

**MINUTES OF THE MATHEMATICS AND COMPUTATION DIVISION
EXECUTIVE COMMITTEE MEETING
AMERICAN NUCLEAR SOCIETY
Omni Shoreham Hotel, Washington, DC
November 11, 2007**

Officers Present:

Tom Sutton, KAPL, sutton@kapl.gov, Chair
Jasmina Vujic, UC-Berkeley, vujic@nuc.berkeley.edu, Vice-Chair
Jeffrey A. Favorite, LANL, fave@lanl.gov, Secretary
Scott Mosher, LANL, swmosher@lanl.gov, Treasurer

Executive Committee Present:

Tom Brunner, SNL, tabrunn@sandia.gov
Jim Morel, Texas A&M, morel@tamu.edu
Jean Ragusa, Texas A&M, ragusa@ne.tamu.edu
Richard Sanchez, CEA, Richard.sanchez@cea.fr

Others Present:

Jeff Densmore, LANL, jdd@lanl.gov
Forrest Brown, LANL, fbrown@lanl.gov
Paul Wilson, UW-Madison, wilsonp@engr.wisc.edu
Cassiano de Oliveira, UNM, cassiano@unm.edu
Barry Ganapol, U. Arizona, ganapol@cowboy.ame.arizona.edu
Dmitriy Anistratov, NCSU, anistratov@ncsu.edu
Paul Nelson, Texas A&M, pnelson@ne.tamu.edu
Rachel Slaybaugh, UW-Madison, slaybaugh@wisc.edu
Bob Grove, KAPL, grovero@kapl.gov
Todd Urbatsch, LANL, tmonster@lanl.gov
Robert Singleterry, NASA, Robert.c.singleterry@nasa.gov
Bill Martin, U. Michigan, wrm@umich.edu
Jae Chang, LANL, jhchang@lanl.gov
Arzu Alpan, Westinghouse, alpanfa@westinghouse.com
Jose Duo, Penn State, jid114@psu.edu
Ryan McClarren, LANL, ryanmc@lanl.gov
Avneet Sood, LANL, sooda@lanl.gov
Aaron Watson, KAPL, Watsam@kapl.gov
Madeline Feltus, DOE, Madeline.feltus@hq.doe.gov
Melissa Hunter, Westinghouse, hunterma@westinghouse.com
Joel Kulesz, Westinghouse, kuleszj@westinghouse.com
Bernie Kirk, ORNL, kirkbl@ornl.gov
Andy Smetana, SRNL, andy.smetana@srnl.doe.gov
Donald Birks, KAPL, Donald.m.birks@lmco.com

Farzad Rahnema, Georgia Tech, farzad@gatech.edu
Alireza Haghghat, U. Florida, haghghat@ufl.edu

1. *Call to Order and Consideration of Agenda*

Chair Tom Sutton called the meeting to order at 2pm and distributed the agenda.

2. *Student Conference*

Matthew Gidden and another Texas A&M student visited the committee to ask for money (\$1500) as well as M&C participation at the next student conference, to be held Feb. 28-March 1, 2008, at Texas A&M. They are planning on new initiatives, including mentoring, at this conference and expect over 500 students to attend (Texas A&M alone has ~200 students). They are going to try to reimburse a lot of travel and they might fund a student to attend an ANS national meeting as a prize. They will also include some kind of advertising for the M&C Division. The conference web site is <http://ans.tamu.edu/2008Conference.html>. (See item 8 for the Committee's action on this request.)

3. *Approval of Previous Meeting Minutes* – Arzu Alpan

The minutes of the June 24, 2007 meeting held at the Boston Marriott Copley Place, Boston, MA, were distributed and approved unanimously (various firsts and seconds). The current secretary expressed hearty thanks to Arzu for training and advice.

4. *Report on Professional Division Committee Meeting* – Tom Sutton

Tom Sutton attended the Professional Divisions Committee Meeting on Saturday, Nov. 10.

a. \$27 million that DOE has sent to academia will not be sent (Madeline Feltus told the committee that it was OMB that had decided against spending the money in that way). Chairs of nuclear engineering departments have been going to DC to try to reclaim the money. Madeline said that we should be lobbying Congress, not DOE.

b. ANS wants to revitalize utility involvement with the Society.

c. MCD should be getting \$2 from ANS per year per member of the Division, up from \$1/member/year, starting in 2008. It wasn't clear whether this was a proposal or a decision. The additional money may be tied to Division performance metrics.

d. The Division is supposed to get some amount of money from ANS for each paper (beyond some threshold) presented at a topical meeting, up to \$60/paper. The Division has never known to ask for it. Tom Sutton is going to ask for as much retroactively as he can.

5. *Medical Physics Working Group Workshop* – Bernie Kirk

The Medical Physics Working Group held their second biannual workshop on Oct. 2, 2007 at U. Florida. The workshop, which consisted of ~15 presented papers and ~35 attendees, did not have prior permission from ANS, who thought that the Working Group should have followed the procedures that apply to hosting a topical meeting. ANS says that rules for working groups to host meetings do exist (someone suggested that there may be a hydrogen working group setting

precedents). Farzad Rahnema will work this issue in advance of the 2009 workshop to be held at Georgia Tech.

6. *Length of Terms for Secretary and Treasurer* – Tom Sutton

In the M&C Division the vice-chair is elected and serves a one-year term, then automatically becomes the chair. Thus it is a two-year commitment. The secretary and treasurer are elected for one-year terms. Bill Martin thought that most of the time as treasurer was spent learning what to do and a second year would be easy. Robert Singleterry suggested that secretary is a hard job that nobody would want to do for two years. Cassiano suggested voting for a treasurer-elect and secretary-elect. Madeline suggested making them two-year positions but staggering the terms. Paul Wilson said that the Fusion Division made their secretary and treasurer two-year positions. The idea of making them 18-month positions was suggested. Singleterry stressed the need to ensure participation. Tom will collect proposals; the Executive Committee will vote on this issue at the next meeting.

The item was extended to include a discussion on whether there is a handbook for any of these positions. Someone said that ANS is working on one.

7. *Vice-Chair's Report* – Jasmina Vujic

Jasmina did not realize until rather late that it was the vice-chair's job to plan the M&C round-table (see item 6). She decided that a good topic would be to hear how a team from RPI won a DOE grant with a multiscale multiphysics proposal for Gen. IV. The round-table will be Monday, 2:30-4:15pm.

8. *Treasurer's Report* – Scott Mosher

Scott expressed thanks to the previous treasurer, Scott McKinley, for his help in preparing the report. The revised budget as approved (Tom Brunner moved, various seconds) by the Committee is attached. MCD is expecting \$5977 from PHYSOR 2006 that is not included in this budget. There was also uncertainty about when ANS will start paying \$2/member/year rather than \$1/member/year to the divisions (see item 4c); it was left at \$1/member for 2008. The Committee also approved (Cassiano, various) a contribution of \$1500 to the next ANS student conference (item 1 above). There was a general discussion of whether MCD has too much of a surplus and whether we should spend more, perhaps by making another contribution to endow the Dannels Scholarship. Madeline mentioned that ANS is considering fully endowing all scholarships; Tom Sutton will check on that possibility. Scott will notify the Texas A&M students of their funding.

9. *Program Committee's Report* – Dmitriy Anistratov

There were 33 papers submitted to M&C sessions for the 2007 Annual Meeting; 26 finally appeared. One paper was nominated by the committee to be extended and submitted on a fast-track to *Nuclear Science and Engineering*. There was some discussion of what comments the

Executive Committee should provide, through the Program Committee, on this new fast-track procedure ANS is starting to use.

Don Birks reported on the M&C 2009 conference to be held in Saratoga Springs, New York. The meeting is “on track.” They are looking for workshop ideas, sponsors, and a few more names for the Technical Program Committee.

Tom Sutton suggested seeking proposals for the 2011 topical meeting, which by tradition should be overseas. Dmitriy will solicit proposals via email.

10. *Nominating Committee’s Report* – Bill Martin

The nomination slate for the 2008 MCD election was approved (Jim Morel, various seconds). It is attached.

11. *Standing Committee Reports*

a. *Students* – Tom Sutton on behalf of Sara Pozzi

MCD provides tickets to the President’s Reception to MCD students who present papers. Sara had the idea to transfer tickets that would have gone unused, saving the Division a lot of money, perhaps even completely covering the student tickets (a big thank-you was expressed to the ANS staffers who actually went through the registrations to move tickets). A discussion ensued on whether the Division is getting its money’s worth buying student tickets. If they are now essentially free, the answer is yes.

b. *Membership* – Madeline Feltus

MCD has 1068 members, including 206 students. The Division is growing by ~10%/year. Madeline encourages Division members to renew ANS memberships before the end of the year because the year-end membership number is the one ANS uses to disburse funds to divisions. Professors should encourage their students to become MCD members.

c. *Honors and Awards* – Farzad Rahnema

Farzad encouraged everyone to make nominations. In addition, he proposed a change in the policy to require the nominator to submit a resume. The suggestion was approved (Favorite, various).

d. *Standards* – Andy Smetana

The two main issues are the revision of 10.4 on code verification and validation for non-safety-related and design calculations and the development of a new standard, 10.7, to address safety-related calculations. Proposals for new standards are encouraged; there is a proposal for a standard on using Monte Carlo codes for reactor calculations (currently there are no Monte Carlo

codes licensed by the NRC for reactor calculations). Members are invited to work on standards. A full report is attached.

e. **Joint Benchmark** – Barry Ganapol

There were 22 attendees at the Joint Benchmark Committee meeting, much higher attendance than normal. Yousry Azmy has a three-dimensional computational benchmark. Barry has a book coming out and will teach a workshop on it in Paris in January. An item on their agenda was to figure out what the mission of the Benchmark Committee is or should be; Barry was not clear on the outcome. The Committee's web page is <http://mcd.ans.org/jb/>.

f. **Publicity** – Avneet Sood

The last newsletter was thin; Avneet encouraged everyone to report more. Suggestions were made, among them being that we could include more photos. Thus, photos were taken of the Executive Committee in action.

g. **Computational Medical Physics Working Group** – Ali Haghghat

The CMPWG is a joint working group with MCD and the Biology and Medicine Division. Some of the discussion of item 5 was repeated. There will be a CD of papers from the U. Florida 2007 workshop.

12. **New Business**

Madeline informed the Executive Committee of the Sept. 19, 2007, death of ANS member Elizabeth Selcow-Stein of LANL.

13. **Next Meeting**

The next meeting of the MCD Executive Committee will be 2pm June 8, 2008, in Anaheim, California.

14. **Adjournment**

The meeting was adjourned at 4pm.

Respectfully submitted,

Jeffrey A. Favorite, Ph.D., Secretary
ANS Mathematics and Computation Division

Estimate for Calendar Year 2007

The current estimate for the rest of 2007:

	CY 2006 Final	2007 (estimate)	Details
Income			
Carry Forward, Prior Year	14,388	13,646	F
Member Allocation	1,000	1,068	F \$1 per MCD member
Other Budget Funds	7,600	13,299	F \$6722 for M&C+SNA07 P \$5977 for PHYSOR-2006 (profit sharing) E \$600 for 2007 National Mtg Participation
Total Budget Funds	22,988	28,013	
Expenses			
Newsletters	42	0	E Newsletters by e-mail only
Awards, Plaques	0	0	E
National Meeting Costs	0	0	E
Division Officer Expense	0	0	E
Student Support	2,300	4,800	F \$1000 ANS Student Conference 2007 F \$1400 Jun. Boston Reception Student Ticke F \$500 Jun. Boston Student Travel Support E \$1400 Nov. D.C. Reception Student Tickets E \$500 Nov. D.C. Student Travel Support
Scholarship/Need Funding	7,000	1,000	E
Other Expenses	0	0	E
Total Expenses	9,342	5,800	
Carry Over, Year End	13,646	22,213	

F Final considered final by ANS Headquarters
 P Pending still pending with ANS Headquarters
 E Estimate estimates for the rest of the year

Budget Plan for Calendar Year 2008

The budget has to be decided by the executive committee and sent to ANS Headquarters by Dec 31, 2007.

Income and expenses are estimated in the following table:

	2008 (estimate)	Details
Income		
Carry Forward, Prior Year	22,213	
Member Allocation	1,068	Estimated 1,068 members
Other Budget Funds	600	\$600 for National Mtg. Participation
Total Budget Funds	23,881	
Expenses		
Newsletters	0	Newsletters by e-mail only
Awards, Plaques	1,500	\$1000 Pomraning Memorial \$500 Distinguished Service
National Meeting Costs	0	
Division Officer Expense	0	
Student Support	5,300	\$1500 ANS Student Conference 2008 2 x \$500 Student Travel 2 x \$1400 Reception Student Tickets
Scholarship/Need Funding	1,000	
Other Expenses	0	
Total Expenses	7,800	
Carry Over, Year End	16,081	

Dannels Scholarship

Balance 01/01/07	\$59,155
Plus 9 Months Interest	\$1,978
Plus 2007 Receipts	\$0
Minus 2007 Disbursements	<u>-\$3,500</u>
Balance 9/30/07	<u>\$57,633</u>

Upcoming Conferences

2008	Feb 28 – Mar 1	ANS Student Conf.	Texas A&M
2008	June 8-12	Annual Meeting	Anaheim, CA
2008	Sept 14-19	PHYSOR'08	Interlaken, Switzerland
2008	Nov 9-13	Winter Meeting	Reno, NV

MCD Historical Data

	Calendar Year							9 Month 2007
	2000	2001	2002	2003	2004	2005	2006	
Income								
Carry Forward, Prior Year	10,187	15,857	12,040	18,956	28,069	17,991	14,388	13,646
Member Allocation	817	924	819	885	918	942	1,000	1,068
Other Budget Funds	4,853	660	13,925	10,562	2,654	4,061	7,600	6,722
Total Budget Funds	15,857	17,441	26,784	30,403	31,641	22,994	22,988	21,436
Expenses								
Newsletters	0	66	0	8	0	0	42	0
Awards, Plaques	0	835	0	101	0	1,521	0	0
National Meeting Costs	0	0	225	0	650	585	0	0
Division Officer Expense	0	0	0	0	0	0	0	0
Student Support	0	1,500	3,800	1,225	3,000	3,000	2,300	2,900
Scholarship/Need Funding	0	0	1,000	1,000	10,000	1,000	7,000	0
Other Expenses	0	3,000	2,803	0	0	2,500	0	0
Total Expenses	0	5,401	7,828	2,334	13,650	8,606	9,342	2,900
Carry Over, Year End	15,857	12,040	18,956	28,069	17,991	14,388	13,646	
Excess Funds over Expenses								18,536

Nomination Slate for 2008 MCD Election

Vice-Chair/Chair Elect

Paul Wilson (U of Wisconsin)
Todd Palmer (Oregon State U)

Secretary

Ben Forget (INL)
Hatice Akkurt (ORNL)

Treasurer

Arzu Alpan (Westinghouse)
Mike Singleterry (NASA)

Robert

Executive Committee

Aaron Watson (KAPL)
Madeline Feltus (DOE)
Jeremy Sweezy (LANL)
Tom Evans (ORNL)
Douglas Peplow (ORNL)
Kevin Clarno (ORNL)
Imre Pázsit (Chalmers U) - *not confirmed*
Ronaldo Szilard (INL)

Nomination Committee:

Bill Martin (Chair)
Ali Haghghat
Bernie Kirk
Roger Blomquist

ANS-10 Standards Subcommittee Report

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

ANSI/ANS-10.5-2006 Accommodating User Needs in Scientific and Engineering Computer Software Development was approved by the American National Standards Institute (ANSI) in the spring and published by ANS in August. It replaced ANSI/ANS-10.5-1994 Accommodating User Needs in Computer Program Development and provides information for addressing the needs of the end user when developing software.

ANSI/ANS-10.4-1987; R1998 Guidelines for the Verification and Validation of Scientific and Engineering Computer Programs in the Nuclear Industry is under revision. The current working title for the revised Standard is "Verification and Validation of Non-Safety-Related Scientific and Engineering Computer Programs for the Nuclear Industry". Andy Smetana (charlandy.smetana@srnl.doe.gov) is the Chair for the ANS-10.4 Working Group. The draft is currently scheduled to be balloted by ANS-10 in late December.

ANSI/ANS-10.2-2000 Portability of Scientific and Engineering Software is the last of the ANS-10 standards. This standard provides recommendations and requirements that will simplify the implementation, conversion, and modification of computer programs on various hardware/software configurations. ANSI/ANS-10.2 is due for maintenance. If you are interested in working on this Standard, please contact Andy Smetana.

A new standard, ANS-10.7 Non-Real Time, High Integrity Software for the Nuclear Industry, is currently being developed. The draft scope reads "This standard addresses rigorous, systematic development of high integrity, non-real time safety analysis, design, simulation software which includes calculations or simulations that can have critical consequences if errors are not detected, but that are so complex that typical peer reviews are not likely to identify errors. This may include nuclear design and performance codes, codes used to assign safety classification levels to systems, structures and components at nuclear facilities, computational fluid dynamics or structural mechanics codes, complex Monte Carlo simulations, radiation dosimetry analysis codes, and nuclear medical physics analytical codes." Dr. Chip Martin (charlesm@dnfsb.gov) is the working group chair. The working group will meet on Wednesday, November 14, from 7:00 a.m. - 8:30 a.m. in Parlor #300 of the Omni Shoreham Hotel in Washington DC.

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).

Andy Smetana
Chair ANS-10