of research, diagnostic, therapeutic, environmental, and industrial radioiso-

topes will be discussed. The Call for Papers can be found on the ANS, BMD and IRD websites. Summaries are due by January 11, 2008. The various Technical Tracts to be discussed can be found on page 4 at <http://www.ans.org/meetings/docs/2008/am2008-cfp.pdf>; abstracts can be submitted via the link at <http://www.ans.org/meetings/index.cgi?c=n>

Contact: Ralph Butler, e-mail: [ButlerRa@missouri.edu](mailto:ButlerRa@missouri.edu)



## TECHNICAL COMMITTEES REPORTS

***Technical Committee on Trace Analysis***

The Committee facilitates communication among scientists from the various disciplines within BMD that are involved in, broadly speaking, the use or determination of trace substances based on the nuclear properties of those trace substances. These disciplines include those using stable or radioactive isotopic tracer methods, those involved in determination of trace amounts of radioactive substances, and those that may employ a variety of nuclear analytical methods in the quantitative determinations of trace constituents. In an effort to enhance the knowledge of both researchers and practitioners in biology and medicine, this committee strives to design technical sessions that bring together scientists involved in the development of analytical or diagnostic methods using trace substances, with those who apply those methods, with those who may benefit from the perspectives and discoveries of either or both.

***Technical Committee on Quality Programs and Metrology in Nuclear Analysis***

The Committee facilitates communication among BMD scientists on various aspects related to quality programs, quality assurance and metrology of nuclear analytical methods as they apply to various aspects of biological and medical research. Although quality programs and quality assurance are well-known terms to most researchers making analytical measurements, metrology may not be as familiar. Metrology is defined as the science of measurement and includes all aspects both theoretical and practical with reference to measure-

Recent ANS sessions topics relating to trace analysis focused on Nuclear Methods in Assessing Trace Element Status in Chronic Human Disease, Nuclear Methods in Support of Nano- to Micro-Domain Sciences, and the Development of Radiological Standards. No special sessions are planned for the 2008 ANS meetings since it is expected that three major international conferences will attract the research papers related to trace analysis, in particular the 9th Conference on Nuclear Analytical Methods in the Life Sciences (NAMLS-9) to be held in Lisbon, Portugal, 7-12 September 2008. The program for 2009 should be developed early and suggestions for topics are most welcome.

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ments. In practice metrology usually refers to understanding and characterizing the entire measurement process including detection limits, biases and uncertainties.

The Committee typically organizes one to two sessions at ANS meetings every year or two, and two sessions on Metrology and Quality Assurance were organized as part of the November 2007 ANS Winter Meeting. No sessions are planned for 2008, but sessions should be organized for 2009. Suggestions for special sessions are welcomed.

Contact: Robert R. Greenberg,  
[robert.greenberg@nist.gov](mailto:robert.greenberg@nist.gov)

*Computational Medical Physics Working Group*

The membership of the computational medical physics working group includes nuclear engineers, computational scientists, and medical physicists. One of the group's main objectives is to accelerate discovery in the field of medical physics through the collaborative development of advanced computational technologies. There are two forces driving this initiative; future clinical breakthroughs will require improved computational models, and the economics of health care in our society necessitate improvements in cost-effectiveness. In practice, this means that research and development tasks will increasingly be accomplished using computer simulations and relatively less on fabricated prototypes.

Within the field of medical physics, radiation cancer therapy is one of the major subspecialties. There is strong interest in utilizing high-energy beams of protons for cancer therapy in place of photon beams because this allows a reduction in radiation dose to healthy tissues. This is especially important for children with cancer. In the United States, proton therapy is already available at several major academic medical centers with another dozen in the planning or construction phases. These facilities are complex, expensive, and require teams

of highly-trained radiation specialists to design and operate. The ANS CMPWG has prepared a benchmark radiation transport exercise to help advance computational work in this emerging field. Many further advances are needed in the computation of therapeutic and stray radiation doses to patients, shielding, and beam delivery systems. Equally exciting developments are unfolding in other areas of medical physics, e.g., in the subspecialties of diagnostic imaging and nuclear medicine.

Under the leadership of Drs. Bernie Kirk and Glenn Sjoden, the CMPWG has fostered new collaborations that bridge disparate disciplines, institutions, scientific societies and geographical boundaries. As the incoming chair of this working group, I will continue this approach, with an increased emphasis on facilitating sustainable research projects, i.e., those with the potential for publications and extramural funding. With this, I would like to extend a sincere welcome to all who may wish to participate in our future activities. Let's work together on a beautiful mission!

Contact: Wayne Newhaser, Ph. D., e-mail: [wnewhaus@mdanderson.org](mailto:wnewhaus@mdanderson.org)

*From a Young Member of BMD*

As a graduate student and the student liaison to the BMD executive committee, I would like to share some of the exciting events coming up for young members of the division. The national ANS Student Conference is being hosted this year by Texas A&M University in College Station. The conference will be held from February 28th through March 1st, 2008 and registration for attendance and presentations (verbal and posters) is currently open at <http://ans.tamu.edu/2008Conference.html>. Students of all educational levels are encouraged present in the BMD presentation track, to which the BMD has generously donated prize money for outstanding papers. Professionals interested in recruiting, serving as judges, or presenting the Biology & Medicine

keynote talk are also welcome to attend. Registration will close January 31st, so don't wait too long to sign up! I know there is a lot of interest in radiation biology and medicine among the young members and I am looking forward to seeing the papers presented.

If you are an ANS member and are 35 or younger, you are automatically enrolled in the Young Members Group. This group aims to enable involvement of young members in ANS and support them in their transition from student to professional. Their web page, [ymg.ans.org](http://ymg.ans.org), will post future events.

Contact: Jennifer Koop, e-mail: [jenkoop@gmail.com](mailto:jenkoop@gmail.com)



UPDATE ON POSITION STATEMENTS

The Biology and Medicine Division is currently responsible for updating two position statements for the ANS. These include (1) the health effects of low level radiation, and (2) radon. Several BMD members are beginning to work on updating these position statements with the most current references and best available science. If you would

be interested in working on developing one of these statements, please contact Sam Glover ([sam.glover@uc.edu](mailto:sam.glover@uc.edu)) to express your interest. Currently available position statements are available on the American Nuclear Society website.

Contact: Sam Glover, e-mail:  
[sam.glover@uc.edu](mailto:sam.glover@uc.edu)

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**CALL for APPLICATIONS for the ICAA YOUNG SCIENTIST AWARD**

The International Committee on Activation Analysis / Modern Trends in Activation Analysis (ICAA / MTAA) has established an international award for young scientists who are making outstanding contributions to the field. The ICAA intends to bestow this award on an annual basis at a major activation analysis conference. The 2007 ICAA Young Scientist Award (YSA) was given at the MTAA-12 conference held September 21 to 26, 2007 at the Tokyo Metropolitan University, Japan. An award panel had selected Dr. Diandou Xu, Institute of High Energy Physics, Beijing, as the 2007 recipient. The ICAA wishes to acknowledge the financial contributions by the Reactor Institute Delft, the Center for Chemical Characterization and Analysis of the Texas A&M University, and the BMD and IRD of the ANS. The contribution of a complimentary registration by the MTAA-12 organizers for the 2007 award, and the NAMLS-9 organizers for the 2008 award are recognized with much appreciation.

The 2008 Young Scientist Award will be given at the 9th International Conference on Nuclear Analytical Methods in the Life Sciences (NAMLS-9), Lisbon, Portugal, 7-12 September 2008. Please refer to the Call for Applications for further details on the current solicitation published at the BMD website <http://bmd.ans.org/pdf/applications/ICAAYoungScientistApplication2008.pdf> or the NAMLS-9 site <http://www.namls9.itn.pt/ICAA%20Young%20Scientist%20Application%202008.pdf>

The deadline for submissions is March 1, 2008. The ICAA Young Scientist Award comprises an engraved plaque and a financial grant, which will be presented at the designated major international (nuclear) analytical chemistry conference occurring in the year of the award. The Award is established to promote the awardees' introduction to the community represented by the ICAA; the recipient is expected to participate at the designated conference and to present his work in a lecture. The financial grant not to exceed US\$ 1000.00 will be made towards the expenses incurred for attending the conference; a full complimentary registration to the conference will be provided by the organizers of NAMLS-9. The contribution towards travel expenses will be made available at or immediately after the conference.

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