



AMERICAN NUCLEAR SOCIETY MATHEMATICS AND COMPUTATION DIVISION

November, 2005
<http://www.mcd.ans.org/newsletters>

Message from the Chair

Greetings to all! My predecessor, **Bernadette Kirk**, has left the Division in an excellent shape, and has graciously been providing me with support and guidance! Thanks, Bernie!

I would like to congratulate **Dr. Richard Sanchez** and his colleagues that were associated with the ANS French Section and the French Nuclear Society, for the organization of a highly successful International Topical Meeting, M&C 2005, which was held in Avignon, France, September 12-16, 2005. In addition to attracting more than 300 papers, excellent technical tours, workshops, and poster sessions, were organized. I had the honor of thanking the organizers and greeting the participants. We also recognized two of our prominent members, **Prof. Barry Ganapol**, who received the first Pomraning Award, and **Dr. Forrest Brown**, who received the MCD Service Award.

In order to be able to serve you more effectively, I would like to conduct a survey of our membership. I am asking the Executive Committee, with assistance from the publicity and membership committees, to help me with this survey. I hope you will agree to participate.

Our Division is financially very healthy! This is mainly attributed to financial contributions of the organizers of M&C and Reactor Physics Topical meetings. Because of our relatively large balance, we have contributed to the annual ANS student meeting, purchased tickets for students who presented papers at MCD organized sessions, and contributed to the Dannels Scholarship. This year, with approval from the Executive Committee, we contributed \$2500 to the Landis Challenge; the ANS leaderships have formally thanked the Division for this contribution, which topped the \$50,000 challenge!

I would like to take this opportunity and thank our foreign colleagues who have always contributed to our topical meetings and sessions at the ANS national meetings. Their participation is one of the reasons for the success of these meetings. I ask our international colleagues to inform me as to how MCD can be more beneficial to them.

If you are not aware, under timely leadership of **Bernie Kirk**, MCD, in collaboration with BMD, has initiated a new Working Group on Computational Medical Physics. This group was formed because of the great need for computational tools and benchmarks, which will lead to the development of advanced therapy and diagnostics devices; the aim is to reduce the dose to healthy cells, reduce uncertainties in positioning of radiation beams and dose delivery mechanisms, and improve the imaging resolution. For further information, please visit <http://cmpwg.ans.org>. If you are interested in joining this working group, please communicate with **Bernie Kirk** at kirkbl@ornl.gov.

Finally, with the renewed interest in nuclear power generation, I challenge the MCD membership to participate in activities that lead to the development of advanced computational tools for accurate and efficient simulation of the complete reactor system. This is essential, especially for the design of advanced reactors and improved efficiency and availability of the existing reactors.

If you have any comments or suggestions, please contact me at haghighat@ufl.edu.

Sincerely,
Alireza Haghighat

2006 ANS Winter meeting: Mathematics and Computation Sessions

SUNDAY, NOVEMBER 13, 2005 1:00 p.m. - 2:00 p.m..
Program Committee Meeting: Council Room

Advances in Radiation Transport and Physics for
Radiation Detection Simulation

SUNDAY NOVEMBER 13, 2005 2:00 p.m. - 4:00 p.m.
Executive Committee Meeting: Council Room

WEDNESDAY, NOVEMBER 16, 2005 A.M.
Computational Methods: General I

MONDAY, NOVEMBER 14, 2005 P.M.
Current Issues in Computational Methods-Roundtable

WEDNESDAY, NOVEMBER 16, 2005 P.M.
Computational Methods: General II

TUESDAY, NOVEMBER 15, 2005 P.M.

PROGRAM COMMITTEE

Years in which our division holds its topical meeting are very busy for the Program Committee, and this year is no exception. I'll go ahead and speak for all those who attended MC2005 in Avignon (and all those unfortunate souls that were unable to make it...) and thank **Richard Sanchez** for all his hard work and dedication to his duties as Technical Program Chair. The meeting was a resounding success, due in part to the beautiful venue and marvelous weather, but primarily to the excellent technical content. Overall attendance and student participation were both very good. This meeting sets a very high standard for our topicals, but I think the team from the Northern California local section is up to the challenge. Our next topical will take place in **Monterey, CA in April 2007**. **Jasmina Vujic** of UC Berkeley is the Technical Program Chair for this meeting. I hope you'll all support the next topical the way you supported the one in Avignon.

The upcoming national meeting in Washington, D.C. includes five sessions sponsored by the Math and Comp Division: Transport Methods, Computational Methods I and II, a special session entitled Advances in Radiation Transport and Physics for Radiation Detection Simulation, and our Roundtable on Current Issues in Computational Methods. **Bill Martin** from the University of Michigan is organizing the Roundtable speaker for this meeting, and as of this writing, the identity of the speaker is still protected information. ☺

I'd also like to take this opportunity to ask for your help with several of the functions of the program committee. First, please think about possible subjects for special sessions for the next national meeting in November 2006. Many of the more interesting sessions at these meetings are organized by our members. Sessions can be proposed via the ANS website (<http://ans.org>). This process progresses most smoothly when commitments are secured from several participants before the call for papers is issued. Also, if you plan to propose a session, please let me know. I'll also draw your attention to the electronic paper review and the need for timely review of submitted summaries. I'm always looking for new active and willing reviewers – let me know if you'd like to be added to the list of reviewers.

Lastly, I'd like to recognize the contributions of several M&C members to the Program Committee. At the MC 2005 topical in Avignon, **Forrest Brown** received the M&C Division's Distinguished Service Award. He received this award, in part, because of his contributions as Program Committee Chair. He was instrumental in introducing the electronic paper review system to the division, and ultimately our division's success led ANS to adopt the process society-wide. Congratulations, Forrest. **Anil Prinja** stepped down from his Program Committee leadership role this year. Anil's professional approach to the Chair position has set an excellent example for all those to hold the job in the future. I'd also like to thank **Dmitriy Anistratov** for agreeing to take the position of Assistant Chair. He'll make the transition to Chair this year.

[Provided by **Todd Palmer**, Program Committee Chair]

Honors and Awards

Two awards were presented in Avignon, France during the M&C 2005 Topical Meeting banquet. Recipient of the Gerald C. Pomraning Memorial Award was **Dr. Barry D. Ganapol** from the University of Arizona, with the award citation reading as follows: *“In recognition of his many important contributions to the development of benchmark solutions to the neutron transport equation, accomplished by blending his expertise in theoretical mathematics, numerical methods and computation as applied to nuclear engineering applications and his contributions as a university educator.”*

Also presented during the banquet was the MCD Distinguished Serve Award presented to **Dr. Forrest B. Brown** of Los Alamos National Laboratory, with the award citation reading as follows: *“In recognition of his many outstanding contributions in developing the Mathematics and Computation Division via leadership, governance and programs as Member and Chair of the Executive Committee and Technical Program Committee, with special recognition for his leadership of the Division’s and Society’s implementation of electronic paper reviews.”*

[Provided by Paul Turinsky, Honors and Awards Committee Chair]

ANS-10 Standards Committee

ANS-10 Standards Subcommittee Report

The M&C Division sponsors the ANS-10 Standards Subcommittee. ANS-10 currently maintains four Standards in areas of interests to the M&C membership. These four Standards are:

ANSI/ANS-10.2-2000 Portability of Scientific and Engineering Software

ANSI/ANS-10.3-1995 Documentation of Computer Software

ANSI/ANS-10.4-1987; R1998 Guidelines for the Verification and Validation of Scientific and Engineering Computer Programs in the Nuclear Industry

ANSI/ANS-10.5-1994 Accommodating User Needs in Computer Program Development

Currently, ANS-10 has two Standards under revision: ANS-10.4 and ANS-10.5. **Dr. Charles Martin** (charlesm@dnfsb.gov) is the Chair for the ANS-10.4 Working Group. Several Working Group meeting have been held since the last ANS National Meeting. An additional one day Working Group meeting is tentatively scheduled for the week of November 13 in Washington D.C. Please contact Dr. Martin for additional information.

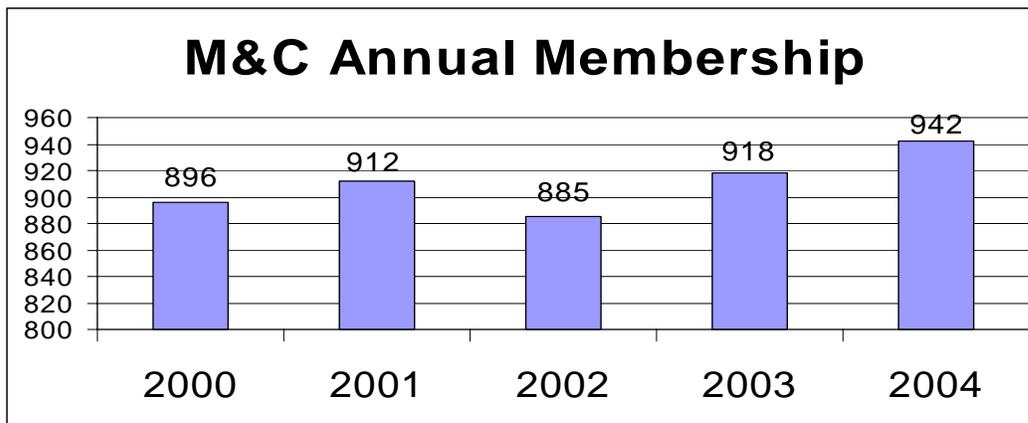
Andy Smetana is the Chair for the ANS-10.5 effort. The revision of ANS-10.5 is currently awaiting action by N-17 which is the ANS-10 Consensus Committee.

Finally, if you have an idea for a new Standard or an interest in serving on the ANS-10 Standards Subcommittee, please contact **Andy Smetana** (andy.smetana@srnl.doe.gov).

[Provided by Andy Smetana, Standards Committee Chair]

Membership Committee

The Mathematics and Computation Division is one of the smaller ANS division but our membership numbers have been relatively stable. Please remember to renew your ANS National Membership Dues for 2006, and be sure to check off M&C as one of your divisions. You can have more than the two free divisions, for a small fee. ANS members who do not immediately renew will get three mailings, a monthly email reminder, and may get a telemarketing call. If the 2006 dues are not paid before July 2006, they are dropped from national and M&C membership. We will have our M&C list for the November meeting. The membership list can be sorted by organization, age, zip code etc, students, etc. If we can ask for your help to call a coworker to be reminded, or a friend, let us know.



[Provided by Madeline Feltus, Membership Committee Chair]

Editor's Message: This newsletter will be issued twice a year and can be accessed electronically at <http://www.mcd.ans.org/newsletters>. Please send your newsletter items and comments to me, Avneet Sood at Los Alamos National Laboratory, P.O. Box 1663 MS F663, Los Alamos, NM 87545; Tel: (505) 667-2119; email: sooda@lanl.gov.

2005-2006 ANS MATHEMATICS AND COMPUTATIONS DIVISION OFFICERS

Chair: Alireza Haghighat (Univ. of Florida, 352/392-1401, haghighat@ufl.edu)
Vice-Chair/Chair Elect: William R. Martin (Univ. of Michigan, 734/764-5534, wrm@umich.edu)
Secretary: Paul P. Wilson (Univ. of Wisconsin-Madison, 608/263-0807, wilsonp@engr.wisc.edu)
Treasurer: Douglas E. Peplow (ORNL, 865/574-0521, peplowde@ornl.gov)

EXECUTIVE COMMITTEE

2005 Tom Sutton (KAPL, 518/395-7407, sutton@kapl.gov)
2005 Cassiano De Oliveira (Georgia Tech, 404/385-4928, cassiano.deoliveira@nre.gatech.edu)
2005 Madeline Feltus (USDOE, 202/506-0541, madeline.feltus@hq.doe.gov)
2006 Jeffrey Favorite (LANL, 505/667-7941, fave@lanl.gov)
2006 Farzhad Rahnema (Georgia Tech, 404/894-3731, farzad.rahnema@nre.gatech.edu)
2006 Scott Palmtag (Studs vik Scandpower, 208/522-8304, palmtag@soa.com)
2007 Horia-Nicolae M. Gheorghiu (Studs vik-Scandpower)
2007 Robert C. Singleterry, Jr. (NASA, r.c.singleterry@larc.nasa.gov)
2007 Avneet Sood (LANL, 505/667-2119, sooda@lanl.gov)
2008 Piero Ravetto (Polit. De Torino, 39011-564-4443, piero.ravetto@polito.it)
2008 Robert Roy (Ecole Polyt. De Montreal (EPM), 514/340-4262, robert.roy@polymtl.ca)
2008 Richard Sanchez (CEA de Saclay, 33-01-5908-5404, richard.sanchez@cea.fr)
2008 Taro Ueki (Univ. of New Mexico, 505/277-7964, tucki@unm.edu)

BOARD LIAISON

Harold McFarlane (INL, 208/533-7106, harold.mcfarlane@inl.gov)

CHAIRS OF STANDING DIVISION COMMITTEES

FINANCE: Douglas E. Peplow (ORNL, 865/574-0521, peplowde@ornl.gov)
HONORS AND AWARDS: Paul Turinsky (N.C. State Univ., 919/515-5098, turinsky@eos.ncsu.edu)
MEMBERSHIP: Madeline A. Feltus (USDOE, 202/506-0541, madeline.feltus@hq.doe.gov)
NOMINATING: Bernadette L. Kirk (ORNL, 865/574-6176, blk@ornl.gov)
PROGRAM: Todd Palmer (Oregon State U., 541/737-7064, palmerts@engr.orst.edu) (Chair)
Dimitriy Anistratov (N.C. State Univ. 919/515-4353, anistratov@ncsu.edu) (Asst. Chair)
PUBLICITY: Avneet Sood (LANL, 505/667-2119, sooda@lanl.gov)
STANDARDS: Andy Smetana (Westinghouse SRC, 803/725-4192, andrew.smetana@srs.gov)