

**MINUTES OF THE MATHEMATICS AND COMPUTATION DIVISION
EXECUTIVE COMMITTEE MEETING
AMERICAN NUCLEAR SOCIETY**

Philadelphia Marriott Downtown, Philadelphia, PA – June 17, 2018
2:00 PM – 4:00 PM, Location: MEETING ROOM 310

Officers Present

Rachel Slaybaugh, Chair
Dmitriy Anistratov, Vice Chair
Wei Ji, Secretary

Ex-Officio: Patrick Brantley

Executive Committee Members Present

Matt Cleveland
Erin Davis
Brian Kiedrowski
Jonathan Walsh
Tara Pandya

Others Present

Bob Grove
Andy Smetana
David Griesheimer
Steven Hamilton
Christopher Perfetti
Travis Trahan

Proxy assigned via email prior to meeting

Member	Position	Proxy to
Benoit Forget	Executive Committee	Rachel Slaybaugh
Ryan McClarren	Executive Committee	Rachel Slaybaugh
Diego Mandelli	Executive Committee	Rachel Slaybaugh
Aaron Watson	Treasurer	Rachel Slaybaugh
Barry Ganapol	Executive Committee	Rachel Slaybaugh

1. **Call to Order, Attendance, Introductions**

Chair Rachel Slaybaugh called the meeting to order at 2:05 PM. Everyone introduces themselves to the meeting. Attendance was recorded (**Attachment A**). The chair shows the agenda using the projector (**Attachment B**). Counting proxies, a quorum (quorum is eight voting members) was reached with a total of fourteen votes available (nine present and five proxy).

2. **Officer's Reports**

Secretary's Report:

- i. Minutes from 2017 Winter Meeting in Washington DC previously approved by Executive Committee via email (Tara Pandya, Rachel Slaybaugh, Brian Kiedrowski, Patrick Brantley, Ben Forget, Aaron Watson, Erin Fichtl, Dieglo Mandelli, Jon Walsh, Matt Cleveland, Dmitriy Anistratov, and Ryan McClarren sent in approvals by email)
- ii. Approval of agenda: Dmitriy made a motion, Rachel seconded it, approved unanimously.

Treasurer's Report: Treasurers report was sent out electronically (**Attachment C**). Aaron Watson was not able to present the report. Rachel reported the latest MCD financial status. M&C2017 conference funding has not shown up yet (or never came in). We need to track down the revenue to make sure we have it and can use it for other scholarship activities, such as Gelbard Scholarship. MCD has also sponsored the 2018 student conference. The financial status of EC is healthy.

Vice Chair's Report: Vice Chair Dmitriy Anistratov organized the MCD Current Issues in Computational Methods Roundtable scheduled for Monday (06/18/2018): Fits the grand challenges imitated by ANS.

Title: Challenges in Numerical Simulation of Real Experiments and Physical Systems

Panelists: Benjamin Betzler (ORNL), Rich Martineau (INL), David Kropaczek (NCSU, CASL) and Todd Urbatsch (LANL).

Per convention, organization of the next roundtable will be the new Vice Chair David Griesheimer's responsibility.

Chair's Report:

There are some additional discussions at the beginning. David Griesheimer briefly passed on some information to the MCD from the PD workshop on Saturday. New pilot grant was initiated and it is focused on supporting local nuclear power plant activities to prevent them shutdown. There is a concern that topical meetings hurt ANS (ANS doesn't get revenue but only divisions get).

Dmitriy suggested we send an official invitation letter to invited speakers. The invitation should be sent by the division chair before the review period ends.

There are some training activities for ANS division officers. Our division officers should pay attention to those training opportunities, especially for treasurers (Brian Kiedrowski is our new treasurer). July is the most important period.

Rachel Slaybaugh reported her observation from the President's Meeting with Professional Division and Committee Chairs. ANS is trying to re-structure divisions with some strategic changes. How to add values of membership to the ANS and make ANS more relevant? Possibly through K-12 education program, more NRC and industry involvement etc. ANS gets less industry support. It is expected that fewer meetings will be held in the future.

We need to think about how to enrich our division by increasing relevance. In our division, how to sell ourselves for the future? By electronic journals, infrastructure, or virtual participation? For anything we need to move to, are there any barriers ahead?

Chris Perfetti: participation is easier. We should start documenting everything and posting the slides somewhere for people to access. Dmitriy suggested to post presentation slides and publications online (possible in MCD website). Chris reminded that ANS members can access ANS transactions and other ANS journal papers. Wei suggested that we start an initiative of encouraging authors to submit their presentation slides and posted online. This would get wider visibility and enrich the MCD's influence. Travis mentioned that virtual meeting is one option ANS can pursue for the future ANS meetings.

3. Standing Committees

a. Benchmark –

No update for the committee. Chris reported that everything is OK. If there are some benchmark libraries developed to be posted in the github repository, both Chris and Sebastian can be reached by emails.

URL: <https://github.com/ANSMathCompDivision>

b. Finance – The finance committee is chaired by the current Treasurer, so the Treasurer's report (See **Attachment C**) serves as the finance committee report.

c. Honors and Awards –

Piero Ravetto is not present in the meeting. The only update is that the MCD best paper award of 2017 ANS Winter Meeting was given to Jon Walsh. Congratulations to Jon!

d. Membership – No one is in charge. Need a person to run the committee.

Wei reviewed the current status of the MCD membership (**Attachment D**) received from the ANS headquarter. The MCD holds an excellent record of the number of members with steady increase in the past 3 years.

e. Nominating – No update. Not an election period.

f. Standards – Paul Hulse was not present but sent the committee report. His report is attached in **Attachment E**. Wei discussed the report. ANS 10.4 standard working group

is meeting on Monday at 4 PM in Meeting Room 307, and members are encouraged to attend.

Student Conference (2018 and 2019)

At 2:54 pm, 2018 ANS Student Conference representatives showed up. The chair quickly recapped the meeting at the University of Florida and appreciated the support from MCD. A summary of the conference is below:

Attendance: 450, 70 professionals, 380 students

Panels: 10

Technical Workshops: 5

Tours: 3

Presentations: 123

Posters: 50

Award Winner(s):

Douglas Woods - woodsdou@oregonstate.edu

Diffusion Synthetic Acceleration for High Order Sn Radiation Transport

After the recap of the 2018 meeting, Richard, the VCU representative for the 2019 ANS Student Conference gave the brief introduction of their preparation. The conference theme would be “nuclear is ???” “???” can be any information provided by the ANS members, such as “Nuclear is making toast”. They passed fliers around. They will organize high school fairs that will connect to high school k-12 education. What to show in the fairs needs suggestions from the ANS community.

4. Program Committee Report

Steve Hamilton presented the program committee report. More reviewers are needed for ANS MCD. Reminder email of expectation of reviews to MCD members sent out near end of review process.

In current ANS meeting, 40 papers were submitted and 31 were reviewed within the division. There are 31 papers to be presented in the meeting.

Currently, submission is underway for the ANS Winter Meeting. The current deadline (submission and review) is June 29. There will be 5 MCD sessions in Orlando meeting. We are looking for topics for the 2019 Annual Meeting.

M&C 2019 will be held in August 2019 in Portland. Everything goes well. The preliminary plan and publication plan are approved.

MCD starts the processing of bidding for M&C 2021, traditionally held in east coast of North America. Jeff and Steve will put together a bid document. We will vote to select the winner (for organizing M&C 2021) in the next winter meeting.

A group ANS members from Canada were present at the committee meeting. The Canadian colleagues expressed an interest in submitting a proposal for M&C 2021 and

raised a question whether this would be allowed in spite of the fact that according to the cycle the next location is intended to be on east coast. They refereed the fact the RPD had its Topical meeting (PHYSOR 2018) in Mexico that was not consistent with RPD usual cycle. The Canadian section was encouraged to submit its proposal. It will be considered by the committee. During this discussion, the committee members also reviewed some factors that are usually taken into consideration in the bid process to clarify them to the Canadian colleagues.

5. Other Old Business

Gelbard Scholarship Status:

The application website was open since end of last year: <https://app.smarterselect.com/programs/41148-American-Nuclear-Society> (currently it is closed). MCD authorized awarding the Gelbard scholarship in 2018 and the award was added to the national scholarship application, but no candidates were provided to MCD for selection. MCD need to figure out what happened after the application was closed (whether there are applicants and how many, and how we are going to make an award etc). The total fund is \$60,183 on 1/31/2018.

Donation website is online too. People can go and donate online. They can get receipt online too.

Steve mentioned that in the upcoming M&C2019 meeting, some program is set up related to Gelbard Scholarship and possible fundraiser will be organized. There was discussion of eliminating the Gelbard fundraisers from future topical meetings because they are not bringing in as much money as expected and possibly using additional MCD funds to complete the scholarship endowment over the next few years. No formal decisions were made on these topics.

After the EC meeting David Griesheimer contacted the National Scholarship committee for an update on the 2018 Gelbard scholarship. Tracy Coyle responded that the scholarship had received 12 applicants for the 2018-2019 cycle and the scholarship was awarded to Jesse Jones from NCSU. The selection was made by the same MCD subcommittee that selects recipients of the Danniels scholarship each year. Because the Gelbard scholarship is not yet fully-endowed the division will have to pay \$688.95 from operating funds to cover the \$3500 award for 2018-2019.

6. New Business

New officers and EC members were introduced by Rachel (Congratulations!):

David Griesheimer - Vice Chair
Tara Pandya - Secretary
Brian Kiedrowski - Treasurer
Christopher Perfetti - Executive Committee
Sebastian Schunert – Executive Committee
Travis Trahan - Executive Committee.

7. Adjournment

At 3:34 pm, Patrick Brantley made a motion to move to adjourn and Brian Kiedrowski seconded the motion. The motion was passed by all voting members.

Attachment A: Attendance

<u>Name</u>	<u>org</u>	<u>email</u>
Rachel Slaybaugh	ARPA-E	r.slaybaugh@gmail.com
DAVID GRIESHEIMER	NNL	david.griesheimer@unnpp.gov
Steven Hamilton	ORNL	hamiltonsp@ornl.gov
Tara Pandya	ORNL	ta pandyatm@ornl.gov
Patrick Brantley	LLNL	brantley1@llnl.gov
Dmitriy Anistratov	NCSU	anistratov2@ncsu.edu
Travis Trahan	LANL	travis.trahan@gmail.com
Andy Smetana	SRNL	andy.smetana@SRNL.DOE.GOV
Brian Kiebaso	UMich	bckiebaso@umich.edu
Chris Perfetti	UNM	perfetti314@gmail.com
Mathew Cleveland	LANL	cleveland@lanl.gov
Erin Erin Davis	LANL	ejdavis@lanl.gov
Bob Grove	ORNL	groverb@ornl
Wpi Ji	RPI	jiw2@rpi.edu

Attachment B: Agenda

Executive Committee Meeting Agenda ANS Mathematics and Computation Division 2018 Annual Meeting

Sunday, June 16, 2018 – 2:00-4:00 pm
Philadelphia Marriott Downtown, Philadelphia, PA

- I. Call to Order, Attendance, Introductions
- II. Officer Reports
 - a. Secretary: Wei Ji
 - i. Approval of minutes from 2017 Winter Meeting in Washington DC
 - ii. Approval of agenda
 - b. Treasurer's Report: Aaron Watson
 - c. Vice-Chair – Roundtable: Dimitry Anistratov
 - d. Chair: Rachel Slaybaugh
 - i. Professional Division Committee report
 - ii. President's Meeting with Professional Division and Committee Chairs report
- III. Standing Committees
 - a. Benchmark: Chris Perfetti and Sebastian Schunert
 - b. Finance: Aaron Watson
 - c. Honors and Awards: Piero Ravetto
 - d. Membership: TBD
 - e. Standards: Paul Hulse (report attached)
- IV. Program Committee Report: Jeff Densmore
 - a. Update on technical program for this conference
 - b. Report on M&C 2019
- V. Student Conference (UF, Sarah Morgan) 3 pm
- VI. Old Business
 - a. Ely M. Gelbard Memorial Graduate Scholarship status/discussion
- VII. New Business
 - a. Introduction of new officers (Congratulations!):
David Griesheimer - Vice Chair
Tara Pandya - Secretary
Brian Kiedrowski - Treasurer
Christopher Perfetti - Executive Committee

Sebastian Schunert – Executive Committee
Travis Trahan - Executive Committee

VIII. Adjourn

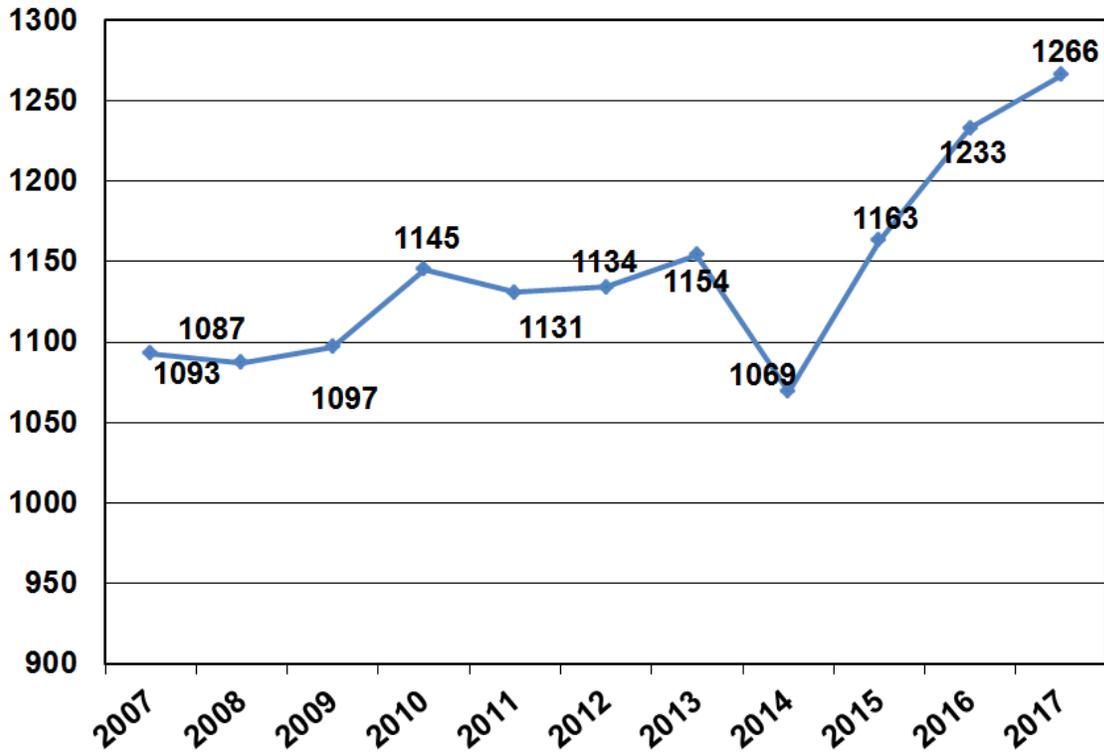
Attachment C: Treasurer's Report

MCD Treasurer's Report: March 2018 - MCD Operating Funds

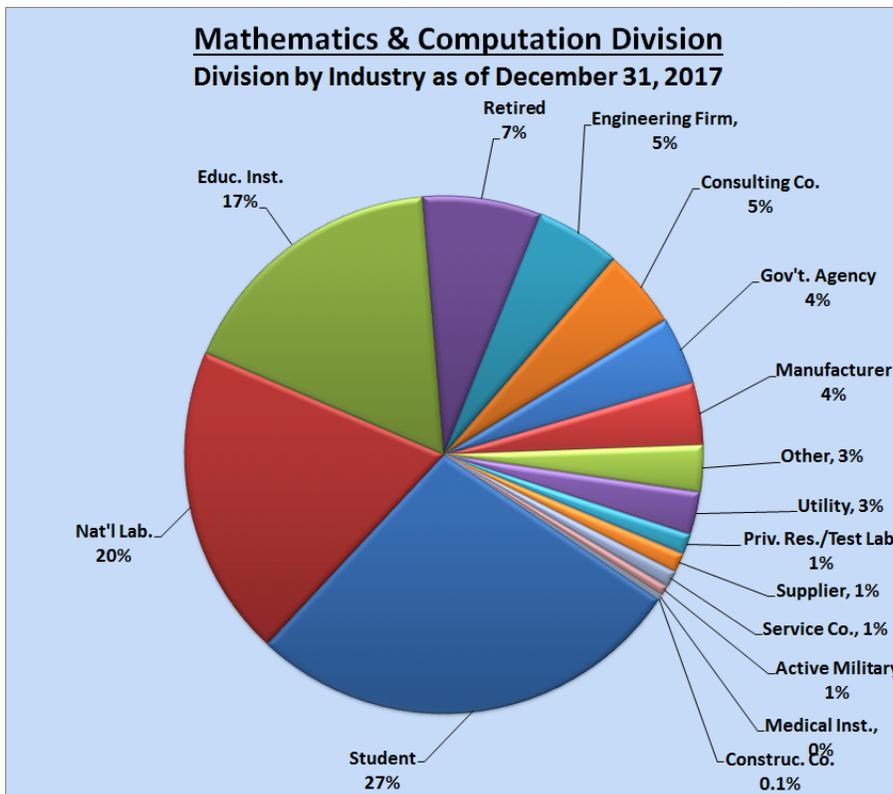
	Actual	Budget	
	3/31/2018	12/31/2018	Variance
Revenues			
Dues Revenue Allocation:			
MEMBERSHIP DUES ALLOCATION	597	2,138	(1,541)
Total Dues Revenue Allocation	597	2,138	(1,541)
Total Revenue	597	2,138	(1,541)
Expenditures			
Awards, Plaques:			
		1,500	(1,500)
Total Awards, Plaques		1,500	(1,500)
National Meeting Costs:			
		1,500	(1,500)
Total National Meeting Costs		1,500	(1,500)
Student Support:			
2018 STUDENT CONFERENCE SPONSOR	2,700	3,500	(800)
Total Student Support	2,700	3,500	(800)
Scholarship & NEED Funding:			
		2,500	(2,500)
Total Scholarship & NEED Funding		2,500	(2,500)
Other Expenses:			
		30	(30)
Total Other Expenses		30	(30)
Total Expenditures	2,700	9,030	(6,330)
Net Surplus/(Deficit)	(2,103)	(6,892)	4,789

Attachment D: Membership Committee Report

Mathematics & Computation Division Annual Membership



Mathematics & Computation Division (MCD)		
Total Membership as of December 31, 2017		
Student	27%	348
Nat'l Lab.	20%	247
Educ. Inst.	17%	218
Retired	7%	94
Engineering Firm	5%	67
Consulting Co.	5%	62
Gov't. Agency	4%	54
Manufacturer	4%	49
Other	3%	37
Utility	3%	34
Priv. Res./Test Lab.	1%	16
Supplier	1%	15
Service Co.	1%	13
Active Military	1%	8
Medical Inst.	0%	3
Construc. Co.	0.1%	1
Total	100%	1,266



Attachment E: Standards Committee Report

MCD Standards Committee Report – Paul Hulse

Current standards activity is centred on ANS-10.4, ANS-10.7 and ANS-41.5 as detailed below.

The current Mathematics and Computation standards cover the design and development of both high integrity and non-safety related software, and the verification and validation of radiological data for waste management. In particular the following standards are current:

ANS-10.2, “Portability of Scientific and Engineering Software”, which was reaffirmed in 2009. The working group chair is Robert Singletery. The standard will need a major re-write to remain current and this is not currently possible given the changes that are occurring in software development at this time. Therefore the standard will be administratively withdrawn on its 10th anniversary (8/14/19).

ANS-10.4, “Verification and Validation of Non-Safety Related Scientific and Engineering Computer Programs for the Nuclear Industry”, is reaffirmed until 2021. Robin Jones of Southern Nuclear has formed a working group for the update to this standard, and developed a Project Initiation Notification System form (PINS) for this work, which has recently been approved. This working group is meeting on Monday at 4PM in Meeting Room 307, and members are encouraged to attend.

ANS-10.5, “Accommodating User Needs in Scientific and Engineering Computer Software Development”. This was re-affirmed in 2016, the working group chair is Andy Smetana. There is currently no planned activity for this standard, but reaffirmation will be due in 2021.

ANS-10.7, “Non-Real Time, High-Integrity Software for the Nuclear Industry—Developer Requirements”. This was a new standard in 2013 with Charles Martin as working group chair. The standard is due for review by 2018. A re-affirmation statement is currently with the ANS SRACC for approval.

ANS-10.8, “Non-Real Time, High-Integrity Software for the Nuclear Industry—User Requirements”. This was a new standard in 2015 with Keith Morrell as working group chair. There is currently no planned activity for this standard, where reaffirmation will be due in 2020.

ANS-41.5, “Verification and Validation of Radiological Data for Use in Waste Management and Environmental Remediation”. This standard was re-issued in 2012 with Saleem Salaymeh as working group chair. ANSI have granted an extension to this standard until the 31st December 2019. The standard is quite different from the other MCD standards which makes it not an obvious fit. Paul Hulse and Andy Smetana are going to work on finding a Professional Division where this would be a better fit.