

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

Hyatt Regency San Francisco, San Francisco, CA – June 11, 2017  
2:00 PM – 4:00 PM, Location: Waterfront A

Officers Present

Patrick Brantley, Chair  
Rachel Slaybaugh, Vice Chair

Ex-Officio: Tunc Aldemir

Executive Committee Members Present

Erin Fichtl  
Benoit Forget  
Barry Ganapol  
Steven Hamilton  
Brian Kiedrowski  
Ryan McClarren  
Tara Pandya

Others Present

Jeff Densmore  
Bob Grove  
Forrest Brown  
Andy Smetana  
David Griesheimer  
Todd Palmer  
Jon Walsh  
Han Gyu Joo  
Farzad Rahnema  
Christopher Perfetti  
Bill Martin  
Anil Prinja  
Richard Vasques

Proxy assigned via email prior to meeting

Member	Position	Proxy to
Wei Ji	Secretary	Patrick Brantley
Aaron Watson	Treasurer	Patrick Brantley
Jean Ragusa	Executive Committee	Patrick Brantley

## 1. Call to Order, Attendance, Introductions

Chair Patrick Brantley called the meeting to order at 2:01 PM. Attendance was recorded (**Attachment A**). The chair then distributed copies of the agenda (**Attachment B**). Counting proxies, a quorum (quorum is eight voting members) was reached with a total of thirteen votes available (ten present and three proxy).

## 2. Officer's Reports

### Secretary's Report:

- i. Minutes from 2016 Winter Meeting in Las Vegas, Nevada previously approved by Executive Committee via email (Tunc Aldemir, Barry Ganapol, Wei Ji, Jean Ragusa, Ben Forget, Tara Pandya, Brian Kiedrowski, Steven Hamilton, Ryan McClarren, Rich Martineau, Rachel Slaybaugh, Erin Fichtl sent in approvals by email). No action is needed at this meeting.
- ii. Approval of agenda: a motion was made by Ryan McClarren and seconded by Brian Kiedrowski to approve the agenda for the current meeting. This motion was passed unanimously.
- iii. Executive Committee approved via email vote motion "MCD contribute \$1,000 to support the YMG Division Luncheon to be held at the 2017 Young Professionals Congress (YPC) in conjunction with the ANS 2017 Winter Meeting." Received 11 yes votes, 0 no votes.
- iv. Executive Committee approved via email vote the 2017 MCD budget and the Pomraning Award monetary award. Received 13 yes votes, 0 no votes. Note for future: sort out when to approve the budget because the timeline is a little strange.

**Treasurer's Report:** Treasurer Aaron Watson was not present at the meeting to give the treasurer's report but the report was emailed to the Executive Committee prior to the meeting. Chair Patrick Brantley presented the report to the committee. Attached to the email was the Treasurer's Report (**Attachment C**). The financial status of EC is healthy.

**Vice Chair's Report:** Vice Chair Rachel Slaybaugh organized the MCD Current Issues in Computational Methods Roundtable scheduled for Monday (6/12/2017):  
Title: But Can You Remake That Plot (and can anyone else)?  
Subtitle: Reproducible, Transparent, and Open Computation in Nuclear Engineering  
Panelists: Fatma Deniz (UCB-BIDS), Michael Frenklach (UCB-ME), Katy Huff (UIUC), Seth Johnson (ORNL), Morgan White (LANL)

Per convention, organization of the next roundtable will be the responsibility of the new Vice Chair Dmitry Y. Anistratov.

### Chair's Report:

- i. Chair Patrick Brantley thanked outgoing MCD Executive Committee Members Steven Hamilton, Richard Martineau, and Jean Ragusa.
- ii. Patrick Brantley welcomed new Vice Chair Dmitry Anistratov and new Executive Committee members Mathew Cleveland, Han Gyu Joo, Diego Mandelli, and Jonathan Walsh
- iii. Patrick Brantley thanked outgoing TPC/Assistant TPC Ryan McClarren

- iv. Patrick Brantley reported on discussion from the Professional Division Committee (PDC) workshop held on Saturday evening:
  - The PDC workshop covered topical meeting rules and finances; ANS is concerned about proper meeting planning because of their financial liability
  - MCD paid attention about this planning for scheduling of M&C meetings
  - ANS has transitioned journals from in-house publication to Taylor & Francis. How is the new journal system working? Brian Kiedrowski's experience was that this didn't go well: NSE and NT had errors in equation typesetting. Needed to go through it with a fine-tooth comb.
- v. Patrick Brantley reported on discussion from the President's Meeting with Professional Division Chairs
  - ANS finances are a mess; hiring a professional to do fundraising
  - Bob Coward, incoming ANS president, is creating a change management plan to help ANS to be more relevant, particularly to younger members. ANS really needs change, with a focus on adding value for young members.
- vi. ANS Nuclear Grand Challenges
  - Patrick Brantley thanked MCD membership for submitting Grand Challenge ideas (over two dozen), Executive Committee members who worked through a consolidation, selection, and refinement process to arrive at the three MCD Nuclear Grand Challenges that we submitted for further consideration as national ANS Nuclear Grand Challenges. This was current ANS President Andy Klein's initiative: what can we improve for nuclear energy to move forward and how can the society contribute to meeting those challenges.
  - One of the Grand Challenges submitted by MCD was consolidated with similar submissions to form the basis for one of the national ANS Nuclear Grand Challenges. The grand challenges will be presented at ANS President's Special Session, Mon. June 12, 4:30-6:30 pm, Grand Ballroom A. Benoit Forget will present the MCD Grand Challenge.
  - Farzad Rahnema asked what happens now that the Grand Challenges have been chosen. Brantley: ANS will use them to focus society decisions and as talking points with legislators.
  - The health impacts of low dose radiation was by far the most important: voted on 2:1.
  - Are there ways to bring these Grand Challenges into the MCD technical program? And/or use our work to help address the Grand Challenges.
- vii. MCD Strategic and Tactical Planning discussion
  - Strategic planning: usually a good idea. MCD does not appear to have done strategic planning since 2003. Patrick Brantley had hoped to make more process in leading the division leadership in strategic planning. He mainly tracked down the previous MCD strategic plan from 2003 along with strategic plans from other divisions and updated the previous MCD plan. New MCD leadership will need to move forward with the process.
  - Rachel Slaybaugh is tasked with figuring out what to do regarding MCD Strategic and Tactical planning. The real question is how to help the society be healthy in the long run and what can MCD do.
  - Tunc Aldemir: offspring societies are competing, e.g. HPS, etc.
  - The society at large is asking about relevance and value, etc. in a way that is more focused than in the past. There is a chance that something may really change. It is worth thinking about what MCD can contribute to adding value. The MCD benchmark initiative is in this direction.

- Tunc Aldemir advocated for industry involvement—we need things that are valuable.
- There may be new opportunities with advanced reactors and what we can do / offer.
- Discussion occurred related to moving to one ANS Annual meeting instead of Annual and Winter meetings: ANS may still do this. The incorporation in Illinois may at least make this possible.
- Tunc Aldemir pointed out that students do not always transition to young members, which is a sustainability issue. Again, no value offered besides meetings; young employees are least likely to get sent to meetings. Pointed out that ANS has impact in congress, so ANS can be relevant to utilities as they face plant closures. Is there a way to promote that fact?
- viii. Divisional Roles and Responsibilities document reminder
  - Patrick Brantley has created a document for each MCD leadership role about their duties and responsibilities. The latest version of this is stored on ANS Collaborate.
  - MCD needs to keep that document updated – if you look and see something that needs to change, please do.
- ix. Website and newsletter
  - We used to have a publicity committee, but it is now defunct.
  - The MCD Bylaws say that it is the job of the Secretary. Secretary Wei Ji has been maintaining MCD website and published the MCD newsletter.
  - The MCD newsletter was sent out. Tunc Aldemir says it is great; Brian Kiedrowski asked if anyone reads it and whether it is of value.

## **Student Conference and Student Funding Discussions**

*(The student conference organizers showed up in the middle of the Chair's report at 2:45 pm)*

### 2:45 pm student conference

- I. Outgoing report from 2017 ANS Student Conference (University of Pittsburgh) General Co-Chair Miriam Rathbun. She thanked MCD for donation and for the OpenMC workshop. She also reported that the best paper award was given to Brycen L. Wendt, who is from Idaho State University and coauthored the paper "Advancement of Functional Expansion Tallies Capabilities in Serpent 2" with Leslie M. Kerby, Aaron G. Tumalak, Jaakko I. Leppanen, and Mark David DeHart.
- II. The upcoming 2018 ANS Student Conference (at University of Florida) Co-Chairs Rachel Bruenderman, Patrick Moo, Zander Mausolf joined the Executive Committee meeting and briefed us about the conference preparation. They discussed the conference theme (equality, policy, access), discussed the Technical Program being focused on computational side: MOOSE workshop, introduction to HPC in collaboration with the Hyper Gator resources they have there, materials characterization workshop. Also tours, including Kings Bay submarine, Kennedy Space Center. Technical sessions will be held as normal. Potentially going to do a hackathon (have we thought of any good problems to solve?). We are invited to sponsor a best paper and/or presentation again (let them know sooner than later so they can use it as a promotional tool to draw more papers to MCD sessions). Division support is really important. They gave us a sponsorship package, also

available on their website: ansstudentconference2018.com. The first page of the package is attached as **attachment D**.

- III. After briefing discussion: Patrick Brantley said that we received many thank you letters from students for division support. Richard Vasques raised a question: Can the society use the student conference as a way to get more information about what would keep the students in the society as young members? Brian Kiedrowski followed up: so, is the newsletter useful? Some idea: is it possible to get statistics on things like, did people open the email. We could host it as a link and track click-thrus ourselves with google analytics. Are there other things we could do: Twitter, Facebook, <call for MCD Snapchat filter>?

### 3. Standing Committees

- a. Benchmark – Co-Chair Christopher Perfetti presented the recent work and discussed the submitted report (See **Attachment E**). Barry Ganapol asked: are you coordinating with RPD and RPSD? The answer is “not yet—we can (and should)” from Christopher Perfetti. He also pointed out that there is some history here; we can figure out what can be saved / revived / used / leveraged. Brian Kiedrowski asked what will be in the scope? Are there ways to facilitate code and utility sharing—source code to do integrations, etc. This could be a useful thing to do; need to pay attention to IP and export control issues. Another question was raised about functionally: how do we facilitate this engagement and forge a path forward?
- b. Finance – The finance committee is chaired by the current Treasurer, so the Treasurer’s report serves as the finance committee report. Aaron Watson was not present but the report was sent to the Executive Committee before the meeting (See **Attachment C**).
- c. Honors and Awards – Farzad Rahnema discussed Pomraning Award. MCD is good at nominating for the Pomraning Award but not as much for the other awards: Distinguished Service Award and Young Member’s Research Achievement Award. The newsletter may help with this. (Again, we need statistics to know how much attention this gets.) We can advertise the awards and nomination process in the newsletter, make it much clearer on the website, and email the division. Tom Sutton noted that there are other prestigious society awards that we can be paying attention to. The full committee report is found in **Attachment F**.

Some question about Fellow awards: this is a process that goes through the society-level Honors & Awards Committee. Anyone can nominate, MCD does not have a process to have the division do anything about these nominations. Usually people in our division are nominated by co-workers, etc. For some other divisions, the division Honors & Awards Committee looks at their membership and drives the Fellow nominations to the national level. MCD could do this if we wanted. MCD members, in general, are good at nominating, so this may not be an issue for MCD. Forrest Brown commented that nominations typically arise in informal discussion over beers.

- d. Membership – Madeline Feltus can no longer serve as Chair of this committee, so we need a new chair. The attached report reflects the current status of the MCD membership (**Attachment G**).
- e. Nominating – Tunc Aldemir stated that no nominations are needed at this point.

- f. Standards – Paul Hulse was not present but sent the committee report. His report is attached in **Attachment H**. Patrick Brantley discussed the report. There is a path for people out of school to be associate members to join standards and get up to speed. Encourage younger colleagues to join. Good way to grow your impact.

#### 4. Program Committee Report – Jeff Densmore

- a. Update on technical program for this conference: Details can be found in Jeff Densmore's report from Program Meeting held earlier (1PM – 2PM). Current meeting has many papers, especially given being so close to the M&C topical meeting. Note: there are now 15 minute breaks in the middle of sessions and a 5-minute introduction time at the outset of sessions.
- b. Presented MCD Best Paper+Presentation Award from 2016 Winter Meeting: Steven Hamilton was able to receive certificates on behalf of co-authors.
- c. Retrospective on M&C 2017: It was a successful meeting - 460 attendees; ~400 papers; and 31 papers being reviewed for KNS journal NET. Challenge with including non-traditional subject areas (TH, materials, etc.). Not many were submitted and then no one from those other fields really attended. This also caused some scheduling challenges.
- d. Update on M&C 2019: The meeting will be held in Portland, Oregon, and Todd Palmer is organizing it. All of the paperwork is in place; publication plan was approved, which gave us everything we needed for full preliminary approval. Date change: the meeting will be the week of Aug 26, 2019.

#### 5. Other Old Business

##### **Ely Gelbard Scholarship:** Report on the current status (see **Attachment I**)

Rachel Slaybaugh suggested that we should probably stop having fundraisers and just solicit sponsorship from corporations and people who were close to Ely.

Brian Kiedrowski suggested MCD contribute division funds to get us on track. Steven Hamilton replied: what about putting in \$10k now? Then discussion followed: what about \$5k now and plan for \$5k next year. This would give us opportunity to see how the other fundraising goes before we put new money in. In 2018, MCD is planned to contribute \$2500 next year. Scholarship endowment has enough funds now to give a \$2k scholarship in perpetuity. We can either (a) give \$1500 to make the scholarship the full amount now, or (b) let it be \$2k and work on building endowment. Also note that when we get to \$60k in the fund we can bump scholarship up to \$3k / year. A bunch of potential ideas were thrown into the discussion for how to do this.

Motion: Put \$5k in to the Gelbard fund and, out of our operating funds, pay the remaining amount to give out a \$3500 scholarship in 2018/19 Annual Year. Ryan McClarren made the motion and the motion was seconded by Brian Kiedrowski. This motion was passed unanimously (8 yes votes present at the meeting plus three proxies).

#### 6. New Business

No new business was raised.

## 7. Adjournment

At 3:47 pm, Brian Kiedrowski made a motion to move to adjourn and Steven Hamilton seconded the motion. The motion was passed by all voting members.

# Attachment A: Attendance

**Mathematics & Computation Division  
Executive Committee Meeting  
Hyatt Regency San Francisco Hotel  
San Francisco, CA  
June 2017**



Name	Initial when present
Only those listed below are voting members of your division	
Patrick Brantley, Chair	<i>Patrick J. Brantley</i>
Rachel N. Slaybaugh, Vice Chair	<i>RNS</i>
Wei Ji, Secretary	
Aaron M. Watson, Treasurer	
Tunc Aldemir, Immediate Past Chair	<i>Tunc Aldemir</i>
Erin D. Fichtl	<i>Erin Fichtl</i>
Benoit Forget	<i>Benoit Forget</i>
Barry D. Ganapol	<i>Barry Ganapol</i>
Steven P. Hamilton	<i>Steven P. Hamilton</i>
Brian C. Kiedrowski	<i>Brian C. Kiedrowski</i>
Richard C. Martineau	
Ryan G. McClarren	<i>Ryan G. McClarren</i>
Tara M. Pandya	<i>Tara Pandya</i>
Jean C. Ragusa	
<b>Others, please PRINT in</b>	(if there is not enough space, feel free to use the other side)
<b>Name</b>	<b>E-mail</b>
Jeff Densmore	jeff-densmore@unpp.gov
Bob Grove	grover@ornl.gov
Tom Sutton	Thomas.Sutton@unpp.gov
Andy Smetana	andy.smetana@SRNL.DOE.GOV
<del>Alena Andriana</del>	<del>alena.andriana@ornl.gov</del>
HAN Joo	jooan@snu.ac.kr

Article B10.2 - A quorum for the transaction of business at all Division (or TG) meetings shall consist of fifteen (15) qualified voters or twenty (20) percent of the qualified voters.



Mathematics & Computation Division  
 Executive Committee Meeting  
 Hyatt Regency San Francisco Hotel  
 San Francisco, CA  
 June 2017



Others, please PRINT in

Name	E-mail
Jon Walsh	walsh@llnl.gov
DAVE GRIESHEIMER	dgrieshe@outlook.com
RICHARD VASQUES	RVASQUES@BERKELEY.EDU
Chris Perfetti	perfetticm@ornl.gov
ANIL K. PRINJA	PRINJA@UMICH.EDU
Bill Martin	WRM@UMICH.EDU
Forrest Brown	
Anil Prinja	

Article B10.2 - A quorum for the transaction of business at all Division (or TG) meetings shall consist of fifteen (15) qualified voters or twenty (20) percent of the qualified voters.

## **Attachment B: Agenda**

### **Executive Committee Meeting Agenda ANS Mathematics And Computation Division 2017 Annual Meeting**

Sunday, June 11, 2017 – 2:00-4:00 pm

Waterfront A Room

Hyatt Regency San Francisco

San Francisco, California

II. Call to Order, Attendance, Introductions

III. Officer Reports

a. Secretary: Wei Ji

- i. Minutes from 2016 Winter Meeting in Las Vegas, Nevada previously approved by Executive Committee via email (Tunc Aldemir, Barry Ganapol, Wei Ji, Jean Ragusa, Ben Forget, Tara Pandya, Brian Kiedrowski, Steven Hamilton, Ryan McClarren, Rich Martineau, Rachel Slaybaugh, Erin Fichtl sent in approvals by email)
- ii. Approval of agenda
- iii. Executive Committee approved via email vote motion “MCD contribute \$1,000 to support the YMG Division Luncheon to be held at the 2017 Young Professionals Congress (YPC) in conjunction with the ANS 2017 Winter Meeting.” Received 11 yes votes, 0 no votes.
- iv. Executive Committee approved via email vote the 2017 MCD budget and the Pomraning Award monetary award. Received 13 yes votes, 0 no votes.

b. Treasurer’s Report: Aaron Watson

c. Vice-Chair – Roundtable: Rachel Slaybaugh

d. Chair: Patrick Brantley

- i. Thanks to outgoing MCD Executive Committee Members Steven Hamilton, Richard Martineau, and Jean Ragusa
- ii. Welcome to new Vice-Chair Dmitriy Anistratov and new Executive Committee members Mathew Cleveland, Han Joo, Diego Mandelli, and Jon Walsh
- iii. Thanks to outgoing TPC/Assistant TPC Ryan McClarren
- iv. Professional Division Committee report
- v. President’s Meeting with Professional Division Chairs report
- vi. ANS Nuclear Grand Challenges
  1. Thanks to MCD membership for submitting Grand Challenge ideas (over two dozen)
  2. Thanks to Executive Committee members who worked through a consolidation, selection, and refinement process to arrive at the three MCD Nuclear Grand Challenges that we submitted for

further consideration as national ANS Nuclear Grand Challenges.

3. One of the Grand Challenges submitted by MCD was consolidated with similar submissions to form the basis for one of the national ANS Nuclear Grand Challenges.
4. ANS President's Special Session, Mon. June 12, 4:30-6:30 pm, Grand Ballroom A
  - vii. MCD Strategic and Tactical Planning discussion
    1. Current status of MCD Strategic Plan
  - viii. Divisional Roles and Responsibilities document reminder
  - ix. Secretary Wei Ji has been maintaining MCD website and published MCD newsletter

#### IV. Standing Committees

- a. Benchmark: Chris Perfetti and Sebastian Schunert
- b. Finance: Aaron Watson
- c. Honors and Awards: Farzad Rahnema
  - i. Discuss process for nomination for ANS Fellow
- d. Membership:
  - i. New committee chair needed
- e. Nominating: Tunc Aldemir
  - i. No nominations required at this time
- f. Standards: Paul Hulse
  - i. Request from PDC Chair to discuss division standards support activities at Executive Committee meetings

#### V. Program Committee Report: Jeff Densmore

- a. Update on technical program for this conference
- b. Present MCD Best Paper+Presentation Award from 2016 Winter Meeting
- c. Retrospective on M&C 2017
- d. Update on M&C 2019

#### VI. Old Business

- a. Ely M. Gelbard Memorial Graduate Scholarship status/discussion
  - i. MCD EC approved \$7,500 for endowment in Nov. 2016
  - ii. \$4,515 raised at the M&C 2017 fundraising reception
  - iii. Should we consider transferring another substantial amount from MCD funds to endowment?

#### VII. New Business

#### VIII. Adjourn

Students for the 2018 ANS Student Conference will attend the meeting to present at approximately 2:45 pm.

# Attachment C: Treasurer's Report

Report respectfully submitted 05/24/2017 by Aaron M. Watson, MCD Treasurer

MCD Treasurer's Report: May 2017

## MCD Operating Funds

	<b>Actual</b> <b>(3/31/2017)</b>	<b>Budget</b> <b>(3/31/2017)</b>
<b>Balance (1/1/2017)</b>	<b>35,389.10</b>	<b>35,389.10</b>
<b>▼ FY17 Revenues</b>		
Member Dues (\$2/member) (as of 3/31/2017)	612.00	534.00
<b>FY17 Revenue</b>	<b>612.00</b>	<b>534.00</b>
<b>▼ FY17 Expenditures</b>		
▼ Awards and Plaques		
Pomraining Award - Jim Morel, Mar 2017	<u>1,000.00</u>	
Total Awards and Plaques	1,000.00	1,500.00
▼ Student Support		
Pittsburgh Student Conference, Jan 2016	<u>2,500.00</u>	
Total Student Support	2,500.00	3,500.00
▼ Other Expenses		
Fedex/USPS Allocation	123.20	
Young Professionals Conference, Mar 2017	<u>1,000.00</u>	
Total Other Expenses	1,123.20	30.00
<b>FY17 Total Expenditures</b>	<b>3,623.20</b>	<b>5,030.00</b>
<b>Net Surplus/(Deficit)</b>	<b>(3,011.20)</b>	<b>(4,496.00)</b>
<b>Balance (3/31/2017)</b>	<b>32,377.90</b>	<b>31,427.10</b>

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## Attachment D: 2018 ANS Student Conference Flier



# American Nuclear Society Student Conference 2018

## Sponsorship & Exhibitor Packet



April 5-7, 2018 · University of Florida · Gainesville, Florida

## Attachment E: Benchmark Committee Report

Provided by Sebastian Schunert and Christopher Perfetti.

1. A computational benchmark repository hosted on *Github*: during the last 6 months the M&C benchmark committee chairs have begun to create a *Github* presence for the Mathematics and Computations Division. The *Github* organization is called *ANSMathCompDivision*. Under the *ANSMathCompDivision* a computational benchmark project has been created. The vision of this project is to allow collection and maintenance of numerical benchmarks of interests to the M&C Division. Everyone interested in the community can contribute to these benchmarks, but *Github* allows the benchmark chairs and potentially others to peer-review the benchmarks. Currently, we are working on setting forth the rules under which we accept benchmarks: we tentatively plan to separate benchmarks into *benchmark proposals* and *sanctioned benchmarks*. Benchmark proposals should follow a relatively lenient review process with only one reviewer and a minimum amount of data provided e.g. enough data to be re-create the benchmark and explanation of any formats if not standard; at least a single set of results should be provided. Sanctioned benchmarks should follow a much stricter peer-review standard: multiple sets of results that compare well must be provided and provided data must have been used by at least one independent party; multiple reviewers. These items are still under discussion and comments are welcome. Currently, the folder structure of the benchmark projects has been merged into the computational-benchmark project. The rules about how we accept and/or sanction benchmarks should be documented once they are settled.
2. Monte Carlo Benchmarks: We hope to begin generating a repository of Monte Carlo code benchmark exercises in the next ~year. Ideally these benchmark cases will possess analytical solutions when simulated using an artificial set of nuclear data, thus allowing Monte Carlo teams to perform nuclear data-agnostic Monte Carlo code verification. Several ongoing and upcoming international working group benchmark activities are seeking to develop similar benchmark inputs, and it is our intention to overlap with these activities as much as possible.

## Attachment F: Honors and Awards Committee Report

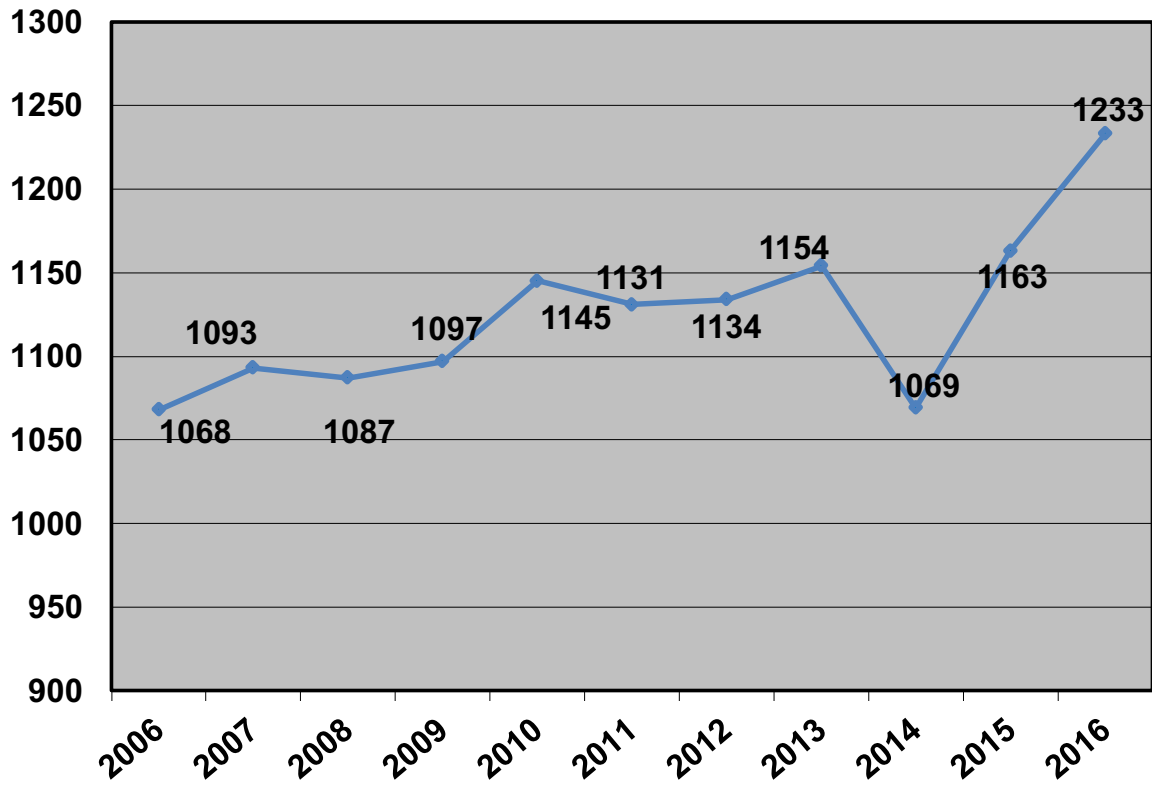
The MCD administers three awards through its Honors and Award Committee. These are the Gerald C. Pomraning Memorial Award that recognizes individuals who have made outstanding contributions to the fields of mathematics and/or computations related to topics of interest to the ANS; the Distinguished Service Award which recognizes individuals that have made outstanding contributions towards developing the division through various service activities such as leadership, governance, standards, benchmarking, program and/or other development activities; and the Ely Gelbard Memorial Young Member's Research Achievement Award that provides recognition to persons in the earlier stages of their carrier for meritorious contributions in the areas of mathematics and computations. Awards are made in odd years during the M&C Topical Meetings.

This year, the G. C. Pomraning Memorial Award was presented to Professor James Morel for his outstanding contributions to the field of mathematics and computation at the M&C 2017 Topical Meeting held in Jeju Korea, April 16-20, 2017. Dr. Morel was recognized for his "seminal contributions in the development of discretization and multi-level solution techniques for neutral and charged particle transport on unstructured and structured meshes with adaptive refinement; Monte Carlo methods and hybrid deterministic/Monte Carlo methods; and discretization and solution techniques for the radiation-hydrodynamic equations." Dr. Morel is currently a Professor of Nuclear Engineering and the Director of the Center for Large Scale Scientific Simulations at Texas A&M University. He received his BS and MS degrees in mathematics and nuclear engineering from Louisiana State University in 1972 and 1974, respectively and his PhD degree in nuclear engineering from University of New Mexico in 1979.

The Gerald C. Pomraning Memorial Award was established in 2003. For more information on this award, including the instruction for nomination and previous recipients, the reader is referred to <http://www.ans.org/honors/awards/award-pomraning/>. All MCD members are highly encouraged to submit their nomination for any of the 3 MCD awards mentioned above by January 15 of odd years. Please send your nomination form and supporting material to Farzad Rahnema, [farzad@gatech.edu](mailto:farzad@gatech.edu).

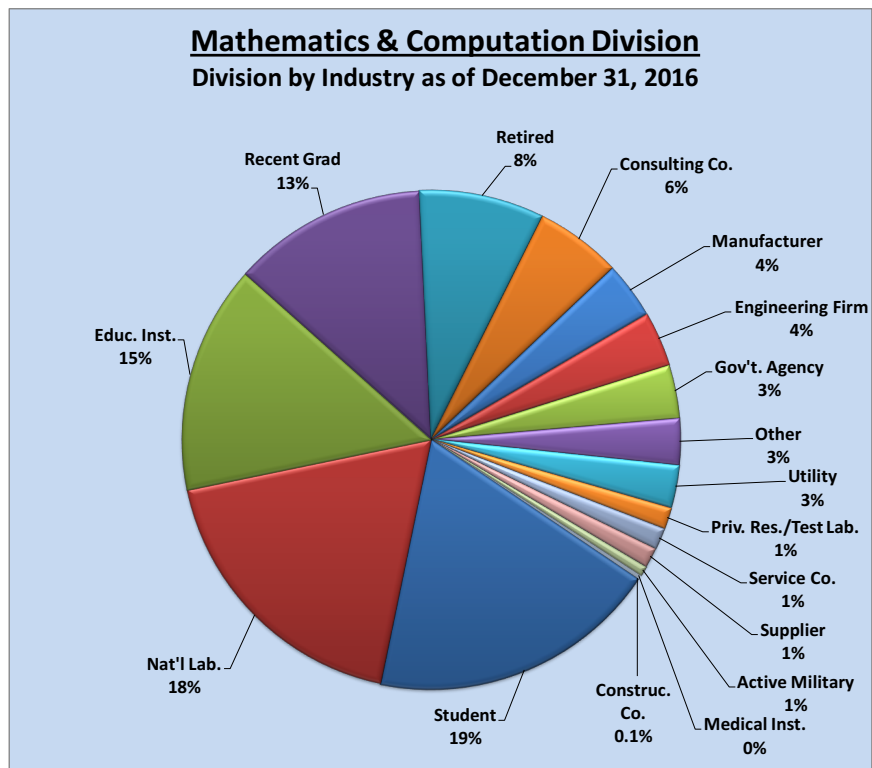
# Attachment G: Membership Committee Report

## Mathematics & Computation Division Annual Membership





<b>Mathematics &amp; Computation Division (MCD)</b>			
<b>Total Membership as of December 31, 2016</b>			
Student	19%	232	
Nat'l Lab.	18%	228	
Educ. Inst.	15%	183	
Recent Grad	13%	156	
Retired	8%	100	
Consulting Co.	6%	69	
Manufacturer	4%	45	
Engineering Firm	4%	44	
Gov't. Agency	3%	43	
Other	3%	37	
Utility	3%	34	
Priv. Res./Test Lab.	1%	17	
Service Co.	1%	17	
Supplier	1%	16	
Active Military	1%	8	
Medical Inst.	0%	3	
Construc. Co.	0.1%	1	
<b>Total</b>	<b>100%</b>	<b>1,233</b>	



# Attachment H: Standards Committee Report

MCD Standards Committee Report – Paul Hulse

Current standards activity is centred around ANS-10.4 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 Singleterry. 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”, issued in 2008 with Andy Smetana as working group chair, and reaffirmed in 2016 for a further 5 years. Since the last committee meeting a Working Group chair (Robin Jones of Southern Nuclear) has been appointed and a new working group is in the process of being formed. The intention is to hold a meeting adjoining the ANS Winter Meeting this year in Washington. Members are encouraged to continue to provide comments as they have them and contact Robin Jones with any questions regarding this effort.

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. There is currently no planned activity for this standard, but reaffirmation will be due in 2018.

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. The standard would be due to be reaffirmed this year, however ANSI have granted an extension until the 31st December 2019. The standard is quite different from the other MCD standards which makes it not an obvious fit. The intention is to check if other consensus committees and/or professional divisions might be a better fit.

# Attachment I: Report Updated on Establishment of the Ely M. Gelbard Scholarship

- Sponsored by the Mathematics and Computation Division

Long-term Goal: \$3,500 scholarship to be awarded each year

Required funding: \$70,000

We were required to have a five-year plan. We're half way through; here's how it's going.

*Table 1: Proposed*

<b>Year</b>	<b>Amount (\$)</b>	<b>Source</b>
2015	20,000	MCD operating funds (voted yes at Nov. 2014 Winter Meeting)
2015	7,500	Fundraiser: we will hold a fundraising event at the M&C SNA MC 2015 topical meeting, which will be in April of 2015. We anticipate raising between \$5,000 and \$10,000.
2016	2,500	MCD operating funds
2016	10,000	Corporate sponsorship solicited through fundraising
2017	7,500	Fundraiser: we will hold a fundraising event at the M&C 2017 topical meeting, which will be in May of 2017. We anticipate raising between \$5,000 and \$10,000.
2018	2,500	MCD operating funds
2018	10,000	Corporate sponsorship solicited through fundraising
2019	7,500	Fundraiser: we will hold a fundraising event at the M&C 2019 topical meeting, which will be in spring of 2019. We anticipate raising between \$5,000 and \$10,000.
2015	2,500	MCD operating funds
<b>Total</b>	<b>70,000</b>	

*Table 2: Actual as of May 2017*

<b>Year</b>	<b>Amount (\$)</b>	<b>Delta (\$)</b>	<b>Source</b>
2015	20,000	0	MCD operating funds
2015	5,650	-1,850	Fundraiser at M&C SNA MC 2015 topical meeting
2016	7,500	+5,000	MCD operating funds

2016	7,745	-2,255	<i>Fundraiser at PHYSOR 2016 topical meeting (instead of corporate sponsorship)</i>
2017	4,515	-2,985	<i>Fundraiser at M&amp;C 2017 topical meeting</i>
<b>Total</b>	45,410	-2,090	

Conclusion: we're doing okay, but we may want to just solicit sponsorship rather than have these fundraisers.