INSTITUTE OF NUCLEAR MATERIALS MANAGEMENT

ANNUAL BUSINESS MEETING
RENAISSANCE VALENCIA I-II
INDIAN WELLS, CALIFORNIA USA
Tuesday, July 18, 2017
6:30 – 7:30 p.m.

AGENDA

1. Call to Order                                           Hinderstein
2. Approval of Minutes                                    Pickett
3. President’s Report                                     Hinderstein
5. Election Report                                         Pickett
6. Committee Reports                                      Hinderstein
7. Chapter Reports                                         Hinderstein
8. Technical Division Reports                             Mladineo
9. New Business                                            Hinderstein
   a: Chapter Anniversary Awards
   b. Recognition of Sustaining Members
   c: Recognition of New Senior Members
   d: Resolutions of Respect
10. Drawings for Two Complementary 2018 Memberships        HQ
11. Adjournment
Call to Order

The 57th Annual Business Meeting of the Institute of Nuclear Materials Management, an Ohio nonprofit corporation, convened on July 26, 2016 at the Atlanta Marriott Marquis in Atlanta, Georgia, after notification to all members. President, Larry Satkowiak announced that a quorum was present and called the meeting to order at 6:30 p.m.

Approval of Minutes

The minutes from the 2015 Annual Business Meeting were presented. Minor changes were offered and it was moved and seconded to approve the minutes with the minor edits discussed. Motion passed.

President’s Report

President Larry Satkowiak was pleased to report that the Institute continues to grow and get better, noting INMM continues to have technical and policy relevance, continues to offer workshops that extend the information collaboration beyond the annual meeting, and continues to be active internationally through our chapters and partnerships. A three-year Strategic Plan for the Institute has been developed with the following broad goals:

1. Be recognized internationally as the leading professional society for the effective stewardship of nuclear materials and related technology.
2. Represent the breadth of the profession.
3. A strong relationship exists between the policy and technical communities.

Each goal will have specific objectives for achieving the goal. Details on the progress of the Strategic Plan development will be presented later during a Town Hall meeting.

The Institute has been successful due to its careful stewardship of finances and the many volunteers that serve it faithfully. Satkowiak thanked several leaders who stepped down from their positions this year: Jill Cooley began her term as an at-large member of the Executive Committee after Joyce Connery had to step down early due to her being confirmed by the U.S. Senate as chair of the Defense Nuclear Facilities Safety Board. Satkowiak thanked outgoing EC members Brian Boyer and Joyce Connery for their service on the EC. Markku Koskelo stepped in the role of JNMM Technical Editor. Denny Mangan became Editor Emeritus. Melissa Einwechter became the Education and Training Chair. Thomas Grice became Chair of the Material Controls and Accounting Technical Division when Mike Baker stepped down. Sean Morrell became the inaugural Chair of the Social Media and Apps Subcommittee.

Financial Report

Treasurer Robert Curl reported the financials of the Institute continue to improve despite U.S. Government imposed travel restrictions which affected our meeting registration numbers in 2013 and 2015. The FY2016 budget was conservatively planned to have a slight deficit of $25,145. The Executive Committee approved an additional, unbudgeted expense of $35,000 to hire a consultant to facilitate Strategic Planning for the Institute. Despite the planned deficit, INMM continues to be financially healthy.

As of September 30, 2015, the Institute of Nuclear Materials Management’s total assets were $924,130. These assets included $165,834 in operating funds, $705,551 in reserves, and $52,745 in prepaid expenses/accounts receivable/other. The associated liabilities were $99,739 resulting in net assets of $824,391.

Secretary’s Report

Chris Pickett announced the results of the 2016 fiscal year election of Officers and Members at Large. Voting notification with instructions about how to access the online voting were sent, by email or post to each of the 866 eligible Institute members, of which 246 voted online or requested and returned paper ballots by the deadline. The number of members voting this year was increased from last year.

As a result of the balloting, the Officers and Members at Large constituting the INMM Executive Committee beginning October 1, 2016 are:
President    Corey Hinderstein
Vice President    Cary Crawford
Secretary    Chris Pickett
Treasurer    Robert Curl
Immediate Past President    Larry Satkowiak
Members at Large:
    Jill Cooley  9/30/17
    Kenneth Sanders  9/30/17
    Kerry Dunn  9/30/18
    Willem Janssens  9/30/18

Committee Reports
Vice President Corey Hinderstein noted committee reports were included in the 2016 Annual Report to the Membership and proceeded to highlight various activities. The reports submitted show dynamic growth within INMM and continuing efforts association wide. Vice President Hinderstein encouraged participation in committee work and stepping up when calls for nominations are posted.

Chapter Reports
Vice President Corey Hinderstein stated Chapter reports could be found in the 2016 Annual Report to the Membership. She was pleased to report there were 38 regional chapters, which includes 21 student chapters. She encouraged participants to read the Student Chapter reports as there was a lot going on in the Student Chapters.

Technical Divisions Reports
Past President Ken Sorenson stated Technical Division reports were included in the 2016 Annual Report to the Membership. Sorenson highlighted key activities taking place in each Technical Division.

Old Business
There was no old business.

New Business
The floor was opened for new business.

Recognition of Outgoing Immediate Past President
President Larry Satkowiak recognized Ken Sorenson, who will be going off the INMM Executive Committee at the end of the fiscal year.

Chapter Anniversary Awards
Vice President Corey Hinderstein recognized the INMM Texas A&M Chapter on their 10 year anniversary as a chapter of INMM.

Recognition of Sustaining Members
Vice President Corey Hinderstein recognized the Sustaining Members. Renewing Sustaining Members received a year plate to go on their Sustaining Member plaque.

Recognition of New Senior Members
Vice President Corey Hinderstein also recognized four new Senior Members, and presented to each of them their Senior Member certificate.

Resolutions of Respect
Vice President Corey Hinderstein read and presented two Resolutions of Respect for INMM members, Gary Kodman and Rose Martyn, who passed away since the last meeting.

Free 2017 Membership Drawings
Both Robert Watkins and Paul Cloessner were the recipients of a free one-year regular INMM membership in the membership drawing.

There being no other business, the Annual Business Meeting adjourned at 7:35 p.m.

Immediately following the Annual Business Meeting, INMM hosted a special Town Hall to introduce the Institute’s 2017-2019 Strategic Plan.
May You Live in Interesting Times

For the international nuclear materials management community, it has been a busy and exciting year. World events effecting our field from developments in North Korea to the Westinghouse bankruptcy to the consequences of Brexit on international safeguards to the re-opening of the Waste Isolation Pilot Plant (WIPP) in New Mexico all demonstrate that our professional competencies remain vitally important.

Within INMM, we aim to identify issues of importance and interest and orient technical content of the Institute to meeting the challenges these issues raise. One way we do this is through workshops hosted by chapters and technical divisions. In order to help workshop planners, we updated to the Workshop Guidelines to improve and simplify the process for conducting a Workshop. There will be sessions during the Annual Meeting to go over the guidelines and set up workshops for success.

The Changing Nature of the Institute

We are now a year into the implementation of our 2017-2020 INMM strategic plan, designed to build on the strong foundation of INMM and prepare us for the future. This first phase of implementation requires a lot of work that may not be visible to the members but will form the backbone of our actions moving forward. This includes data gathering about membership trends, meeting results and sponsor activity. We look forward to turning our data into initiatives over the next few months.

We have some very visible changes on deck soon, too. We will reveal the new-look INMM website, designed to deliver members, sponsors, and other interested parties the information they need in a clear and direct manner – and with fewer clicks! Along with the new website, we will reveal the new logo for INMM. We are not leaving our past behind us, but rather building on it for a stronger future.

Leadership Transitions

Here is an overview of 2016-2017 leadership transitions:

- Ken Sanders and Jill Cooley have served as Members-at-Large on the Executive Committee and began their terms October 1st, 2015. They will both be rolling off at the end of September 2017 and we thank them for their service.
- Michael Baker and Teri Leffer will join the Executive Committee as Members-at-Large. We congratulate them and look forward to their contributions.
- Congratulations to Steve Wyrick, confirmed as the Management Division Oversight Chair.
- Congratulations to Glenn Abramczyk, confirmed as Exhibits and Sponsorship Chair.
- Congratulations to Claudio Gariazzo in his new role of Chapter Relations Committee Chair.
- Mark Schanfein served as interim Membership Chair, a role previously held by Michelle Romano. We thank them both for their commitment to attracting new members to INMM. James Miller has assumed the position of Membership Chair. We welcome and congratulate him on his new role.
- After announcing his retirement, we thank George Baldwin for serving in the role of Communications Committee Chair for more than 7 years. We hope to be able to announce the new Communication Committee Chair very soon.

The Institute is fortunate to have such dedicated volunteers, people who believe in its mission and are willing to give their time and talents to support the Institute. There are many opportunities to volunteer with INMM, and I encourage all members to look for a way to get involved.

Notable Events of 2016-2017

This past year, three new student chapters were formed: Amity University (India), Federal University of Rio de Janeiro (UFRJ, Brazil) and the Indian Institute of Technology Kanpur (IIT Kanpur). Two chapters: California and Mercyhurst College, are celebrating their 10 year anniversary. In addition, the Japan Chapter is celebrating their 40th anniversary! We currently have 22 student chapters and 39 chapters overall!

Our Memorandum of Understanding with the World Institute for Nuclear Security (WINS) has resulted in 73 new members around the world. The level of interest bodes well for our future, and shows the value of our strategic partnership.

One of the highlights from the 2016 Annual Meeting was the closing plenary. The exciting cyber-nuclear security
demonstration was engaging and very different for participants after a few days of oral presentations. We are looking to keep this model going, and are open to other ideas for different presentation formats and content.

In January, the 32nd Annual Spent Fuel Seminar was held at the Washington Marriott Georgetown in Washington, DC, USA. Congratulations to Jeff England and the INMM Packaging, Transportation and Disposition Technical Division for putting together another outstanding agenda. An international group of more than 130 participants from government, industry, trade organizations, academia and professional societies presented papers, shared ideas and exchanged best practices. The proceedings can be found on the INMM website.

On August 29-30th, 2017 the INMM Southwest Regional Chapter and the Internationals Safeguards and Nonproliferation & Arms Control Technical Divisions will host: “Novel Technologies, Techniques and Methods for Safeguards and Arms Control Verification” at Sandia National Laboratories in Albuquerque, New Mexico, USA. I hope many of you will be able to participate.

Looking forward, the 19th International Symposium on the Packing and Transportation of Radioactive Materials (PATRAM) will be held on August 4-9, 2019, at the New Orleans Marriott in New Orleans, Louisiana, USA. PATRAM brings together experts from governments, industries and research organizations worldwide to exchange information on all aspects of packaging and transport of radioactive materials around the globe.

Closing Thoughts

I remain honored and humbled to serve as the President of INMM. My first Annual Meeting was in 2003, and I was struck by both the technical content and the welcome of the experienced participants, many of whom are still coming to Annual Meetings. I make it my goal as President to foster both of these sides to the INMM community -- and to emphasize that concept in our events and other actions. Sometimes we have to make hard decisions, and we will always face challenges. But if we, as a global nuclear materials management community, can rely on the substance of our disciplines and the foundation of our relationships, we can make the world a better, safer and more secure place.
As of September 30, 2016, the Institute of Nuclear Materials Management’s total assets were $961,925. These assets included $290,447 in operating funds, $655,640 in reserves, and $12,186 in prepaid expenses/accounts receivable/other. The associated liabilities were $135,536 resulting in net assets of $826,387.

The FY 2016 gross income was $787,316 and the associated expenses were $785,319, resulting in a net income of $1,998 for the fiscal year.

The FY 2017 budget was established at a projected income of $719,975 and expense of $783,850, which results in a net loss of $63,875. The excess expense is mainly due to strategic planning activity, Web Site rework, and a significant increase in INMM Headquarters Management fee for 2017.

As of May 31, 2017, the actual income and expenses were generally following the budget projections. A breakdown of FY 2017 income and expense projections, by major category, is presented below.

### Income:

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Dues</td>
<td>$ 90,000</td>
</tr>
<tr>
<td>Memorial/Education Fund</td>
<td>1,000</td>
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<tr>
<td>Journal</td>
<td>9,500</td>
</tr>
<tr>
<td>Annual Meeting</td>
<td>530,975</td>
</tr>
<tr>
<td>Proceedings</td>
<td>400</td>
</tr>
<tr>
<td>Dividends and Interest</td>
<td>350</td>
</tr>
<tr>
<td>Web Site Job Listings</td>
<td>500</td>
</tr>
<tr>
<td>Chapter Support Reimbursement</td>
<td>250</td>
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<tr>
<td>Workshops and Topical Meetings</td>
<td>86,000</td>
</tr>
<tr>
<td><strong>Total Income</strong></td>
<td><strong>$719,975</strong></td>
</tr>
</tbody>
</table>

### Expenses:

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
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</thead>
<tbody>
<tr>
<td>Society Headquarters</td>
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<tr>
<td>Journal</td>
<td>41,640</td>
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<td>Annual Meeting</td>
<td>339,155</td>
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<td>Proceedings Archive</td>
<td>840</td>
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<tr>
<td>Administration</td>
<td>78,360</td>
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<td>Technical Committee Support</td>
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<td>Standing Committee/Chapter Support</td>
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<td>Technical Division Support</td>
<td>8,870</td>
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<tr>
<td>PATRAM Web Site</td>
<td>1,200</td>
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<tr>
<td>PATRAM Proceedings Archive</td>
<td>840</td>
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<tr>
<td>Workshops and Topical Meetings</td>
<td>59,215</td>
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<tr>
<td>Miscellaneous</td>
<td>1,000</td>
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<tr>
<td><strong>Total Expenses</strong></td>
<td><strong>$783,850</strong></td>
</tr>
</tbody>
</table>

Any INMM Member wishing to obtain a copy of the FY 2016 year-end financial statement may do so by contacting Robert Curl, INMM Treasurer, or Sheila Lee, INMM Executive Director.
Balloting Results 2017: Election of Executive Committee

According to INMM bylaws, “the Secretary shall notify each member in good standing of the results of the election before October 1 of each year”. This notice in the Annual Report, the Communicator, and the Journal is construed as having met that obligation. In accordance with the bylaws, the Nominating Committee selected the following candidates for Officers and Members-at-Large of the INMM Executive Committee.

President – Corey Hinderstein
Vice President – Cary Crawford
Secretary – Chris Pickett
Treasurer – Robert Curl
Members-at-Large:
  Michael Baker
  Teri Leffer

We hope that those who voted found it easy to participate in the balloting process. Voting notification with instructions on how to access the online voting was sent, by e-mail or post to each of the 734 eligible Institute members of which 177 (24.11%) voted online or requested and returned paper ballots by the deadline. The number of members voting this year was decreased from last year. As a result of the balloting, the Officers and Members-at-Large constituting the INMM Executive Committee beginning October 1, 2017 is as follows:

President – Corey Hinderstein
Vice President – Cary Crawford
Secretary – Chris Pickett
Treasurer – Robert Curl
Members-at-Large:
  Kerry Dunn  9/30/18
  Willem Janssens  9/30/18
  Michael Baker  9/30/19
  Teri Leffer  9/30/19

Immediate Past-President – Larry Satkowiak
Japan Chapter Designate
Korean Chapter Designate
Vienna Chapter Designate

There were write-in votes for the following:
President
  Tom Bonner, Michelle Silva

Vice President
  Mike Baker

Secretary
  Obie Amacker, Frank Lamb, Susan Pepper

Treasurer
  Glen Abramczyk, Terri Leffer, Nancy Jo Nicholas, Kerry Dunn

Member-at-large
  Mike Baker, Stephanie McElhaney, Robert Watkins, DL Whaley

We wish continue to encourage members to recommend candidates to the Chair of the nominating committee. It has been the practice of the nominating committee to select candidates who have had INMM involvement in committees or chapters, who are generally familiar with the overall operations of the INMM and have a working knowledge of the Executive Committee. Candidates for the Executive Committee may also be nominated for any of the elective offices or positions by fifteen (15) members who submit a petition to the Secretary. (See INMM Bylaws for details)

2017 Bylaws Revision

New amendments to INMM’s By-laws were proposed in response to Membership surveys results and to bring our election processes in-line with the way we truly operate.

These changes require the offices of President and Vice President to be defined as two year terms, reflecting current expectations, rather than running these elections on an annual basis. The terms for the offices of Secretary and Treasurer will be defined as 6 year terms to ensure, via staggered terms, that the Institute maintains continuity in leadership.

The amended changes also reflect a desire of membership to identify two or more candidates for each office. This would be a change from the current practice of running the Officer candidates unopposed. No changes were proposed for the election of Members-at-Large.

These proposed amendments were approved by 94% of 171 votes cast by membership and will be implemented in subsequent elections beginning in FY19.

We urge all members to review the INMM structure and Chapter activities to find an activity in which they can become involved. Minutes of the 2016 Annual Business meeting are included in this Annual Report.
Status of Accredited Standards Committee (ASC) N15 Standards

ASC N15 has four active standards:

- N15.8-2009 (R2015) – Methods of Nuclear Material Control, Special Nuclear Material (SNM) Control and Accounting Systems for Nuclear Power Plants;
- N15.36-2010 – Measurement Control Program, Nondestructive Assay Measurement Control and Assurance;
- N15.51-2007 – Measurement Control Program, Nuclear Materials Analytical Chemistry Laboratory; and

All four active standards were published by ANSI and are available for purchase online at http://webstore.ansi.org/.

ASC N15 has several standards under review or development, including:

- N15.19-1989 – Volume Calibration Techniques (not active). An N15 writing team has reviewed International Organization for Standardization (ISO) Standard 18213, “Tank Calibration and Volume Determination for Nuclear Materials Accountancy,” parts 1 through 6, as part of the ANSI process for adopting the ISO standard as an American National Standard. The team held webinar sessions to complete a second round of review and resolve comments from earlier sessions. A consolidated draft of the standard and a list of the changes have been prepared. When the writing team completes the review and revision process, the standard will be edited and submitted for approval of the N15 consensus body ballot roster.
- N15.28-1991 – Guide for Qualification and Certification of Safeguards Personnel (not active). Input from the writing team has been consolidated into a draft revised standard which was then reviewed by the team. Following writing team approval, it will be submitted to the N15 Board for technical editing and INMM ASC N15 consensus body ballot vote.
- N15.36-2010 – Nondestructive Assay Measurement Control and Assurance (active). This active standard is undergoing its 5 year review cycle as part of periodic maintenance under ANSI requirements. A writing team was formed to review and revise the standard. Several webinars and conference calls have been held since the team kick-off meeting in October 2016. Additional team members are welcome.
- N15.41-1994 – Measurement Control, General Principles (not active). Steven Goldberg, Chair, retired in January 2017. Phillip Gibbs (the new Chair) and Jackie Shipwash (N15 Writing Team Liaison), conducted outreach to reinvigorate the writing team. The goal is to review and complete revision of the draft N15.41 standard developed under Steve’s leadership. A conference call was held in May 2017 to review previous work, discuss how to proceed and identify other needed changes. Future conference calls/webinars are being planned.
- N15.51-2007 – Measurement Control Program, Nuclear Materials Analytical Laboratory (active). The N15.51 writing team has revised the standard in response to suggestions submitted by N15 members during the period 2012-2015. The draft N15.51 Standard was discussed by webinar to evaluate whether relevant portions of two published standards, N42.28 on the Calibration of Germanium Detectors for In-Situ Gamma Ray Measurements and N42.23 on Instrument Quality Assurance for Radioassay Laboratories, should be incorporated into or referenced in N15.51. It was determined to add a section to N15.51 describing the role of the measurement control program in a laboratory quality assurance program. The revision is being e-mailed to the writing team for a final review and approval before forwarding it to the technical committee.

Outreach and Collaboration.

- Tracking UF6 cylinders – DOE/NNSA staff expressed an interest in developing a voluntary consensus standard for the identification, labeling, and tracking of UF6 cylinders. Through ongoing discussions with industry and manufacturers over the last several years, focus will first be placed on methods for identifying and labeling UF6 cylinders (within the scope of INMM ASC N14), to be followed by methods for tracking (within the scope of ASC N15). N15 will continue to keep lines of communication open with N14. Communications are underway with the World...
Nuclear Transport Institute (WNTI), who is leading an effort to write a Guidelines Document on UF6 cylinder identification.


- ASC N15/INMM 5.1 Subcommittee (Analytical Chemistry Laboratory Measurement Control) - Interactions with nuclear materials analyses laboratories, domestic (e.g., DOE and NRC facilities) as well as international (e.g., ABACC, IAEA, IRMM, ITU, JAEA) are maintained by extending invitations to these facilities to participate in the annual meetings of the INMM ASC N15 and INMM 5.1 (analytical lab subcommittee) and by seeking their input on nuclear measurement methods. The INMM 5.1 Subcommittee provides input into the IAEA International Target Values (ITV’s) for nuclear safeguards measurements.

- N15 Board Officers participated in the joint ANSI Government Member Forum (GMF)/ Interagency Committee on Standards Policy (ICSP) meeting on June 29, 2017 at ANSI-HQ, an ASTM C26.10 meeting on January 31, 2017, and INMM Executive Committee meetings in November 2016, March and July 2017. The N15 Board submitted written comments to ANSI on October 13, 2016 is response to ANSI’s request for input on the need for greater “consumer participation” in standards development activities. N15 Board of Officers held annual INMM ASC N15 and INMM 5.1 Subcommittee meetings in July 2017 in conjunction with the INMM 58th Annual Conference in Indian Wells, CA, and attended INMM Technical Division meetings to speak about N15 activities. These two meetings include domestic and international attendees, professionals, retirees and students. Announcements of the annual N15 meetings are emailed to the N15 general membership.

- N15 and N14 (Packaging and Transportation) are invited by the INMM EC to submit a joint article for the INMM Journal of Nuclear Materials Management. An abstract has been prepared and work has begun on the article, which is intended to highlight the importance, function, and benefit of the INMM as Secretariat for N15 and N14, two nationally accredited standard development organizations.

- N15 Ballot Roster Revision - The N15 Board completed a periodic review and update of the N15 Consensus Body Ballot Roster. A consensus body ballot vote was conducted October 28, 2016 to December 9, 2016 to approve changes to the previous roster. The new roster of December 9, 2016, replaces the previous roster of September 30, 2012. It can be found on the INMM ASC N15 webpage.

- The N15 General Membership list was updated in June 2017 with input from writing team chairs.

Summary. The N15 Board would like to thank all who contribute to and participate in the development of ASC N15 voluntary consensus standards. We invite all those with a material and stakeholder interest in N15 standards to attend our meetings. Please visit the INMM ASC N15 website at http://www.inmm.org/N_15.htm.

Respectfully submitted on behalf of N15 by,

Melanie May, Chair
melanie.may@hq.doe.gov

Lynne Preston, Vice Chair
lynne.preston@hq.doe.gov

Chino Srinivasan, Secretary
b.srinivasan@science.doe.gov

Jackie Shipwash, N15 Writing Group Liaison
shipwashjl@ornl.gov
COMMITTEE REPORTS

AWARDS OVERSIGHT COMMITTEE

Susan Pepper, Chair

Arden Dougan serves as the Chair of the Subcommittee for Special Service Awards and Recognition, and Joseph Indusi serves as the Chair of the Subcommittee for Distinguished and Meritorious Service Awards.

The Special Service Awards and Recognition Subcommittee is responsible for drafting text for Resolutions of Respect and evaluating nominations for the Charles E. Pietri Special Service Award, to recognize noteworthy contributions to the industry or the Institute, and the Early Career Award, which recognizes outstanding achievements by an INMM member early in his or her career.

The Distinguished and Meritorious Awards Subcommittee members review nominations for both the Vincent J. DeVito Distinguished Service Award, which honors long-term noteworthy service to the nuclear materials management profession, and the Edway R. Johnson Meritorious Service Award, which honors long-term outstanding contribution to the INMM and the profession.

The nominations were reviewed by the subcommittee and a recommendation was forwarded to the INMM Executive Committee. Resolutions of respect were prepared and will be given to the families of William McCarthy, Edward Owings, Charles Vaughan, and S. John Luke. Awards will be given at the INMM Annual Meeting Opening Plenary on July 17, 2017, and the Resolutions of Respect will be read at the INMM Annual Membership meeting on July 18, 2017.

Respectfully submitted,
Susan Pepper
Awards Oversight Committee Chair

FELLOWS COMMITTEE

Obie P. Amacker, Chair

As previous annual reports have indicated, the Fellows primary opportunity for face to face interaction is limited to the Annual Meeting and this past year was no exception. The meeting provided a great opportunity to congratulate the newly elected Fellows: Walter Kane and Carrie Mathews. There was very lively discussion addressing a number of topics with a focus on a request from the Executive Committee (EC) to address the “advocacy role” of the INMM. Subsequently a write-up and recommendations was provided to the EC.

The annual call for advancement to the Grade of Fellow was distributed to the Fellows and Chapter Presidents in February. The Fellows Committee vetted the nominations received in April and provided input to the EC for their deliberations. New Fellows will be announced during the 58th Annual Meeting in Indian Wells, CA this July.

Obie Amacker, Chair
Fellows Committee
A few updates from the Membership Committee:

Since the last EC meeting in March, the Committee has recommended approval of 103 new regular member and 4 new student member applications. The majority of the new applications were the result of our offer of complimentary membership to WINS Academy Graduates.

James Miller was named the new Chairperson of the Membership Committee. Michelle Romano has stepped down as Chair due to work commitments but will continue on the committee. Mark Schanfein filled in as the Interim Chair while the call for interest took place.

The Membership Committee recommended and the EC approved 9 new Senior Members this year. These individuals will be recognized at the Annual Meeting in Indian Wells in July:

Glenn Abramczyk
Cynthia Heinberg
Tomonori Iwamoto
Willem Janssens
Igor Jovanovic
Bradley Loftin
Irmgard Niemeyer
Jacqueline Shipwash
Harold Wheat

Members of the Committee:

Al Garrett
Leigh Gunn
James Miller
Mark Mount
John Oyer
Therese Renis
Michelle Romano
Mark Schanfein

Respectfully submitted,
James Miller
Chair, Membership Committee

Membership Recap:

Current membership statistics each year are as follows with previous years for comparison.

<table>
<thead>
<tr>
<th>Member Type</th>
<th>June-12</th>
<th>June-13</th>
<th>June-14</th>
<th>June-15</th>
<th>June-16</th>
<th>June-17</th>
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<tr>
<td>Regular</td>
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<td>924</td>
<td>924</td>
<td>818</td>
<td>749</td>
<td>815</td>
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<tr>
<td>Fellow</td>
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<td>26</td>
<td>24</td>
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<td>Emeritus</td>
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<td>4</td>
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<tr>
<td>Senior</td>
<td>93</td>
<td>102</td>
<td>106</td>
<td>101</td>
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<tr>
<td>Senior Emeritus</td>
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<td>Sustaining</td>
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<td>Fellow Emeritus</td>
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<td>Honorary Member</td>
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<td>3</td>
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<td>3</td>
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<td>Life Fellow</td>
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<td>1</td>
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<tr>
<td>Student</td>
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<td>152</td>
<td>160</td>
<td>244</td>
<td>152</td>
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<tr>
<td>Total Members</td>
<td>1277</td>
<td>1307</td>
<td>1266</td>
<td>1166</td>
<td>1172</td>
<td>1135</td>
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### INMM MEMBERSHIP BY MONTH (October 31, 2016 – June 30, 2017)

<table>
<thead>
<tr>
<th>Type</th>
<th>31-Oct</th>
<th>30-Nov</th>
<th>31-Dec</th>
<th>31-Jan</th>
<th>29-Feb</th>
<th>31-Mar</th>
<th>30-Apr</th>
<th>31-May</th>
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<tr>
<td>Regular</td>
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<td>778</td>
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<td>787</td>
<td>617</td>
<td>634</td>
<td>720</td>
<td>811</td>
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<tr>
<td>Fellow</td>
<td>26</td>
<td>26</td>
<td>26</td>
<td>26</td>
<td>26</td>
<td>24</td>
<td>24</td>
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<td>Emeritus</td>
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<td>7</td>
<td>7</td>
<td>7</td>
<td>7</td>
<td>6</td>
<td>7</td>
<td>7</td>
<td>8</td>
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<tr>
<td>Senior Emeritus</td>
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<tr>
<td>Fellow Emeritus</td>
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<td>15</td>
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<tr>
<td>Sustaining</td>
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<td>28</td>
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<td>3</td>
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<tr>
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<td>1</td>
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<td>Student</td>
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<td>306</td>
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<td><strong>TOTAL CURRENT MEMBERS</strong></td>
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<td>NEW Regular</td>
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<td>1</td>
<td>4</td>
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<td>4</td>
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<td>NEW Sustaining</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td><strong>TOTAL NEW MEMBERS</strong></td>
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<td>6</td>
<td>3</td>
<td>24</td>
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<td>32</td>
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<td>4</td>
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<td><strong>2017 MEMBERS TOTALS</strong></td>
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<td>1279</td>
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<td>1316</td>
<td>923</td>
<td>974</td>
<td>1105</td>
<td>1135</td>
</tr>
</tbody>
</table>

**MEMBERSHIP COMMITTEE (cont.)**

| **TOTAL MEMBERSHIP TOTALS** | 1265 | 1323 | 1330 | 1354 | 999 | 1112 | 1142 | 1172 |
Just as we reported in March, the most pressing issue for the Committee remains to have new leadership appointed. After retiring last year from Sandia National Laboratories, George Baldwin decided to step down from chairing the committee, but has continued to serve in an acting role until the EC is able to appoint a new chair.

An open meeting of the Communications Committee will be held at the INMM Annual Meeting in Indian Wells. It will be an especially good opportunity for interested INMM members to get involved, as there are still unfilled leadership openings and it will be an important reorganizational event for the Committee. This is also a time of major changes affecting INMM Communications—with the website upgrade, social media use, and other critical topics. The meeting is scheduled from 5-6 pm on Wednesday, July 19 in Malta A.

INMM Communicator
(Jay Disser and Katherine Bachner, Co-chairs)

A new issue of the online newsletter, the INMM Communicator, was released in May 2017. It is accessible to all on the INMM website. Over the past several weeks, the subcommittee has also been taking an introspective look at the newsletter. We are reviewing its value to the membership and considering whether any changes would be beneficial. A membership survey concerning the INMM Communicator will soon be conducted. As always, the editors welcome feedback as well as contributions to future issues from the membership.

Public Relations and Outreach
(Susan Pepper, Acting Chair)

We continue to seek candidates interested in taking over the chair of the Public Relations and Outreach subcommittee. The subcommittee specializes in promoting the activities of INMM beyond our internal membership to the broader public, particularly to important audiences such as the media, related professional and nongovernmental organizations.

Website (Karl Horak, Chair)

The Communications Committee is not tasked to do any of the development work itself for the INMM website upgrade, which instead is being carried out by INMM Headquarters, but the Committee has contributed in an advisory capacity over the past several months. Committee members have participated as part of a “task force” to help with a user survey, to conduct usability tests, and to participate in several telephone conferences to review and discuss various aspects of the development process. Separately, the Committee drafted a “requirements document” in an attempt to spell out the various structural and functional aspects that the INMM membership would want to see for the new website. The draft was submitted to the EC, which has shared it with INMM Headquarters. As of this report, the Committee has not yet discussed the document directly with INMM Headquarters.

The requirements were developed late in the website development process and not all requirements can be incorporated under the existing contract. We recommend that the website continue to be developed and additional requirements be considered after the new management company takes over. There is a strong potential for additional costs, delays in roll out, and other problems as the transition takes place because of the high level of customization and proprietary software selected.

Social Media and Apps
(Sean Morrell, Acting Chair)

The social media subcommittee is struggling to find active volunteers to execute the strategy. The team is investigating a live stream of the opening session at INMM this summer. The Facebook and LinkedIn accounts require an overhaul and shift to an appropriate homepage in the nonprofit section. With a shift in management staff, there will be opportunity for growth in this area that does not rely on volunteer efforts.

We are still seeking candidates interested in taking over the chair of the Social Media and Apps subcommittee.
Committee Membership

George Baldwin, chair (acting)
Susan Pepper, chair, Public Relations and Outreach Subcommittee (acting)
Jay Disser, co-chair, INMM Communicator Subcommittee
Katherine Bachner, co-chair, INMM Communicator Subcommittee
Karl Horak, chair, Website Subcommittee
Zoe Gastelum, deputy chair, Website Subcommittee
Sean Morrell, chair, Social Media and Apps Subcommittee (acting)
Amanda Rynes, deputy chair, Social Media and Apps Subcommittee
Patricia Sullivan, INMM Headquarters Liaison

Management Oversight: Steve Wyrick

Current email distribution for the Committee:
INMM@gtbmail.sent.com, pepper@bnl.gov, j.disser@iaea.org, kbachner@bnl.gov, karlhorak@comcast.net, zgastel@sandia.gov, morrellsr@ornl.gov, amanda.rynes@inl.gov, psullivan@inmm.org

Copy to: steven.wyrick@srnl.doe.gov
EXHIBIT AND SPONSORSHIP COMMITTEE

Glenn Abramczyk, Chair

2017 Committee Members:

Steve Bellamy, Savannah River National Laboratory
Thomas Bonner, Oak Ridge National Laboratory
Cary Crawford, Oak Ridge National Laboratory
John Smalling, Ortec
Sean Stanfield, Canberra

In January of 2017 I assumed the Chairmanship of the Exhibits and Sponsorship Committee. Starting at the 2015 INMM Annual Meeting, the Exhibits and Sponsorship Committee has made an effort to reach out to the industry to get a more representative view on what types of things are important to the exhibitors and sponsors. Abramczyk is still working to establish a membership roster.

The Exhibit and Sponsorship Committee was traditionally only responsible for the Annual meeting. At the November 2015 EC meeting it was recommended to the EC a realignment of the responsibilities. The EC consolidated the exhibit and sponsorship activities for all INMM sponsored and co-sponsored meetings, conferences and workshops under the Exhibit and Sponsorship Committee. The Public Relations and Outreach efforts remain under the Communications Committee. A review of the last five years of all the INMM Workshops the only one which has been held consistently (i.e. for more than 2 years) has been the annual Spent Fuel Workshop (SFW) held in conjunction with DOE EM. Discussions were held with Jeffery England, the Workshop Chair, and Bradley Loftin, who has been assisting Jeff in organizing and running the SFW. The primary sponsor of the SFW declared bankruptcy and provided no funding in 2017. The SFW has historically obtained their own sponsorships and funding. With the loss of their primary sponsor, SFW is willing and appreciative of any assistance that may be rendered in finding additional workshop sponsors. The change in the association management company (AMC) also raises the question and opportunity for improvements in the conduct of the workshop. The Exhibit and Sponsorship committee looks forward to working with the new ACM and the SFW soon on the 2018 workshop.

Glenn Abramczyk, working with Amy Metzgar and Kim Santos of INMM Headquarters updated the exhibitor/sponsor prospectus and other outreach materials for the 2017 Annual Meeting and other 2017 INMM conferences and workshops. The updated materials were part of the package that was sent to all previous and prospective exhibitors and sponsors for the 2017 Annual Meeting.

In the following, we present some graphs showing the exhibits and sponsorship activities. See page 2. The decrease in exhibitors relative to the last few years has increased. 2017 had the fewest Exhibitors of the last ten Annual Meetings. Also, there was only one workshop last year and the loss of its major sponsor had an impact on the number of sponsors per workshop. This was discussed previously. The loss of Sponsorships both at the Annual Meeting and at workshops is an issue that needs to be addressed while working with the new ACM.

Respectfully submitted,

Glenn Abramczyk
Chair, Exhibit and Sponsorship Committee
Figure 1. Number of exhibitors at the INMM Annual Meeting for the last 10 years.

Figure 2. Number of INMM sponsored or co-sponsored meetings, conferences, or workshops, excluding the Annual Meeting for the last 5 years.

Figure 3. Amount of sponsorship revenue per event for the last 5 years.
STRATEGIC PLANNING COMMITTEE
Jack Jekowski, Chair

The current Membership on the Committee includes:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title/Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jeffrey Allender</td>
<td>Program Manager, Savannah River National Laboratory</td>
</tr>
<tr>
<td>Katherine Bachner</td>
<td>Scientific Associate, Brookhaven National Laboratory</td>
</tr>
<tr>
<td>Franklin DuBose</td>
<td>Consultant, BDM Consulting Group</td>
</tr>
<tr>
<td>Jeff England</td>
<td>Program Manager, Savannah River Nuclear Solutions</td>
</tr>
<tr>
<td>Braden Goddard</td>
<td>Assistant Professor, Mechanical and Nuclear Engineering, Virginia Commonwealth University</td>
</tr>
<tr>
<td>Jack Jekowski, chair</td>
<td>Principal Partner, Innovative Technology Partnerships LLC</td>
</tr>
<tr>
<td>Geneva Johnson</td>
<td>Nuclear Consultants and Engineers (NCAE), Oak Ridge National Laboratory</td>
</tr>
<tr>
<td>Christian (Chris) Kessler</td>
<td>U.S. Department of State, retired</td>
</tr>
<tr>
<td>David Lambert</td>
<td>Senior Security Specialist, Gregg Protection Services (Centerra)</td>
</tr>
<tr>
<td>Bill Knauf</td>
<td>President, Advanced Insights Group</td>
</tr>
<tr>
<td>Dennis Mangan</td>
<td>Sandia National Laboratories, retired; JNMM Editor; Past INMM President</td>
</tr>
<tr>
<td>Sean Morrell, Dep. Chair</td>
<td>Nuclear Engineer/Program Manager, Oak Ridge National Laboratory</td>
</tr>
<tr>
<td>Nick Quintero</td>
<td>Graduate Fellow supporting the Office of Nuclear Materials Integration, National Nuclear Security Administration</td>
</tr>
<tr>
<td>Therese Renis</td>
<td>Section Head, Concepts and Approaches IAEA</td>
</tr>
<tr>
<td>James W. (J.R.) Russell</td>
<td>Manager for International Nonproliferation, Nevada National Security Site</td>
</tr>
<tr>
<td>Grace Thompson</td>
<td>International and Special Programs for SNL (retired); Chair, INMM Operations Oversight</td>
</tr>
<tr>
<td>Susan Voss</td>
<td>President, Global Nuclear Network Analysis, Inc.</td>
</tr>
<tr>
<td>Klass van der Meer</td>
<td>President, ESARDA, and Head, Society and Policy Support, Environment, Health and Safety, Belgian Nuclear Research Center</td>
</tr>
</tbody>
</table>

The Purpose of the Strategic Planning Committee, as identified in the Institute’s planning documents is: The Strategic Planning Committee will assist the Executive Committee in performing both short- and long-term analysis of the effectiveness of the Institute for Nuclear Materials Management (INMM). The Committee will conduct ongoing strategic planning and respond to initiatives requested by the Executive Committee to ensure that the organization is effectively meeting the needs of the professional nuclear materials management community. The Executive Committee will appoint a Chair of this Committee, who will then select volunteers to serve on the Committee and assist the Chair.

Accomplishments and Highlights of Committee Activities August 2016 – June 2017

1. **Action Item #030216-4. Establish a working group to finalize a proposal for a new Sustaining Membership structure, which shall include feedback from pertinent Sources.** This item is completed.

2. **Action Item # 030216-10. Establish a working group to consider and make recommendation to EC regarding potential roles for INMM to facilitate training, professional qualification and development of educational material.** Representatives from the DOE National Training Center (NTC) attended the Annual Meeting and presented a paper entitled “Strengthening the Office of Nuclear Material Integration’s Workforce Planning and Development” on Wednesday. Jack Jekowski connected the federal and contractor staff with members of this working group and engaged in discussions about linking the NTC’s Department of Energy’s Training Institute (DTI - https://dti.doe.gov/)
Initiative to this Action item, particularly with respect to the evolving topic of nuclear safety and security culture. Jack Jekowski attended the Training Working Group (TWG) of the Energy Facility Contractor’s Group (EFCOG – http://www.efcog.org) at the DOE National Training Center (NTC) December 6-7, 2016, and continued to promote the relationship between the NTC and INMM. Cary Crawford had previously followed up on discussions at the Annual Meeting by meeting with representatives from the NTC and during the first week of November while at the EC meeting in Albuquerque, New Mexico. The NTC is continuing to engage EFCOG members in the development of the Department of Energy’s Training Institute (DTI - https://dti.doe.gov/) Initiative. Further discussions will continue in this area.

3. Taking the Long View Industry News Column. During this period, four “Taking the Long View” columns were submitted to the Journal of Nuclear Materials Management (JNMM):

- Vol. XLV, No. 1 - “Taking the Long View in a Time of Great Uncertainty: Preparing for the Future”, which examined some of the events at the Annual Meeting, not the least of which was the roll out of the new Strategic Plan for the Institute. To wrap up the article a list of critical uncertainties were developed to address the first Objective of the third Goal, (Community Relationships) to “Identify emerging global security priorities to inform INMM activities”.


- Vol. XLV, No. 3 “Taking the Long View in a Time of Great Uncertainty: Winds of Change”. The article explored a historical view of major events – reflecting how those events proved to be harbingers of the future – and examined the dramatic changes occurring with the new Administration and the U.S. Nuclear Security Enterprise, extrapolating out to what futures might lay ahead.

- Vol. XLV, No. 4 “Taking the Long View in a Time of Great Uncertainty: All Things Nuclear” which took a current look at global issues and events that reflect emerging global security priorities for the Institute, and briefly introduced the plan to hold a Global Security Summit at the 2018 Annual Meeting as part of the high-priority objective to “Identify emerging global security priorities to inform INMM activities.”

4. Encouraging Women to Pursue Careers in Nuclear Materials Management. The SPC will continue to research this topic and monitor the U.S. and International community for items of interest that might be used as benchmarks.

5. Alternative Session Format for Annual Meeting. As part of a larger effort to ensure that the next generation of INMM members is fully engaged in the activities of the Institute, the SPC worked with the Technical Division Chairs to experiment with alternative session methods that would enhance the meeting experience through greater audience interaction. The traditional INMM format for the Annual Meeting contains over 100 hours of power point presentations. While the presentation format is a necessary staple in the Annual Meeting format, the SPC is investigating options that would provide alternatives for audience engagement. The first attempt at a new session format was largely inspired by the INMM-ESARDA Meeting format that was used in Jackson Hole the previous year. The concept includes a set of shortened presentations followed by a session chair led discussion. However, unlike INMM-ESARDA, the sessions selected for this format at the annual INMM meeting were not organized specifically with this format in mind. Only one of the 3 sessions was able to actually accomplish the desired format. The Arms Control session was a set of similar lectures that combined in a manner that supported the concept well. The other selected sessions were able to hold some conversations after the scheduled presentations, but were not completely in the spirit of the concept. Some lessons learned from this trial were as follows:

- This type of session must be introduced in the call for papers
- The sessions must consist of complimentary – or even a singular – topic(s) to allow for interactive discussion
- Advertisement of the new format is required
- An optimized room format must be planned and
Moving forward, if it is desired to adopt this concept into the Annual Meeting format, the TPC should develop a plan and communicate the details during the first call for papers and prior to the Annual Meeting to ensure success.

The SPC also introduced 3 panel discussions to the Annual Meeting that were met with generally positive reviews. The panels and panelists were as follows:

- **JPCOA and Iran Panel**: Joseph Pilat (Chair), Stephan Klement, Mark Appleton
- **Nuclear Security Summit**: Corey Hinderstein (Chair), Roger Howsley, Robert Floyd, Michelle Nalabandian
- **Cyber Security**: Cary Crawford (Co-Chair), Rebecca West (Co-Chair), Mark Fabro, Robert Hoffman, Alexandra Van Dine, Nancy Peterson

The panels sought to increase the policy content of the Annual Meeting, one of our new Strategic Objectives, and also directly tackle topics that are relevant and interesting to our membership. Each panel had an international representative and included internationally renowned experts on the respective topics. The JPCOA Panel was the most attended with over 100 participants, the others had approximately 40 participants each. Some of the lessons learned:

- Panel planning needs to occur earlier
- Speakers and backups must be confirmed earlier
- Panel planning must be integrated into the initial Conference planning
- Increased sensitivity is required when engaging IAEA or similar institutions for some of the desired topics
- The practice of waiving the conference attendance fee (in special cases) should be continued to support the speaker attendance
- Scheduling should be evaluated to maximize schedule flexibility for meeting attendees
- Streaming and other video capabilities should be considered

A live twitter feed was introduced to the panels and was also met with positive reviews. The introduction of this technology was not well communicated. Panelists, chairs and the audience all had limited understanding on the objectives and desired outcome. It is clear that this is a positive addition to the meeting and that communication and execution can be greatly improved. The Executive Committee should consider setting aside a small budget to support the use of more sophisticated (e.g. automation, flexibility, etc.) software to support a live twitter feed. Additional experimentation will occur during the 2017 Annual Meeting as we explore alternatives for more fully engaging our membership during the Annual Meeting.

### 6. Organizational Strategic Planning

With the launch of the new Strategic Plan, the SPC identified a number of activities that have been implemented since its formation that are already aligned with the primary Objectives of the Plan shown below:

**Leadership**: Be recognized internationally as the leading professional society for the effective stewardship of nuclear materials and related technology.

**Objectives**

- **Improve communications with stakeholders to increase awareness of INMM’s contributions and activities**
  - Created a global and U.S. presence map for the INMM website that has recently been enhanced by Headquarters with interactive information (see http://www.inmm.org/Our_Global_Presence/6305.htm and http://www.inmm.org/INMM_U_S_Presence/4568.htm).
  - The SPC created a new functional organization structure chart based upon the reorganization approved by the EC in 2010, and it is now published on the INMM website, updated by Headquarters when changes occur (see http://www.inmm.org/AM/Template.cfm?Section=Organizational_Chart1&Template=/CM/ContentDisplay.cfm&ContentID=6271).
  - The SPC worked with the Technical Divisions and the Fellows Committee to provide a revised and more effective Mission statement for the Institute (2014)
  - The SPC assisted with the public information campaign on the 40th anniversary of the Journal of Nuclear Materials Management (JNMM).
  - The SPC created “Mission Alignment” matrices to demonstrate the value-added provided by the Institute to NNSA and DOE, and prepared a “one-pager” to communicate this information
**STRATEGIC PLANNING COMMITTEE (cont.)**

- **Make the INMM website a more effective tool**
  - Supported the implementation of an interactive global presence map (see http://www.inmm.org/Our_Global_Presence/6305.htm).
  - Updated Strategic Planning Committee presentation link (9/6/16)
- **Develop and strengthen strategic relationships with complementary organizations**
  - Developed an “INMM Collaboration Matrix” that identifies similarly-missioned organizations that either have an existing relationship or might have the potential for such a relationship. The SPC worked with the EC to develop points of contact for each (last updated May 30, 2013)
  - The SPC developed a matrix that compared and contrasted the Annual Meetings of similarly-missioned organizations (2014)

**Representation:** Represent the breadth of the profession.

**Objectives**

- **Broaden membership and increase participation in INMM from under-represented stakeholder communities and professional disciplines.**
  - The SPC worked closely with the Department of State’s Partnership for Nuclear Security (PNS), and the Chapter Relations Committee, including participating in a kick-off panel discussion with member organizations at the 2014 and 2015 Annual Meetings. An article promoting the collaboration to expand membership to a diverse international community was published in Vol. 43, No.1 of the Journal of Nuclear Materials Management in the “Taking the Long View” column titled “Turning the Corner”, and has been posted on the public-facing side of the INMM website (http://www.inmm.org/Taking_the_Long_View_Vol_43_No_1.htm). The SPC has subsequently worked with the Chapter Relations Committee to sustain these efforts.
- **Reflect broad perspectives and interests when designing events and communications**
  - The SPC has presented new concepts of presentation formats for the Annual Meeting to better engage millennials. In 2016 the Deputy Chair worked with others to create three “eSessions” to experiment with this format.
- **Broaden membership and increase participation with regard to age, gender, national background**
  - The SPC has been pursuing a recommendation from one of its previous members, Arden Dugan, to examine the opportunities for encouraging women in nuclear materials management careers. This has included examining the efforts of similarly-missioned professional organizations for best practices.
  - The SPC is participating in a “Training and Education” working group to identify value-added information and offerings to members and potential members (2015/2016).

**Community Relationships:** A Strong relationship exists between the policy and technical communities.

**Objectives**

- **Identify emerging global security priorities to inform INMM activities**
  - The SPC is responsible for the “Taking the Long View” column in the JNMM each quarter. This column routinely looks at the global security environment with respect to both nuclear issues and geopolitics in the context of the INMM mission and its member’s interests.
- **Ensure a balanced ratio of policy to technical papers at annual meetings and workshops**
  - During this year’s Annual Meeting, three policy Panel discussions were orchestrated in an effort to enhance this aspect of the Institute’s mission. These discussions experimented with live Twitter feeds to facilitate engagement of the audience.
- **Increase collaboration with policy-oriented organizations**
  - The new relationship with the Department of State’s PNS initiative has opened a possible door to enhanced policy discussions and engagement.
Planned actions for 2017-2018

- Assist in the planning and execution of a Global Security Summit during the 2018 Annual Meeting.
- Continue to identify possible opportunities to improve participation in the Institute by women in appropriate fields of study.
- Assist members of the EC and others in the development of strategic relationships with similar-missioned organizations identified on the Collaboration Matrix.
- Work with various Committees and individuals to further develop opportunities to enhance the revenue of the Institute and mitigate the impact of the U.S. restrictions on conferences.
- Work closely with the Student Activities Committee Chair, Amanda Sayre and the chair of the Education and Training Committee, Melissa Einwechter, to identify strategic issues with respect to engaging the next generation of Institute membership, including women.
- Work with the SPC to develop topics for the Industry News “Taking a Long View” column, and provide feedback to the EC on critical events and their strategic implications to the Institute.
- Develop new methods of engaging participants in the Annual Meeting through innovative approaches.
- Work with the EC to support implementation of organizational strategic goals.

Strategic current events impacting the Institute today:

As we enter an ever-more uncertain world in 2017, with the new U.S. Administration demonstrating the dynamic changes in global policy that lie ahead, it appears the world continues to face many uncertainties that impact the mission of the Institute and the work of its members, including:

International

- **Continuing tensions between the West and Russia.** The Trump Administration has indicated that it will attempt to work with Russia on the many issues that are creating international concerns. However, continuing tensions over the annexation of Crimea, incursions into the Ukraine, violations of the Intermediate Nuclear Forces Treaty with the deployment of new Russian missile systems, and the increasing role of Russia in the Syrian conflict, where tensions have increased with the downing of a Russian-made Syrian fighter jet, create barriers to the possibility of improving relations. More recently, questions about the attempts by Russia to influence the Presidential elections continue to impact the previous Lab-to-Lab and other scientific and technical interchanges that were the hallmark of the post-Cold War relationships that benefited the Institute’s interactions with Russia as well.

- **Escalation of tensions and territorial claims in the East and South China Sea.** The long standing territorial conflict between China and Japan, as well as other Southeast Asia nations, over islands and sovereignty in the East and South China Sea continues, as tensions have escalated and are now influencing national defense policy in Japan and other states. The Trump Administration’s outreach to Taiwan initially upset the longstanding “One-China” policy position between the U.S. and China, however, recent diplomatic discussions with respect to the evolving situation in North Korea seems to have alleviated some of these initial disagreements. Nonetheless, China has been “militarizing” these new disputed islands, portending a darker future for the region.

- **Iran.** The international community continues to have hope that the negotiated Joint Comprehensive Plan of Action (JCPOA) with Iran will be successful in deterring further development of technologies and Uranium enrichment that could lead to nuclear weapons. Unfortunately, the rhetoric emerging from the Trump Administration continues to threaten that agreement, although other parties to the agreement have expressed strong support for the continued implementation of the JCPOA. This rhetoric reached a crescendo during the President’s recent trip to Riyadh, Saudi Arabia, where both he and King Salman identified Iran as a terrorist-supporting state, and the President made the following comments: But no discussion of stamping out this threat would be complete without mentioning the government that gives terrorists all three—safe harbor, financial backing, and the social standing needed for recruitment. It is a regime that is responsible for so much instability in the region. I am speaking of course of Iran. From Lebanon to Iraq to Yemen, Iran funds, arms, and trains terrorists, militias, and other extremist groups that spread destruction and chaos across the region. For decades, Iran has fueled the fires of sectarian conflict and terror...Until the Iranian regime is willing to be a partner for peace, all nations of conscience must work together to isolate Iran, deny it funding for terrorism, and pray for the day when the Iranian people have the just and righteous government they deserve.”
• **North Korea (DPRK).** Rhetoric by North Korea continues to escalate tensions with the new U.S. Administration. It is unclear what path the new Administration will take, although discussions even before the elections openly raised the issue of additional nuclear weapons states in East Asia as one solution, while recent Administration rhetoric has indicated “all options are on the table. Most recently the President has called on the Pentagon to provide some military options to pursue in the event that the threat increases. During this period, South Korea has gone through significant political turmoil, as the previous President, Park Geun-hye, was impeached and a new President, Moon Jae-in, was elected. Following his election, the relationship between the U.S. and South Korea has become strained, although the threat by North Korea appears to be a driver for improving that relationship. President Moon has also indicated a desire to stop the construction of new nuclear power plants, and eventually replace all of their plants with other renewable energy sources. This would have a significant impact on the technology-leading industry that has emerged from South Korea, particularly with respect to sales of their nuclear power plants to other countries.

• **Global Instability.** The continued unrest in the Middle East, including the rise of a new coordinated effort by the Islamic State of Iraq and the Levant (ISIL, or otherwise known in the Media as ISIS) and the expansion of the ground war across international borders presents unique challenges to the world as a general malaise has spread across the Middle East and European continent with increasing incidents of terrorism. The on-going conflict in Syria has also become even more complicated as a result of the recent escalation of Russian participation. The extensive diversity of the Institute’s members in multiple disciplines could very well be a determining factor in how successful the world is in battling this new confounding challenge.

• **Nuclear Renaissance.** Although some countries have decided to forgo nuclear power as a result of the Fukushima accident of 2011, the United Arab Emirates is currently building four nuclear reactors, with the first scheduled to come on line in 2017. Continued technological struggles by Japan, however, to contain the spread of radioactive contamination at the Fukushima site, and the enormously expensive technologies being developed to achieve the clean-up (such as the ice wall designed to contain contaminated cooling water) continue to influence global opinions on the safety and cost of nuclear power as they push the limits of science and technology.

• **India-Pakistan Relations.** Tensions between these two nuclear armed nation states rise and fall as both nations continue to strengthen and modernize their strategic weapons systems. Most recently, incursions by forces on both sides over the disputed territory of Kashmir has escalated tensions in this region, and in many circles there is a growing concern over the continuing hostile positioning being taken by these two nuclear-armed states.

• **Cyber Threat.** The growing threat posed by both state and non-state hackers to infiltrate even the most secure networks has created an alarming vision of the future, where Congressional investigations have been recently initiated on the possibility of foreign governments intervening in the U.S. Presidential election. More importantly is the growing reliance of critical infrastructure on remote communications, particularly those that are associated with nuclear facilities.

• **Nuclear Modernization.** Growing international tensions and security uncertainties continue to drive modernization efforts of all the major nuclear weapons-possessing states, particularly as aging infrastructure, weapons and delivery systems bring into question their ability to meet deterrent needs. Despite efforts to reduce nuclear stockpiles and the associated danger, these modernization programs, including those of the U.S., are a harbinger of a new Cold War.

• **Brexit.** The withdrawal of the United Kingdom from the European Union adds a further unknown to the development of Western economic and security collaborations, including issues surrounding its own nuclear weapons deterrent, which may be threatened by actions of Scotland to once again seek independence, leaving the basing for their submarine nuclear ballistic missile fleet in question, which is now in Scotland.

U.S.

• **New U.S. Administration.** The potential impact of new U.S. policy as a result of the election of President Trump has been addressed in recent “Taking the Long View” columns. As the world anxiously awaits the “next surprise” or change in national policy, it behooves the Institute to closely monitor this dramatically changing environment particularly as it
pertains to the technical and policy issues associated with the JCPOA; North Korean nuclear ambitions; geologic storage of spent fuel and high-level defense waste; nuclear power; and the nuclear weapons modernization efforts.

- **U.S. Budget Deficit.** The economic malaise that has impacted the global community is reflected in the growing U.S. budget deficit, which is approaching $20T. The economic uncertainties that continue to be exacerbated by global conflicts and the uncertain future of the European Union, add a difficult unknown to the stability not only of the U.S. economy but the world as well.

## U.S. Nuclear Security Enterprise

- **WIPP Radiation Incident.** As the WIPP site moves back to operational capability, three years after the accidental release of contamination resulting from a breached storage container, there is a growing optimism that the nation’s efforts to permanently dispose of legacy waste are on track, including efforts by the new Administration to restart the work associated with the re-opening of the Yucca Mountain project.

- **Future of the Enterprise.** The future of the Nuclear Security Enterprise is yet to be determined, as NNSA Administrator Klotz has remained in his position for the Interim. President Trump’s nomination for Secretary of Energy, former Governor Rick Perry, has recently expressed support for the National Laboratories and the modernization of the stockpile, as well as for WIPP and other programs. The Implementation Plan recently issued by NNSA in response to Congressional language in the FY2016 National Defense Authorization Act (NDAA) demonstrates that a major change in governance and relationships is about to occur within the Enterprise, as the results of two Congressionally-mandated studies of the Enterprise and the DOE system of national laboratories have created a new wave of recommendations to resolve issues that have grown more significant in the past three decades.

## INMM

- The INMM itself faces “history in the making” as it attempts to adapt to this dramatically changing international and U.S. environment, including the continuing impact of U.S. government restrictions on conferences, the loss of participation by some members and Chapters due to international tensions, and the changing demographics of its membership. Additionally, the Institute has selected a new management company to oversee the day-to-day operations of the Institute, which will have to be engaged during this tumultuous time.

Respectfully Submitted,
Jack Jekowski
Strategic Planning Committee Chair
505 280-2217
jpjekowski@aol.com
In between the INMM Annual Meeting 57 and 58, the following items are reported from the CRC Chair to the INMM membership:

1. Approved INMM Chapters:
   a. Amity University, New Delhi, India – approved at July 2016 INMM EC meeting
   b. Federal University of Rio de Janeiro, Rio de Janeiro, Brazil – approved at July 2016 INMM EC meeting
   c. India Institute of Technology – Kanpur, Kanpur, India – approved during October 2016 INMM EC meeting

2. Internal CRC Operations
   a. W. Janssens stepped down as CRC Chair to accept a position as Member-at-Large of the INMM EC in October 2016. C. Gariazzo was elected into the CRC Chair position as of March 2017.
   b. The vision of the new CRC chair is to champion chapters within the INMM’s administration. Furthermore, the committee will work closely with other committees (such as the Education and Training Committee, the Communication Committee, the JNMM Committee, and the INMM Headquarters staff) to promote activities and enhance individuals’ experiences within their regional chapters. The CRC will commit to working with the Communications Committee to establish a method by which chapters can voice opinions to the rest of the organization or explicitly to the EC. With the Education and Training Committee, the CRC will collect opinions on ways to address members’ professional aspirations within the nonproliferation community. And with the JNMM committee, the committee will encourage increased involvement in the journal’s circulation and its mission among both professional and student chapters. In whole, the CRC will advocate on behalf of both professional and student chapters around the world for the advancement of nuclear nonproliferation.
   c. M. Shah and K. McCarthy have accepted invitations to serve on the CRC with the initial meeting of the committee to occur during the 58th Annual INMM Meeting in July 2017.

3. Outreach endeavors:
   a. Discussions were held with CRDF-Global to plan and synchronize the different meetings planned with and for INMM Chapters during the INMM Annual Meeting in July 2016 (to avoid few scheduling conflicts which occurred in 2015 and to stimulate further synergies) and mutual invitation to each other’s initiatives during the Annual meeting were exchange
   b. A meeting was held with CRC VC Gariazzo and the officers of the UFRJ (Brazil) Student Chapter in November to discuss new activities and methods to enhance outreach to other students and professionals throughout Brazil.
   c. As interest for collaborations among chapters increases, a joint proposal was submitted to US State PNS for a Joint INMM Chapter Student Conference in Morocco to be held in Morocco consisting of student chapters to facilitate international chapter interaction. The university members included in this proposal included UFRJ (Brazil), IBN-Tofail (Morocco), Amity University (India), Ahmadu Bello University (Nigeria), and JUST (Jordan). Though unsuccessful, the enthusiasm in international chapters is heartening.
   d. Discussions were held with INMM headquarters staff on the inclusion of chapter web pages to be included in the new INMM homepage redesign. More information will be made available to all chapters at a later date.
   e. CRC will host an annual chapter meeting during the 58th Annual INMM Meeting in Indian Wells, CA for all chapter presidents (and faculty advisors) to facilitate intra-chapter relations as well as serve as an opportunity to engage chapters with the EC members.

Signed,
C. Gariazzo
M. Shah
K. McCarthy
The Central Region Chapter (CRC) Executive Committee (EC) currently comprises the following officers:
President – Linda J. Paschal
Immediate Past President – William (Bill) S. Brosey
Vice President – Jessica L. White-Horton
Secretary – Louise G. Worrall
Treasurer – Jacqueline (Jackie) L. Shipwash
Members at Large – Jill Cooley, K.J. Maddux, Justin Reed, Ben Watts

CRC EC Activities:

Annual Business Meeting, July 2016
The CRC EC held an Annual Business Meeting on July 27, 2016, as part of the INMM Annual Meeting held in Atlanta, Georgia. The agenda is attached.

This meeting had three primary purposes: (1) to review the annual activities for the Chapter; (2) to hear from the Presidents of the Student Chapters; and (3) to present plans for the upcoming Spring holdup workshop.

Jackie Shipwash was recognized at this meeting for her contributions to the CRC. Michael Whitaker was also recognized for his INMM Award received during the Annual Meeting.

Summer Social
The CRC EC hosted a summer social event after the INMM CRC Business Meeting at the INMM Annual Meeting. This event was hosted jointly with Canberra Industries, Inc., and the INMM Northeast and Southwest Region Chapters.

Technical Workshops
The CRC EC organized a Spring Topical Meeting on “Best Practices for Material Hold-up Monitoring” held at the Y-12 National Security Complex New Hope Center in Oak Ridge, Tennessee on April 12th, 2017. This one day workshop featured 12 papers on research themes and needs in hold-up monitoring. The meeting flyer and agenda are appended to this report.

The meeting had 75 participants, 7 sponsors, 14 speakers, and a number of vendor booths during the breakout session. Some highlights from the meeting are pictured below.

Financial Report
Chapter Financial Status: As of June 1, 2017 the Central Region Chapter had a balance of $26,023.74

Respectfully submitted by:
Linda Paschal, President
Central Region Chapter Executive Committee:
Jessica L. White-Horton, Vice President
Jackie Shipwash, Treasurer
Louise G. Worrall, Secretary
Bill Brosey, Immediate Past President
Jill Cooley, Member-at-Large
K.J. Maddux, Member-at-Large
Justin Reed, Member-at-Large
Ben Watts, Member-at-Large

Pictured: INMM CRC President Linda Paschal presenting opening remarks (top left); audience participation in the speaker open question panel (top right); meeting Technical Program Chair Susan Smith reviewing meeting recommendations (bottom left); and an engaging vendor breakout session (bottom right).
Welcome/Call to order
Linda Paschal, Chapter President

Financial Report
Jackie Shipwash, Treasurer

Annual Report
Louise Worrall, Secretary

Old Business:
Approval of minutes from Annual Meeting July 2015
Student chapter stipends

New Business
Election results and introduction of Officers
Jessica White-Horton – Vice President
Recognition of outgoing officers
Recognition of new members
Student chapter updates
University of Michigan
Tony Shin, Chapter President
University of Missouri
Valentina O’Donnell, Chapter President
University of Tennessee
Steven Dahunsi, Chapter President

2016 Member-at-Large Election Nominations

Spring 2017 Workshop
Jill Cooley – Member-at-Large
Sign-up for workshop positions

Announcements:
Canberra mixer: Skyline South from 7-9:00 pm.

Open floor to membership

Adjourn Meeting

Central Chapter (U.S.A.) (cont.)
Topical Meeting on Best Practices for Material Hold-up Monitoring Location: New Hope Center, Y-12 National Security Complex, Oak Ridge, TN

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Speaker</th>
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</thead>
<tbody>
<tr>
<td>8:30-9:00</td>
<td>Welcome Introductory Remarks</td>
<td>Linda Paschal/ Susan Smith</td>
</tr>
<tr>
<td>9:00-9:20</td>
<td>Holdup Measurements at K-25/K-27</td>
<td>Brandon Rasmussen (ETTP)</td>
</tr>
<tr>
<td>9:20-9:40</td>
<td>Filter Holdup Measurements at the Y-12 Plant</td>
<td>Cynthia Gunn (Y-12 NSC)</td>
</tr>
<tr>
<td>9:40-10:00</td>
<td>NMIS Imaging for Hold up at the Hockey Stick Deposit at K-29 Diffusion Plant</td>
<td>John Mihalczo (ORNL)</td>
</tr>
<tr>
<td>10:00-10:15</td>
<td>Refreshments</td>
<td>Provided</td>
</tr>
<tr>
<td>10:15-10:35</td>
<td>Developing Human Interface Capability for Holdup Detection and Quantification</td>
<td>Graham Walford (UT)</td>
</tr>
<tr>
<td>10:35-10:55</td>
<td>SNAPSHOT—A new software platform for holdup measurements highlighting algorithmenhancements</td>
<td>Nathan Rowe (ORNL)</td>
</tr>
<tr>
<td>10:55-11:15</td>
<td>Refinements to the practical calibration of holdup measuring instruments</td>
<td>Ram Venkataraman (ORNL)</td>
</tr>
<tr>
<td>11:15-11:35</td>
<td>Lessons Learned on Uranium Accumulation in Fuel Cycle Facility Ventilation and Scrubber Systems</td>
<td>Tom Pham (NRC)</td>
</tr>
<tr>
<td>11:35-12:45</td>
<td>Lunch</td>
<td>Provided</td>
</tr>
<tr>
<td>12:45-1:05</td>
<td>Developing an Improved Data Acquisition System for Holdup Measurements</td>
<td>David Davis and Nicolas Loden (Y-12 NSC)</td>
</tr>
<tr>
<td>1:05-1:25</td>
<td>Recent Developments in Internal and External System Holdup Detection and Quantification</td>
<td>Gregory Peacock (InSolves), Graham Walford (UT)</td>
</tr>
<tr>
<td>1:25-1:45</td>
<td>The Distributed Source Term Analysis Method</td>
<td>Tom Burr (IAEA)</td>
</tr>
<tr>
<td>1:45-2:05</td>
<td>The Diffusion of NDA from MC&amp;A to Other Nuclear Facility Missions</td>
<td>Richard Ratner (Nuclear Fuel Services)</td>
</tr>
<tr>
<td>2:05-2:25</td>
<td>Refreshments</td>
<td>Provided</td>
</tr>
<tr>
<td>2:25-3:15</td>
<td>Speaker Open Question Panel</td>
<td>Stephen Croft (ORNL)</td>
</tr>
<tr>
<td>3:15-3:20</td>
<td>Closing Remarks</td>
<td>Linda Paschal</td>
</tr>
<tr>
<td>3:20-3:45</td>
<td>INMM Central Chapter Meeting</td>
<td>Linda Paschal</td>
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</tbody>
</table>
Leadership
The NE Chapter Executive Committee members are the following:

<table>
<thead>
<tr>
<th>Office</th>
<th>Term Ending</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>Arden Dougan</td>
</tr>
<tr>
<td>Vice President</td>
<td>Kate Bachner</td>
</tr>
<tr>
<td>Secretary</td>
<td>Charles D. Harmon</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Gerard Jackson</td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Ken Sanders</td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Meghan Wool</td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Steve Mladineo</td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Lisa Toler</td>
</tr>
<tr>
<td>Immediate Past President</td>
<td>Joe Rivers</td>
</tr>
</tbody>
</table>

The Northeast Chapter continues to conduct monthly Executive Council Meetings via teleconference. The approved minutes from the latest meeting are posted to the Chapter Web Site.

The Chapter Treasury balance as of 21 June 2017 was $9,90.93 The Treasurer’s Report is attached.

Chapter Activities

INMM TPC/EC/Strategic Planning Meeting:
Steve Mladineo and Joe Rivers attended the meeting of INMM’s Technical Program Committee (TPC), Executive Committee (EC), and Strategic Planning Committee held in Austin, TX on February 28th through March 2nd. Arden Dougan gave the Chapter Report by phone. Steve reported that they will be extending the Strategic Plan by one year.

Nuclear Material Management Related Meetings:
Joe Rivers and Gerry Jackson attended the 32nd INMM Spent Fuel Management Seminar held to Washington, DC on January 10-12, 2017.

Joe Rivers and Gerry Jackson attended the NRC Regulatory Information held in Bethesda, MD on March 8-10, 2017.

Student Paper Contest:
Sarah Sarnoski from the Penn/Sate Student Chapter was determined to be the winner of our Student Paper Competition and will receive financial support for her attendance at the 2017 INMM Annual Meeting in Indian Wells, CA.

Future Activities
The NE Chapter plans to hold two events in the Fall of 2017:
• Another lunch time meeting to continue the Nuclear Policy Talk series. We will coordinate with the Elliott School to determine an appropriate subject and speaker for this meeting.
• A Vulnerability Assessment Tools Workshop as a follow-on to the workshop held in Boston earlier this year. We will advertise this event as soon as the organizing committee announces their plans.

Respectfully Submitted: Arden Dougan, President

FY2017 Financial Statements
INMM North-East Chapter Financial Statement as of 06/21/2017

Chapter Balance: 10/01/2016 $8,848.40
Interest from Nav Credit Union $2.02

Expenses thru 12/31/2016 $160.00 Lunch Presentation by Les Fishbone

Closing Balance at Navy Federal Credit Union $8,690.42
Navy Fed Credit Union Closed and we moved Accounts to PennFed Credit Union

Chapter Balance: 12/31/2016 $5,249.45 Checking Account
$3,387.84 Money MKT Account
$53.13 Share Account
$8,690.42

Income:
INMM Annual Stipend $400.00 for FY 2017
Dividends $0.51

Income Total: $400.51

Expenses:
NE Chapter Student Paper $-
Student Chapter Support (Mercyhurst) $-
Student Chapter Support (Penn State) $-
Lunch Time Meetings $-
Chapter Election $-
Annual Mixer $-

Expenses Total: FY2017 $0.00

Current Chapter Balance: 06/21/2017 $9,090.93
The FY17 Executive Committee of the Southwest Regional Chapter is as follows:

President:
Adam Hecht, University of New Mexico
Vice President:
Sunil Chirayath, Texas A&M
Secretary:
Markku Koskelo, Aquila Technologies
Treasurer:
James Miller, Los Alamos National Laboratory
Members at Large:
Alexis Trahan, Los Alamos National Laboratory
Zoe Gastelum, Sandia National Laboratories
Jack Jekowski, Innovative Technology Partnerships, LLC
John Matter, Independent Consultant
Communications:
Scott Kraus, Aquila Technologies
Student Liaison:
Keith Tolk, Milagro Consulting
Past President: Open

Activities this Fiscal Year:
1. The SW Chapter held its first Executive Committee meeting of this FY at the offices of Aquila in Albuquerque on October 14, 2016. The Committee reviewed our activities from the past year and discussed plans for the coming year.

2. The INMM Executive Committee held its fall meeting on November 2-3, 2016 in Albuquerque. The Southwest Chapter and the UNM Student Chapter held a pizza night for students, faculty, and several EC members at UNM on November 2. The discussion included internship opportunities and possible career paths that may be available for the students.

3. The Southwest Chapter held its Annual Winter Dinner Meeting in Santa Fe, New Mexico (The Inn at Loretto) on January 6, 2017. Dr. Siegfried Hecker gave a wonderful talk on the challenges of nuclear India, Pakistan, North Korea, and the nuclear aspirations of Iran, as well as the situation related to nuclear matters in Russia and China. 64 people attended the very successful event.

4. The SW Chapter held its annual Technical Exchange (the 19th annual meeting) at the Inn at Loretto in Santa Fe on May 16, 2017. We coordinated the date with a visit by students from Texas A&M University to the national laboratories in New Mexico to allow for maximum student participation. Our keynote speakers were Dr. Joseph Pilat from Los Alamos National Laboratory who spoke about safeguards +50, and Mr. Robert Huelskamp from Sandia National Laboratories who spoke about data analytics for nonproliferation. The meeting was very successful, with a total attendance of 34, including 7 students from Texas A&M, and 8 students from UNM. Six students made presentations as part of the agenda. The SW Chapter provided modest monetary support for students who made presentations and/or for the travel expenses for students who did not have their travel expenses covered by other funds.

5. The SW Chapter is in the process of organizing a workshop on novel verification technologies for safeguards and arms control to be conducted in collaboration with the International Safeguards and Nonproliferation and Arms Control Technical Divisions of the INMM and Sandia National Laboratories. See the INMM web site for further details. (http://www.inmm.org/Novel_Technologies_Techniques_and_Methods_for_Safeguards_and_Arms_Control_Verification.htm).

6. The University of New Mexico and the University of Texas A&M student chapters will submit their own reports separately.

Respectfully submitted,
Markku Koskelo, SWC Secretary
For Adam Hecht, SWC President
1. Officers and Executive Committee Members as of end of June 2017

President: Masao Senzaki
Vice-President: Junichi Ishihara
Immediate Past President: Takahiko Ito
Secretary: Shoko Iso
Treasurer: Kouichi Shiraishi
Members-at-large: Takuya Itoh
Hideaki Kaneko
Tsuyoshi Sanpei
Masato Hori
Masaki Saito

2. Executive Committee Meetings

- The Chapter’s Executive Committee Meetings were held every three month intervals. Primarily following topics were discussed and resolved at the meeting held during the period covered this report.
  - FY2016 business report and financial statement
  - FY2017 business plan and financial budget
  - Renewal of web-page (Japanese) and e-mail system of the INMM Japan Chapter
  - The launch of the Strategic Planning Committee in order to discuss strategic plan to advancement of the Chapter’s management.
  - Creation of new Advisor post in the Chapter in order to advise and support on improvement of the Chapter’s activities. Takeshi Osabe and Tomonori Iwamoto are appointed as an adviser.
  - Annual meeting Program Committee Report including the lessons learned from the 37th annual meeting and Planning for 2017 annual meeting as the commemoration of the 40th anniversary of INMM Japan Chapter.
  - Planning Committee Report including workshop program and editorial policy on the special edition of Nuclear Materials Management Bulletin as a commemoration of the 40th anniversary of INMM Japan Chapter.
  - Undertaking of secretariat role for the 9th INMM/ESARDA Joint Workshop by Japan Chapter.

3. Annual Business Meeting

FY2017 annual business meeting of the chapter was held on November 17, 2016 in conjunction with the 37th annual meeting of Japan Chapter. The FY 2016 business report/financial statement and FY2017 business plan/financial budget were approved at the meeting. FY2018 annual business meeting will be held November 2, 2017 in conjunction with the 38th annual meeting.

4. Annual Meeting

The 37th annual meeting of Japan Chapter was held in Tokyo Institute of Technology, Tokyo, during November 17-18, 2016. The meeting was conducted collaboration with Tokyo Institute of Technology as a co-host organizer. The meeting focused on encouragement of university student participation to the meeting. Total of 87 people were participated in.

Invited Lecture:
Following invited lectures on the subjects of were carried out at the meeting.
  - Measures on Insider Threat and Cyber Security
  - Recent Topics on Nuclear Human Resource Development
  - Academy for Global Nuclear Safety and Security Agent - Overview

Paper presentation:
Total of 31 papers were presented in 8 sessions, including safeguards/inspections, measurement of nuclear material in fuel debris at Fukushima Dai-ichi nuclear power plant, human resources development in nuclear business, nuclear security/physical protection and measurement technology.

Poster presentation:
12 posters were presented by Students or young professionals.

Enterprise introductory session
Enterprise introductory session was also carried out during the meeting in order for disseminate relevant enterprise’s business outline to student for the promotion of the participation of students and young professionals at the annual meeting. Total of 6 relevant enterprises were gathered and provide orientation.
The 38th Annual Meeting as a commemoration of the 40th anniversary of INMM Japan Chapter will be held in Ookayama Campus of Tokyo Institute of Technology during 21-22 November 2017. Tokyo Institute of Technology will fully support the meeting as a host organization of the meeting. Call for paper announcement is already released and the detailed program of the meeting will be available in September, 2017.

5. Workshop/Seminar
Following workshops/seminars were completed or being planned.

- Theme: Modern technology for the detection of the explosive device as the anti-terror measures – June 9, 2017 (completed)
- Theme: Status on the detection capability of Drone – July 15, 2016 (completed)
- Theme: Technology for Strengthening of Countermeasure on Nuclear Terror (tentative) – September 27, 2017 at JAEA Tokyo Office
- Joint workshop with Atomic Energy Society of Japan will be postponed until October 2017.

The year 2017 Nuclear Materials Management Bulletin (in Japanese) will be published in July as a special issue for a commemoration of the 40th anniversary of the Chapter. A title for the special issue will be “Past and Future Prospect of INMM Japan Chapter” The special issue will be released for public on the Chapter’s website.

7. Membership Status as of the end of the June 2017
Regular member: 123 (including 1 Fellow Meritorious, 1 Fellow and 17 Senior members)
Student member: 13
*Sustaining member: 25
(*: Relevant only to Japan Chapter)
In addition, the Executive Committee is supported by Jennifer Anderson, Associate Member (Chapter calendar, Membership), Ramon Castillo, Associate Member (Communications Development) and Mark Engelmann, member (Research & Development Advisor).

The Executive Committee meets monthly with formal minutes maintained.

Activities

Technical Series Presentations. Two technical presentations have been held:

- **Cat Litter, Nitric Acid, Plutonium, and $2.4 Billion Dollars: PNNL’s role in the investigation into the 2014 Contamination at the Waste Isolation Pilot Plant**. Dr. Jon Schwantes. November 16, 2016. This presentation was offered on Skype to the regional student chapters.


Developing and strengthening relationships with local technical societies. This is a 2017 Chapter objective that compliments the INMM Strategic Plan. This year, we have established interactions with the Eastern Washington Section of the American Nuclear Society (EWS-ANS). This includes sharing chapter calendars and open invitations to attend each other’s technical and social events. A joint picnic is planned for August.

University/ Student Outreach. Pacific Northwest National Laboratory (PNNL) Day was held May 12, 2013. The Chapter was very involved with its planning and performance. This event is designed to introduce students to various technical aspects of the type of nuclear-related work the Laboratory does and offer opportunities to meet researchers and program managers. Nonproliferation and safeguards exercises and demonstrations were part of the venue. Valarie Finch, Member at Large, and Marc Quint did an outstanding job in coordinating this year’s event. Attendance was just over 30 students participating representing 5 universities, with about 20 of them studying nuclear engineering. Roberta Burbank, Vice-President, presented an overview of the INMM Organization and Skip Kerschner, President, presented a nuclear operations perspective of the Radiochemical Processing Laboratory and overall facility operations. Both presentations were well received.

Afterwards, several members of the EC attended a mixer with the students and attending faculty.
Communications Development. The Chapter has recognized the need to improve both internal and external communications. The first objective was development of a Calendar of Events which is routinely updated and provided to the Chapter membership. In development and consideration are: a Chapter logo, determining a communications platform for interacting with the student chapters, and development of a Chapter website.

2018 Professional Chapter Workshop. Planning began for hosting a 2018 Professional Chapter Workshop. A small working group is formed with focus on finalizing the proposal and developing a cost estimate. The workshop title under consideration is “Nuclear Materials Science, Processing, and Signature Discovery”. Potential topical areas would include: Nuclear Forensics, Nuclear Material Science, Nuclear Material Processing, Signatures from Materials of Interest, and a Special Session on Introduction to Plutonium Processing. This workshop targets groups (INMM, American Chemical Society, American Nuclear Society) interested in understanding nonproliferation from the aspect of how information is gained through forensics, advances in analytical tools & process and provides understanding of the nuclear material methods for plutonium production. The workshop is planned to be held in PNNL new Discovery Hall (event center) in April 2018. Senior Advisors to the working group include: Obie Amacker and Dr. Susan Clark, Battelle Fellow.

INMM Activities. Amanda Sayre, Member at Large, was the Chapter’s representative, attending the INMM Technical Program Committee and Executive Committee meeting in Austin, Texas (March 2017). Jim Andre, Member at Large, is taking the leadership for judging of student papers and posters at the INMM 58th Annual Meeting. Skip Kerschner continues to represent INMM as a voting member for the American National Standards Institute N13, Radiation Protection.

Membership. Chapter membership remains free to members that have registered with the National INMM. The Chapter has 34 members and 6 associate members. A goal has been established to increase membership by 10%.

Treasurers Report. The annual stipend was requested and received. The Chapter currently has a balance of $11,350.42.

Upcoming Activities. The following are key activities:

- Joint picnic with the Eastern Washington Section of the American Nuclear Society (August 2017)
- Technical Series Presentation (October 2017)
- Joint Christmas party with the Eastern Washington Section of the American Nuclear Society (December 2017)
- Professional Chapter Workshop (April 2018)
- Executive Committee elections (September 2018)

Respectfully submitted
Harrison F. Kerschner
President, Pacific Northwest Chapter
This report covers January 2017 to March 2017.
Officers of the Chapter are given below.

Officers of the INMM Vienna Chapter
President, Thomas Jeffrey
Vice-President, Elisa Bonner
Treasurer, Fabian Rorif
Secretary, Thomas Gray
1st Member at Large, Brian Boyer
2nd Member at Large, Igor Tsvetkov

2017 Science and Engineering Fair
On March 25th, 2017, the Vienna Chapter hosted its annual Science and Engineering Fair: at the Lycée Français in Vienna. Despite some initial concerns that participation might be low this year compared to previous years, the final turnout was quite strong. In total, more than 80 students attended, representing 10 schools and approximately 45 projects. Eleven awards were given in total, with one for best in category for each of the three junior and senior categories, as well as a “best Junior Project” and a Best Senior Project.” Additionally, a number of special awards were given, including the “Best of Theme” category and the “Women in Nuclear (WiN)” Junior and Senior Awards.

Viviana Pokluda, of the Riverside School (Prague), presents her project “Energy Needs of Refugees” to one of the Judges.

Science Fair Judges discuss which projects should receive each of the eleven awards.
Science Fair Judges discuss which projects should receive each of the eleven awards.

Alina Manakhbayeva, of the Amadeus International School, Vienna, proudly shows her award for the best project in the Senior Level Health and Human Behaviour Category.

Saraa Al Brashdi, of the Amadeus International School, with her “Superior Rating” Award for her Project “The effect of the concentration of carbon dioxide on the photosynthesis rate of a water plant”

Darius Vicovan, of the British School of Bratislava, shows his participation awards for his project “The After-Energiser.”

INMM Vienna Chapter Vice President, Elisa Bonner and Fair Coordinator, Bernard Weiss, present the award for “Best Junior Project” to Aidan Campion and Serikbol Yermekuly of the Riverside School, Prague, for the project “Keep the Ball Rolling.”
INMM Russian Federation Chapter (RFC) continues the activity to reorganize of RFC in present conditions:

- To revise the member list to make it more realistic, taking into account modern situation (political aspects et al). Some members left us;
- To create the plan of events to participate (national and international);
- To cover more INMM areas of activity et al.
- Members of RFC participated in some important events. Main of them listed below:
- Preparation to the International Conference on Physical Protection (IAEA, Vienna, Austria, 13-17 November, 2017) with presentations (A. Izmaylov and other RF Chapter Members);
- Preparation to the INSEN (IAEA organization on Education in Nuclear Security) Meeting, IAEA HQ, Vienna, Austria, 24-28 July, 2017 (N. Geraskin, A. Izmaylov);
- Participation of RF Chapter Members (A. Izmaylov) in the 29th IAEA Advisory Group on Nuclear Security (AdSec) Meeting to develop the IAEA Plan on NS and recommendations for IAEA Director General (IAEA, Vienna, Austria, 18-21 April, 2017).
- There is no budget in the RF Chapter.
- Practically, all members of RF Chapter are working in different Russian institutions and conduct current work in several Nuclear Security areas (nationally and internationally). Some members are working as independent experts.

Alexander Izmaylov
President of the INMM RFC
No. 9 Kwame Nkrumah Crescent, Asokoro, Abuja - Nigeria

ANNUAL REPORT: JULY 2016 – JUNE 2017

1.0 INTRODUCTION

The Institute of Nuclear Materials Management Nigeria Chapter was admitted in 2011 in California and celebrated at the 53rd Annual conference in Orlando, Florida. Since then the chapter has actively supported the Nigeria Atomic Energy Agency and the Nigerian Nuclear Regulatory Authority activities in the area of safety, security and safeguards of nuclear and radioactive materials in Nigeria. The Nigeria chapter has hosted one workshop and provided technical support to the Ahmadu Bello University Student chapter in an effort to develop and promulgate best practices for safe, secure and effective use of nuclear materials in Nigeria. Membership of the chapter cuts across the different stakeholder organization in Nigeria including the Nigeria Atomic Energy Commission, Ahmadu Bello University, Nigerian Nuclear Regulatory Authority, Energy Commission of Nigeria and a host of others. In this report, we present the chapter activities and accomplishments, upcoming activities and current officers including members in good standing.

2.0 ACTIVITIES AND ACCOMPLISHMENTS

2.1 Visits to NAEC, NNRA & ECN

In a bid to increase its membership and funding support, the chapter visited three stakeholder organizations namely: Nigeria Atomic Energy Commission, Nigerian Nuclear Regulatory Authority and Energy Commission of Nigeria. There has been no response from these organizations for funding support. However, they indicated interest in corporate membership which they are yet to contact the chapter. Recently, Energy Commission of Nigeria supported the chapter in its just concluded workshop. They provided the chapter with secretariat and assisted in some logistics.

2.2 Workshop


The INMM Nigeria chapter actively participated in the Ahmadu Bello University Student chapter as facilitators. The venue for the workshop was provided by the Centre for Energy Research and Training through the request by the INMM Nigeria chapter. The presentations made by Nigeria chapter members include:

1. Basic Nuclear Physics
2. Radiation Detection Methodologies
3. Safety Security and safeguards: An Overview
4. Human Reliability Program: Overview and Implementation


The Nigeria Chapter organized a three day workshop June 6-8 at the Reiz Continental hotel Abuja in collaboration with Energy Commission of Nigeria and financial support from Partnership for Nuclear Security (PNS)/CRDF Global. Participants were drawn from nuclear facilities, regulatory agencies and industries including front line officers such as the police, customs, civil defense, Department of State Security, military and Office of the National Security Adviser. Nuclear security is new to many Nigerian including the front line officers manning the Nigerian border hence the need to properly integrate all stakeholders in the workshop. Topics discussed at the workshop include:

1. Basic nuclear physics and nuclear energy applications
2. Introduction to nuclear security culture and human factor
3. Insider threats and mitigation
4. Radiation detection systems used in nuclear security
5. Physical security evaluation and vulnerability
6. Safety security and safeguards
7. Table top exercises/case studies including breakout sessions.

In addition, a round table discussions on ‘Benefits and security of radiological and nuclear materials’ from stakeholder organizations were held. Lead papers for the round table discussion were presented by representatives from:

1. Department of State Security
2. Nigeria Atomic Energy Commission
3. Nigerian Nuclear Regulatory Authority
4. Nigeria Customs Service
5. Invited Expert from Industry
**3.0 UPCOMING ACTIVITIES**

The chapter officers have agreed to organize an annual workshop in June just before the INMM Annual Conference in July. The upcoming events will include:

1. Annual workshop
2. Nuclear security culture for the next generation of nuclear security experts (school visits, seminars etc)
3. Nuclear security culture for Scientists, Engineers and Technician
4. Symposium

**4.0 CURRENT BUDGET**

The chapter does not have an account yet due to the logistics of opening an account. However, the chapter is hopeful of having its account with one of the Nigerian banks soon.

The chapter does not have internal sponsors for its activities. However, the chapter is largely supported by PNS and CRDF Global. The current budget chapter have to fund its upcoming events is around $30,000.00. At the moment, the chapter has no idea where this fund will come from.

**5.0 CURRENT ROSTER OF OFFICERS AND NUMBER OF ACTIVE MEMBERS**

Following the expiration of the previous chapter officials, the chapter elected the following officers. The member-at-large was added into the list of officers because of the peculiarity of non-governmental activities in Nigeria.

**Current Chapter Officers**

The current officers of the chapter are as follows:

- S. A. Jonah, President
- A. M. Umar, Vice-President
- Y. V. Ibrahim, Secretary
- M. N. Agu, Treasurer
- A. Abdul, Member-at-Large

**Active Members**

- S. A. Jonah
- A. M. Umar
- Y. V. Ibrahim
- Adamu Abdul
- Rose Onoja
- Sadiq Umar
- Baba Bashir

All WINS Graduate in Nigeria
AHMADU BELLO UNIVERSITY STUDENT CHAPTER

John Simon, President

Chapter Leadership

John Simon, President
Sjkahugu@yahoo.com

Abdulsamad Asuku, Vice President
asukuabdulsamadyisa@yahoo.com

Abubakar

Adulkadir, Secretary
isgood2smile@gmail.com

Hulda Goje, Treasurer
gojehulda@gmail.com

Sunday Arome Agbo, Member-at-large

Ibrahim Bello Ayodeji, Member-at-large

Muhammad Bello Gusau, Member-at-large

Balami Dennis Solomon, Member-at-large

Dr Umar Sadiq, Faculty Advisor 1

Dr Ibrahim Yakubu Viva, Faculty Advisor 2

Recent Chapter Event:

Seminar titled: “The WOW FACTOR of Nuclear Materials, Science and Technology”

The Ahmadu Bello University Student Chapter is one of the chapters approved by INMM executives during their EC meeting in March, 2016. The chapter has gained remarkable recognition since its establishment through various seminar, workshop and public awareness activities. The chapter is determined to continue to navigate its way through innovative frameworks that ensures the visualisation of the mission and vision of INMM.

The most recent event of the INMM Ahmadu Bello University Student Chapter was a seminar on “The WOW FACTOR of Nuclear Materials, Science and Technology” aimed at empowering high school/secondary school students with nuclear knowledge, its positive applications and career opportunities. The one-day seminar held on the 25th day of the month of May, 2017 at the architectural marvel that is the Dambo International College, kaduna-Nigeria and was chaired by the Student Chapter Vice President, Mr Asuku Abdulsamad.

The First speaker, Mr. Asuku Abdulsamad, a Certified Nuclear Security Professional, spoke on “The Atomic Nucleus (Origin of nuclear physics and technology)”.

The second speaker, Mr. Abdullahi Vatsa, a Radiation Biophysicist, spoke on “Radiation, Friend or foe”. Mr. Simon John, the chapter president was the last speaker. His presentation was on “Nuclear Materials”. About 40 students were in attendance.

At the end of the seminar students and teachers asked several interesting questions that made the event to culminate in a very dramatic and informative interactive session. The Physics teacher in attendance stressed his interest in the chapter’s activities as several students had verbally begun considering a career in the nuclear industry. Gift items were distributed to all the students in attendance including the staff of the school. A closing remark by the chapter president and the Vice principal of the school drew the curtain on the seminar which was immediately followed by a photograph session. The event was a huge success.
Participation in Other Events

The INMM ABU student chapter sponsored a delegate to participate in a three day National workshop on nuclear security culture and methodologies for securing nuclear and radiological materials held on 6th – 8th June, 2017, organized by the INMM Nigeria Professional Chapter at Reiz continental hotel Abuja - Nigeria. The chapter benefited a lot in the presentations given and the interactions with some national stakeholders on security and nuclear related matters during the workshop. The chapter also benefited on the table-top exercise on real-life cases of eligibility criteria and round-table shop on nuclear security incidents case study, anchored by Prof. James Larkin of University of Wit. South Africa.

Treasurer’s Report

<table>
<thead>
<tr>
<th>Income</th>
<th>Expenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opening Account balance as of 2017:</td>
<td>$250 -</td>
</tr>
<tr>
<td>INMM annual Stipends:</td>
<td>$400 -</td>
</tr>
<tr>
<td>Bank Charges:</td>
<td>- $20</td>
</tr>
<tr>
<td>Stationary, print and photocopies:</td>
<td>- $20</td>
</tr>
<tr>
<td>Seminar (school outreach):</td>
<td>- $280</td>
</tr>
<tr>
<td>National Workshop participation:</td>
<td>- $130</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$650</strong></td>
</tr>
<tr>
<td><strong>Current Chapter Account balance:</strong></td>
<td><strong>$200</strong></td>
</tr>
</tbody>
</table>

Upcoming Events

1. Table top exercise on Nuclear security culture in a hypothetical Nuclear Facility (August, 2017)

Respectively Submitted by:
John Simon (Chapter President).

(Photos courtesy: ABU Student INMM Chapter: the last speaker by the top left corner and a student by the top right corner during the interactive session).

(Photos courtesy: INMM Nigeria Professional Chapter: the professional Chapter President during the opening speech and the Student chapter president among the participants at the right hand corner).
This year has been an eventful year for the Idaho State University INMM student chapter. We planned many events including a cooperative event with the Idaho State University ANS student chapter. We have also passed the torch on to a new Executive Board, and we will aid them in whatever way we can to make a long-lasting impact on the students and community of Idaho State University.

2016-2017 Executive Board

President: Harishchandra Aryal, aryahari@isu.edu
Vice President: Antonio Tahhan, adt_192_@hotmail.com
Treasurer: Gerrit Bruhaug, bruhgerr@isu.edu
Secretary: Paul Pierson, pierpau2@isu.edu
University of Idaho Rep: Marvin Fielding, fiel5836@vandals.uidaho.edu

2017-2018 Executive Board:
To be held on Week of (August 21-August 27)

Executive Board Meetings-Event Planning

April 29, 2016
This meeting was for the transition of new officers. During the meeting we had each officer explain their duties and responsibilities in detail to the new officer replacing him/her. We discussed funding with the new Board, where we keep it and how to obtain it. We also explained to them that we require that all of our officers have national INMM membership as a requirement.

Jan. 13, 2017
1st Club Meeting
For the first meeting of the New Year we began with a discussion of events to take place this semester. This was followed with billiards to build comradery between members.

Feb. 12, 2017
2nd Executive Meeting
All officers were in attendance for our second executive meeting. Final planning was accomplished for the second annual Nuclear Science Expo. The date has been set and now the final step of implementation begins. Advertising materials are designed and ready to be distributed.

Mar. 2017
ISU Nuclear Science Expo
Our chapter will partner with the ISU chapters of the American Nuclear Society and Health Physics Society to hold our second annual nuclear science expo. At this event we will invite local high schools and community members to come and learn more about nuclear science in as it relates to all of us.

Upcoming/Past Events

July 2017
Pocatello City Council Meeting
As a president of INMM Student Chapter at ISU and a member of ANS, I always think of extending this INMM chapter to have a better involvement. As an INMM representative, I attended the Pocatello city council meeting. During the meeting, the attorney general mentioned his ideas about not allowing spent fuel into Idaho. He added that the more support we have for nuclear materials, the better we have accountancy. He was happy to hear about the involvement and activities we do at ISU.

Nov. 2017
Elastic Scattering Night:
Like last year, a fun event for our membership to relax and get to know each other over a game of “elastic scattering” (billiards) will be organized by the club.

Feb. 2018
ISU Nuclear Science Expo
Similar to previous years, our chapter will partner with the ISU chapters of the American Nuclear Society and Health Physics Society to hold our third annual nuclear science expo. At this event we will invite local high schools and community members to come and learn more about nuclear science in as it relates to all of us.

Respectfully,
Harishchandra Aryal, President
INMM-ISU Student Chapter
aryahari@isu.edu
We started the chapter this year at January 2017

Firstly, we made a short one day industrial visit to Narora Atomic Power Station. This is a PHWR nuclear power plant under the Department of Atomic Energy (DAE) at Uttar Pradesh, India. The power plant made practical knowledge merge with the theoretical knowledge we study in our classes. We had visited the environmental survey facility, the turbine building and the waste management facility. Our supervisor for the trip was Prof Om Pal Singh.

Secondly, we arranged an awareness program for the students of 4th and 5th standard about radiation safety and nuclear power. We had given them brief of what radiation is and how we can protect ourselves from harmful radiation. We had also given a demo using mobile GM counters and NaI detectors how to identify radiation. The presentation also included awareness to the school teachers.
INMM student chapter IITK Future Activities

1. Nukkad Natak (A short awareness play) to be scheduled after the mid-semester
2. Two day workshop to be scheduled after mid-semester exam between 23 September-30 September.

Screening of the students will be done by us on the basis of essay writing. Maximum of 20 students will be selected for the workshop. 1 faculty member per institute will also be invited.

This workshop will include 1 guest talk table-top exercises and lab demonstrations.

Existing funds: 400 USD = 25015 INR

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>25015 INR</td>
</tr>
<tr>
<td>INMM dinner</td>
<td>7688 INR</td>
</tr>
<tr>
<td>Contingency</td>
<td>4000 INR</td>
</tr>
<tr>
<td>(including stationery items to be used during workshops)</td>
<td></td>
</tr>
<tr>
<td>Extracurricular activities</td>
<td>10000 INR</td>
</tr>
<tr>
<td>Remaining amount</td>
<td>3327 INR</td>
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</table>

Budget for the two day workshop

<table>
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<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Travel</td>
<td>4500 INR per head (round trip)</td>
</tr>
<tr>
<td>Stay</td>
<td>150 INR per person per night= 300 INR</td>
</tr>
<tr>
<td>Meal</td>
<td>150 INR per person per day= 300 INR</td>
</tr>
<tr>
<td>Total expense for 20 students</td>
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</tr>
<tr>
<td>Travel</td>
<td>4500*20 =90000 INR</td>
</tr>
<tr>
<td>Stay</td>
<td>300*20= 6000 INR</td>
</tr>
<tr>
<td>Meal</td>
<td>300*20=6000 INR</td>
</tr>
<tr>
<td>Total</td>
<td>102000 INR (approx.)</td>
</tr>
</tbody>
</table>

Plan A

Sponsored by INMM (5000 USD)
1 lac INR for sponsoring 20 students for the workshop including travel and stay
1 lac INR for travel and stay of guest speakers (2 or 3 invited speakers)
20000 INR for a nice meal arrangement
Total 220000 INR (approx.)

Plan B

Sponsored by existing funds (400 USD, Projects, DPA)
Student expense up-to 5000 INR per person including travel and stay
1 guest speaker stay and travel

Thank You
Best
Annesha Karmakar
President INMM IITK- Student chapter
President: Phil Seo Kim
Vice President: Jung Hwan Kim
Treasurer: Young-eun Jung
Secretary: Young A Suh
Faculty Advisor: Man Sung Yim
Executive committee at KAIST: So Young Kim, Park Hyeon Seok, Carol Hornibrook
Student members: Haneol Lee, Chul-Min Kim, Woong Jae Wang, Hyo-Im Kim, Seong Woo Kang, Jong Wook Go, Sana Ullah

1. Introduction

KAIST student chapter was approved by INMM committee on February 2015 as new student chapter for the first time in Asia region. In this period (February 2017 - June 2017), the number of our member is expanded. The KAIST Chapter meeting was held at the Faculty room in KAIST on the first day of every 3 month. All student members attended this meeting. Recently, two students from other university, i.e. Seoul National University and Han Yang University, participated in our regular meeting on May and they talk about the establishment of another student chapter in Korea. In addition, the regular meeting focused on making a plan for the future, as well as preparing research areas for the upcoming Annual meeting throughout the academic year.

2. Summary of KAIST student chapter member’s activity-A

- A: Attending conferences
- Period: February 2017 – June 2017

2.1 2017 Spring Korean Nuclear Society Conference

- Date : May 17-19, 2016
- Place: Jeju, Korea
- 10 INMM chapter members submitted the conference paper at Jeju, Korea

Conference paper titles (Authors)
- Examination of the Feasibility of Detecting Partial Defect of Spent Fuel Assembly with Radiation to Electricity Conversion Approach (Haneol Lee and Man Sung Yim)
- The impact of below detection limit samples in NPP decommissioning residual risk assessment (Jeong hwan Kim and Man Sung Yim)
- Feasibility Assessment of ROK’s Military Countermeasures against North Korean Nuclear Weapons (Young a Suh and Man Sung Yim)
- Modeling of Centrifuge Filtration System for severe accident source term treatment (Liu Shu Chang and Man Sung Yim)
- Effect of Air-Curtain Discharge Speed on the Effectiveness of Vortex-like Air-Curtain Approach for Severe Accident Management (Sana Ullah and Man Sung Yim)
- Examination of Economics of Small Modular Reactor Based on Overnight Capital Cost (Phil Seo Kim and Man Sung Yim)
- Comparison of Phenomenological Parameters that are Influential to the Source Term Uncertainty for Station Blackout Accident (Seong Woo Kang and Man Sung Yim)
- Trade-off Analysis of Nuclear Fuel Cycle (Chul Min Kim and Man Sung Yim)
- A Study of Nuclear Reactor Pressure Vessel Lower Head Penetration using Numerical Analysis (Wung Jae Wang and Man Sung Yim)
- Examination of Uncertainty in Modeling Mass Transfer and Electrodeposition from Electorefining Simulation (Young Eun Jung and Man Sung Yim)
2.2 2017 America Nuclear Society Annual Meeting
• Date: June 11th~15th, 2017
• Place: Hyatt Regency San Francisco
• 3 INMM chapter members presented at 2017 ANS

Conference paper titles (Authors)
• Investigation of Scintillator based Partial Defect Detector for Safeguarding Spent Fuel Assemblies (Haneol Lee and Man Sung Yim)
• Effect of Socio-Political Factors In Nuclear Power Development In Multi-National Framework (Viet Phuong and Man Sung Yim)
• Feasibility of Applying a Human Bio-signals Monitoring to Minimize Insider Threats (Young a Suh and Man Sung Yim)

3. Summary of KAIST student chapter member’s activity-B
• B: Symposium, Special lecture, Discussion and Brainstorming
• Period: February 2017 – June 2017

3.1 Special Lecture By Korea Institute of Nuclear Nonproliferation And Control(KINAC)
• Date: April 28, 2017
• Place: KINAC
• Speaker: Jihye Jeon, KINAC
• Content: The Effect of International Nonproliferation Policy, Analysis of IAEA Policy Using Big Data

4. Future roadmap

5. Budget

Until now, we do not have our own budget for KAIST INMM student chapter. For previous activities, we used the advisor’s project budgets and NEREC center’s scholarship but we will promote our institutes to Korea INMM chapter, Korea Nuclear Society, Korea Nuclear Policy Society and Korean Radioactive Waste Society. In the future, we will hope to own our budget for KAIST INMM student chapter.

6. Membership

Chapter membership remains free to members who have registered with the National INMM.

Respectfully submitted,
Phil Seo Kim
President, INMM-KAIST
rlavlftj@kaist.ac.kr
+82-42-350-5876
The current Oregon State University Executive Committee members are the following:

<table>
<thead>
<tr>
<th>Office</th>
<th>Term Ending</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Vice President</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Secretary</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Treasurer</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Immediate Past</td>
<td>2015-2016</td>
</tr>
</tbody>
</table>

Elections for the 2017-2018 executive committee members were held June 9, 2017. These positions will take effect at the beginning of the 2017 academic year in September.

<table>
<thead>
<tr>
<th>Office</th>
<th>Term Ending</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
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<td>Vice President</td>
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</tr>
<tr>
<td>Treasurer</td>
<td>2017-2018</td>
</tr>
<tr>
<td>Immediate Past</td>
<td>2017-2018</td>
</tr>
</tbody>
</table>

Beginning in the Fall of 2017, the OSU INMM Student Chapter will have 16 active members.

Activities

September 29th, 2016 – The 2016-2017 academic year began well-organized with an executive committee meeting of the newly elected officials of Oregon State’s INMM student chapter. Overall goals for the year, methods of recruitment, ideas for fund-raising, and the next general INMM meeting were discussed during this meeting.

November 2nd, 2016 – The first general meeting of the academic year welcomed back student members from the previous year, but focused more directly on introducing INMM, its objectives, and reasons why everyone should join(!) to new and prospective members. Interest in the various topics within INMM were polled from the general meeting to garner ideas for future meeting and visiting lecture topics. Finally, T-Shirt designs were requested that would be made and distributed from the OSU chapter to raise funds for future events.

November 16th, 2016 – The OSU student chapter provided pizza dinner for its members and skyped into the technical talk concerning the WIPP facility presented by Dr. Jon Schwantes.

Jan 10th, 2017 – INMM helped advertise and its constituents greatly swelled attendance to a lecture at OSU concerning both technical and policy measures to combat nuclear security threats given by Dr. Sunil Chirayath who was visiting from Texas A&M University.

Jan 17th, 2017 – The year’s second executive committee included lecture plans for the spring and updates on fund raising efforts. (By the end of the year, T-shirts have raised almost $100 profit with half of the inventory still available for sale).

May 12th -13th, 2017 – Six INMM members and two more nuclear engineering students attended PNNL’s first annual Lab Day. Transportation and lodging logistics were organized for these students by OSU’s INMM student chapter to enhance connections between its members and research and fellowship opportunities in INMM related fields.
June 1st, 2017 – Shawn Cantlin from Lawrence Livermore National Labs gave a guest presentation entitled “International Assessments’ Support to National Security” which was sponsored by OSU INMM’s Second Annual Ice Cream Social. More than 30 members and prospective members were in attendance.

Future Plans

Potential areas for growth and improvement of OSU’s INMM Student Chapter are focusing on extending a stronger connection to policy minded students with interest in nuclear materials issues. Currently membership is skewed with a majority of nuclear engineering and radiation health physics students. A greater mix of backgrounds would promote better dialogue and comprehension of current problems in the nuclear world.

Respectfully Submitted:
Nikolas Economy
INMM-PDPU chapter was founded on July 14, 2013 with the main objective of enhancing the ever increasing necessity of nuclear energy and nuclear material management from the prospective of 3Ss namely safety, security and safeguards. The INMM-PDPU chapter works together in unison to spread the message of nuclear safety, security and safeguards. The current Executive body has put its efforts in 360 degrees to meet the mission and vision of INMM and Partnership for Nuclear Security (PNS). Many of the events are still in blueprint and will be executed by the end of year.

**New Membership application in INMM**
1) Dr Nisarg Patel (Faculty Advisor)
2) Vyom Desai (President)
3) Milaan Patel (Vice-President)
4) Manisha Jha (Secretary)
5) Pranjali Mishra (Join-Secretary cum Webmaster)
6) Rajat Rathod (Treasurer)

**Event 1: Distinguished Speaker Lecture**

**Topic:** “Nuclear Energy for Peaceful Applications: The need for Human Resource Development”
**Speaker:** Dr. K N Vyas
**Date:** 22nd August 2016

Speaking to technology and engineering students and faculty at the varsity, the scientist also spoke about how nuclear energy will soon be utilised in Ahmedabad through BARC”s recent MoU with the Ahmedabad Municipal Corporation signed this year to set up a sewage sludge hygienisation plant in Ahmedabad.

His talk covered a gambit of nuclear applications where Vyas also spoke about the scope of radioisotope production and its various application in the areas of detecting and check the sustainability of ground water reserves, in food irradiation and preservation, sterilization of medical products and developing radiation induced mutant varieties of seeds for food, fodder and bio-fuel and routine irradiation of different items. This technology can be used to control sprouting, infections, ripening and increase shelf-life of crops, sludge hygienisation and production of electricity with negligible carbon emission.

In a question posed by a PDPU member regarding the recent „geopolitical issue of NSG membership” bid of India and its advantages and setbacks, Vyas averred, “The NSG is an exclusive club of 42 nations. Now there are a set of people who say that we already have whatever we wanted without being member of NSG and subsequently we have been given waiver and then things are coming- I am not denying that. But you must realise that there are always fine prints everywhere. There is a possibility that suddenly if some geopolitical situation changes, India may be denied certain things. So NSG membership is critical in that respect that we would like to retain whatever is there now.” Vyas further added: “If you look at presentation that I gave, India sooner or later will need nuclear power stations. Now there is a good possibility that some of the good power stations maybe made by Indian technology and some will have to be imported… There is no harm in staking a claim for it.”

**Event 2: Guest Lecture Dr. Manit Shah**

**Topic:** Development of Radiological Surveillance Laboratory
**Speaker:** Dr. Manit Shah
**Participant:** Department of Nuclear Engineering, PDPU

Dr Manit touched upon the importance of Radiological surveillance system to maintain nuclear security. In this talk, he mainly discussed about his approach to set up radiological surveillance to monitor the Nuclear Security and Response Laboratory at Texas A&M University. The training exercise which he discussed included the comparison between MCNPX simulation and practical exercise while transporting “CRM 969 4.45% $^{235}$U” source followed by “$^{60}$Co – 1-µCi” and “$^{137}$Cs – 1-µCi” through facility hallway and collecting results using “Sodium Iodide – 2x2 (4) Osprey Detectors” for 13 different possible pathway to exit. Session was concluded with a proposal to develop this exercise for University students.
Event 3: Distinguished Speaker Lecture

Date: 8 November 2016
Topic: “Safety Security Safeguards and their job prospects”. Speaker: Dr. Chaitanyamoy Ganguly

Speaker’s Profile
Dr Chaitanyamoy Ganguly is a metallurgical engineer, a nuclear technologist and a nuclear fuel expert of international reputation known for his outstanding contributions in R & D and industrial production of uranium, plutonium and thorium based nuclear fuels and fuel cycles. He served the Department of Atomic Energy, Govt. of India for more than 35 years and superannuated as Distinguished Scientist, Chairman and Chief Executive of Nuclear Fuel Complex, at Hyderabad. He received the first Indian Nuclear Society Award from the Honourable Prime Minister of India and was conferred “Padmashri” by the President of India in 2002.

A brief Summary of the Lecture
Dr. Chaitanyamoy Ganguly has touched upon different benefits of nuclear energy in power sector, environment, medicine and health, food, water desalination, hydrogen production and important role nuclear energy will play towards clean and green energy. He gave information about the newer design concept and reactor generations which uses inherent safety features to prevent any further disasters. He also emphasized upon the threat the world is facing in nuclear industry, the importance of proliferation resistance and safeguards.

Adding to this, he guided us a path to make our careers in the nuclear safety, security and safeguard.

Beyond this he explained about different power reactors around the world, the fuel used and its manufacturing process involved, nuclear waste, and radiation hazards in power plants. He explained to us the importance and the job roles of the radiation safety officer in various fields of nuclear.

Event 4: Gujarat Agro Visit

Date: 7 December 2016
Venue: Gamma Radiation Facility For Agro, Food & Healthcare Products, Garpf, Bavla, Ahmedabad
Participants: Nuclear Engineering Department, Pdpu

Aiming to boost exports of agricultural commodities from the state, the Gujarat government has installed a food irradiation unit at Bavla, on the outskirts of Ahmedabad. The unit is set up at a cost of Rs.10 crores with the help of BARC in collaboration with Gujarat Agro in an area of 50x50m2. The unit irradiates about 180 metric tons of agricultural products monthly mainly pulses, spices, etc. produced in the state. Further research for fish irradiation is going on. It is expected to go a long way in helping farmers export food products to other countries.

Food irradiation is the process of exposing food to ionizing radiation to destroy microorganisms, bacteria and viruses along with the insects that might be present in the food. The irradiation is done with gamma source (Co60) of strength 30KCi which is kept in underground water tank 10m deep. The irradiation facility is totally automated with PLC system and all the operations are performed with control room housed at center of the facility over just source. The food boxes are loaded in the Aluminum boxes each of 250 kg capacity which are then conveyed into concrete lined interior room where the source is lifted up for irradiation. Emergency shutdown systems are provided to prevent any accident.

The visit was intended to provide industrial exposure to students and faculty members of Department of Nuclear energy, PDPU. Moreover, the facility in-charge was willingly looking forward to the possibility of collaboration of PDPU in carrying out R&D activities at the factory premises. In a nutshell the visit proved to be fruitful in providing industrial exposure to M-tech students along with the future chances of project work at facility.
Event 5: Uranium Mines Visit

Date: 2 January 2017
Venue: Narwapahr mines, Jadugoda, Jharkhand
PARTICIPANTS: Nuclear Engineering Department, PDPU

Narwapahar mine is the first fully mechanized mine operating since April 1995. This is a trackless mine with a decline access to underground and ramp accesses to the stopes. This permits use of large diesel powered underground equipment resulting in high productivity, eliminating fatigue of workmen and providing a good working environment. Diesel traction and Electro-hydraulic Drill Jumbos are used for drilling. The capability to drill long and parallel holes has improved drilling productivity. The extraction work has been carried up to 450m underground and 1500 tonnes of ore is extracted daily.

Safety Features
The main problem in extraction of Uranium from the mines is Radon gas which is produced as a result of decay series of Uranium. Even though Radon has low half-life it is highly hazardous since it is continuously produced. To restrict this proper ventilation is provided to ensure safe environment inside the mine. Radiation Safety Units continuously monitors the dose of miners as per the AERB norms. In order to minimize do the workers weren’t allowed to work for more than 8 hours a day, however the mine was fully operational 24 hours a day in 3 shifts.

Event 6: Tarapur Nuclear Power Plant Visit

DATE: 6 January 2017
PARTICIPANTS: Nuclear Engineering Department, PDPU

Introduction
Tarapur Atomic Power Station (T.A.P.S.) is located in Tarapur; Maharashtra (India). Tarapur was the largest nuclear power station in India with a total capacity of 1400 MW. It was initially constructed with two boiling water reactor (BWR) units of 210 MWe each by GE in 1963. Later, Tarapur 3&4 reactors of 540 MWe gross (490 MWe net) were developed indigenously from the 220 MWe (gross) model Pressurized Heavy Water Reactor (PHWR) and operated by Nuclear Power Plant Corporation of India (NPCIL). These two PHWR units of 540 MW each were constructed by Larsen & Turbo and Gammon India. Tarapur 3&4 is among the 8 nuclear reactors in India which is not under international safeguard.

Mr. Ravikant Chobey the scientific officer gave a brief introduction of Tarapur units 3 and 4 including its technical aspect, working, safety features which have been added post Fukushima and the various on-going projects. A presentation regarding the role of Central Vigilance Committee in Tarapur was also delivered to spread awareness against corruption among the youth of the nation.

Safety Features
Tarapur Nuclear power plant is built near seashore with 5 km of exclusion zone. It is divided into 4 zones based on level of radioactivity in which zone 1 as lowest and Zone 4 at highest level of radioactivity. Physical, Dimensional and Integrity test is regularly performed on all 4 reactors to ensure safe operation. The main control room of power plant is backed up with secondary independent control room to ensure timely operation of reactor equipment in case of failure of main control room. The reactor building comprises of steel lined double dome containment to increase the robustness of building with a gap of 2 meters between them. The secondary wall is maintained with negative pressure coefficient to prevent any atmospheric impact in case of rupture. Unlike normal power plants, in Tarapur three sensors are used to monitor a single parameter which works on two/three logic which adds to its safety feature. Tsunami doors are also provided for securing the building against the worst possible tsunami waves possible based on geographical location of power plant. The plant is equipped with Emergency Core Cooling System and auto catalytic hydrogen combiner is under installation.

Security Features
The power plant is protected multiple security barriers starting from premises of exclusion zone to the control room. No personal electronic gadgets are allowed within the premises of plant. Every individual has to go through a series of security checks. Identification proof is needed for all personal and visitors to get access to the plant. More checkpoints include biometric scanners, access cards, security check-ups, IR scanners. The plant is also featured with CCTV cameras, silent alarms. Moreover, the 5 km exclusion zone also provides sufficient response time in case of infiltration. The reactor building contains only 3 access doors, one for personal movement, one for material and one unaccounted.
Event 7: Debate on Public Acceptance of Nuclear Energy in India

Date: 1 Feb, 2017
Venue: Pandit Deendayal Petroleum University, Gandhinagar, Gujarat
Guest Of Honor:
• Dr. Chaitanyamoy Ganguly, Nuclear Scientist, Distinguished Professor Of Pdpu
• Yury Svistunov, Technical Director, Umatex Group
• Alexander Antipin, Head Of Communications, Rosatom South Asia

The INMM Chapter of PDPU organized an event which comprised of two sessions i.e. the technical session followed by the interactive session. The invitation was extended to the department of School of Liberal Science, PDPU along with their Faculty Dr. Sitakanta Mishra with an aim to create awareness within PDPU about Nuclear Energy and understand their perspective.

The Technical session commenced with the introductory speech of Dr. Chaitanyamoy Ganguly followed by a Technical Presentation on “Carbon Fiber and composite materials” by our Guest Speaker Yury Svistunov, Technical director of Umatex Group. He expounded the scope of the use of Carbon fiber and composite material in various fields like nuclear, aeronautical, etc.

On moving ahead with the event, the Interactive session was inaugurated by our Guest Speaker Alexander Antipin, Head of Communications, Rosatom South Asia. Soon it was followed by an edifying session of open debate on “Public Acceptance of Nuclear Energy in India”. The Debate primarily focused on the power and non-power application of nuclear energy which can be a boon for the Indian Society, various safety and security measures which have been taken to avoid any nuclear hazards. The growth & application of nuclear energy in a country can be escalated only with public acceptance and participation which requires our involvement in spreading the technical and social awareness to the population of our country about nuclear energy which has an edge over other forms of energy. In a nutshell the event proved to be successful in drawing a conclusion that “People participation is must for public acceptance of nuclear energy in India.”
The following is a summary of Penn State INMM events and activities that have taken place since the July executive committee report. Penn State INMM is hereafter referred to as PSU-INMM.

**Summary of events:**

**INMM General Body Meetings**
Since October, several meetings were hosted. Of note is our first meeting of the year, when Paul Ebel was kind enough to speak to the chapter about the science of physical protections.

**INMM Trip to Brookhaven National Lab**
With the help from Susan Pepper, we organized a tour of several facilities at Brookhaven National Lab, and listened to several presentations about the functions of the lab.

**INMM Member Presentations**
Several chapter members recently travelled to Liege, Belgium, to present on the research they have been working on as part of their graduate studies at the ANIMMA conference.

**Officers**
Our current officers (elections happening in Fall 2017):
*President: Chris McGahee
cfm5250@psu.edu
*Vice President: Sarah Sarnoski
ses49@psu.edu
*Secretary: Shane Mitchell
sbm5183@psu.edu
*Treasurer: Marc Wonders
mfw5173@psu.edu
*Faculty Advisor: Prof. Marek Flaska
mxf5309@engr.psu.edu
January 24, 2017 - Dr. Bruce Moyer from Oak Ridge National Laboratory (ORNL) presented at a general meeting on research in separation of minor actinides.

February 20, 2017 - Dr. Mathew Swinney gave a seminar at a general meeting and morning roundtable titled “Oak Ridge National Laboratory: A Post-doc’s Perspective at 1-year,” which discussed culture, areas of research, internship opportunities, and his personal experience at ORNL.

March 3, 2017 – Mr. Willem Janssens, the Head of Department Nuclear Security and Safeguards at the Joint Research Centre of the European Commission (JRC) located in Ispra, Italy provided some insights in the role of JRC and its R&D facilities at a general meeting. His seminar also covered international collaboration and potential future collaboration between JRC and TAMU. (Photo shown below.)

March 20, 2017 - Grant Ford, the J9 NTDN Nuclear Threats Branch Chief for the Defense Threat Reduction Agency (DTRA) discussed nuclear technologies, challenges, and priorities from a Department of Defense perspective at an INMM seminar.

May 10, 2017 - The INMM and the Women in Nuclear (WIN) student chapters of Texas A&M co-hosted a department-wide, end of the year cookout at Lake Bryan to commemorate the completion of the spring semester.
May 17, 2017 – Several officers and faculty advisors traveled to Santa Fe, New Mexico and attended the Southwest INMM Chapter’s Technical Conference. Two TAMU graduate students presented their research and both received awards for their presentation. (Photo shown below.)

Projects

1. INMM Mentor Program – Members are matched with a professional in the nuclear security and safeguards fields who can help answer questions and provide advice to the student. So far this program has been a fantastic and exciting success, with 13 student participant mentees and 16 mentors with professional experience offering their services. As of now, the program is only available to TAMU student members of the local INMM student chapter. We hope that TAMU can provide a framework system for this program which can be replicated by the Southwest Chapter and the entirety of INMM in the future. Individuals with experience in the nuclear security or safeguard fields who wish to volunteer as a mentor are encouraged to reach out to the TAMU Chapter president or secretary.

2. An academic concentration in nuclear security policy at the Bush School of Government and Public Service has been established, facilitating additional cooperation between the Nuclear Engineering program and the Bush School due to the overlapping coursework. INMM student chapter supported the faculty in both nuclear engineering department and Bush school to decide on the courses that will be useful from a student perspective.

3. Joint Research – Two INMM members, a graduate student from the Bush School and undergraduate nuclear engineering student, worked in collaboration to develop a radiological surveillance system for the Safeguards Laboratory Complex. Both students gained invaluable experience in using radiation detection instruments and applying them in facility operations.

We look forward to having another productive year and hope that any volunteers interested in the Mentor Program will contact a TAMU INMM representative.

Sincerely,
Jonathan Chen
President-Elect, Texas A&M INMM Student Chapter
Steven Horowitz
Outgoing President, Texas A&M INMM Student Chapter
Faculty Advisors

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<tr>
<th>Position</th>
<th>Name</th>
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<tr>
<td>Primary Advisor</td>
<td>Dr. Sunil Chirayath</td>
<td><a href="mailto:sunilsc@tamu.edu">sunilsc@tamu.edu</a></td>
</tr>
<tr>
<td>Secondary Advisor</td>
<td>Dr. Claudio Gariazzo</td>
<td><a href="mailto:cgariazzo@tamu.edu">cgariazzo@tamu.edu</a></td>
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Incoming Officers (2016-2017):

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<tr>
<td>President</td>
<td>Jonathan Chen</td>
<td><a href="mailto:john.chen@tamu.edu">john.chen@tamu.edu</a></td>
</tr>
<tr>
<td>Vice-President</td>
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<tr>
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<tr>
<td>Treasurer</td>
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</tr>
<tr>
<td>Bush School Liaison</td>
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<tr>
<td>President</td>
<td>Steven Horowitz</td>
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<td>Vice President</td>
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<td>Treasurer</td>
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</tr>
<tr>
<td>Web-Master</td>
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<tr>
<td>Bush School Liaison</td>
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<tr>
<td>Undergraduate Liaison</td>
<td>Kathy Tran</td>
<td><a href="mailto:kathytran01@tamu.edu">kathytran01@tamu.edu</a></td>
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Financial Activity

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The INMM University of Florida Student Chapter Executive Committee members are the following:

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<th>Office</th>
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<tr>
<td>President</td>
<td>Gabriel Sandler 8/22/2017</td>
</tr>
<tr>
<td>Vice President</td>
<td>Vacant 8/22/2017</td>
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<td>Secretary</td>
<td>Hannah Gardiner 8/22/2017</td>
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<td>Treasurer</td>
<td>Noah McFerran 8/22/2017</td>
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<td>Member-at-Large</td>
<td>Robert Weinmann-Smith 8/22/2017</td>
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<td>Member-at-Large</td>
<td>Haitang Wang 8/22/2017</td>
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<td>Surafel Fantaye 8/22/2017</td>
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<td>Member-at-Large</td>
<td>Nicolas Silva 8/22/2017</td>
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<td>Outgoing President</td>
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### Activities

Activities over the past ten months have focused on a graduate student seminar series run by the chapter and discussion/career advice seminars which were cosponsored by UF-INMM. Over the fall semester, three senior graduate students presented their research to the students and faculty of the UF Nuclear Engineering Program. Flyers made for the events with the abstracts and biographies of the speakers are attached at the end of this document. At these meetings, food and drink were provided by UF student government funding obtained for the chapter. During the spring semester, UF-INMM co-sponsored two discussion and career advice seminars with Dr. Scott Kiff (3/2/2017) of Sandia National Laboratories and Dr. Anna Erickson (3/23/2017) of Georgia Institute of Technology.

Additionally, a meet-and-greet with Dr. Lindsay Sexton of Savannah River National Lab was held by the chapter. During the meet-and-greet, students were able to get professional advice on their career choices and learn about SRNL’s mobile plutonium facility. In addition, because Dr. Sexton is the chair of the INMM Southeast Section, meeting with her was a great way to build the relationship between the two chapters. One of the takeaways from the talk was plans for SRNL to provide the chapter with a list of subject matter experts to invite for seminars, as well as the potential for the chapter receive funding to assist in paying speakers to fly out.

A major goal for the chapter is increasing the number of members by improving our engagement with nuclear engineering undergraduate students. Additionally, the chapter plans to hold monthly or biweekly “teaching sessions” where graduate students volunteer their time to teach specialized topics, such as MCNP, to any interested students.

Respectfully Submitted:
Gabriel Sandler

### Treasurer’s Report

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### Student Seminar Series

**Fall 2016 – 4:00 pm on 11/18, Rhines Hall 125**

**Computed Tomography of Dry Cask Storage**

Presented by Christopher Greulich

Since the U.S.A currently only approves of storing used nuclear fuel in pools or dry casks, the demand for dry cask storage is on the rise due to the continuous operation of currently existing nuclear plants which are reaching or have reached the capacity of their used fuel pools. With the rising demand comes additional pressure to ensure the integrity of the dry cask system and the fuel inside. Currently the best method is to do visual inspection, and as the NRC only allows handling of used special nuclear materials while fully submerged, this represents a tremendous cost to the utility in time, labor, and money. Therefore, alternative...
nondestructive testing techniques are desired to insure the continued safe and effective storage of fuel. Investigation into a gamma or neutron based computed tomography systems are underway. Computed tomography systems can be roughly divided into two categories both of which are being investigated: active transmission systems or passive source emission systems. Long standing medical imaging techniques have been developed for computed tomography and they will be leveraged as the systems are retrofitted and analyzed to meet the challenges of used fuel verification.

Christopher Greulich graduated with a Bachelors in Nuclear Engineering from the University of Florida in December 2014, and his Masters in December 2015. He has worked two summers at Pacific Northwest National Laboratory on advance detector design, development, simulation, and testing. He was awarded a NEUP fellowship and is pursuing his Ph.D. in Nuclear Engineering under Dr. James Baciak. His current research involves simulating used nuclear fuel in dry cask storage and developing computed tomography systems in order to peer inside the cask without exposing the fuel.

Reducing Systematic Error in Neutron Multiplicity Counting
Presented by Robby Weinmann-Smith

Non-Destructive Assay is commonly used by organizations such as the International Atomic Energy Agency to verify compliance with the Non-Proliferation Treaty (NPT). One method of NDA is neutron multiplicity counting. Neutron multiplicity counting has been studied for decades and is used to quantify the amount of material present in complex samples. Still, there are applications of the technique that require improved understanding and tools. This work focuses on improvements to the physics knowledge, detection tools, simulation tools, and environmental background knowledge, of neutron multiplicity counting. An overview of multiplicity counting will be presented. The background effects of cosmic rays on neutron multiplicity counting were simulated and measured. Again through measurement and simulation, the variation in AmLi neutron source spectra and its effects on multiplicity counting were shown. New AmLi spectra were generated through simulation that best fit the measurements. Finally, the potential effect of upcoming improvements to the fission model in MCNP6.2 will be discussed.

Robby Weinmann-Smith is a graduate student at the University of Florida. He received a BSc. in nuclear engineering in 2014 and a MSc. in 2016 both from UF. He spent the summers of 2014 and 2015 at Los Alamos National Laboratory working on simulations and experiments of neutron multiplicity counters in the safeguards science and technology group NEN-1. He is now at NEN-1 full time working on his dissertation titled ‘Reducing Systematic Error in Neutron Multiplicity Counting’ with an expected completion date of 2018.

Student Seminar Series Fall 2016
Simulating Reactor Transient Experiments with T-ReX and KENO-VI
Presented by Zander Mausolff

The accident at the Fukushima-Daiichi power plant has renewed interest within the United States for the development of nuclear fuels with enhanced accident tolerance. Development and evaluation of new fuels is scheduled at Idaho National Laboratory’s Transient Reactor Test Facility (TREAT). Previous fuel testing with TREAT required a number of costly pre-test calibration experiments. To minimize the number of pre-test experiments required, we hope to optimize the pre-test vessel through simulation. Simulating TREAT from first-principles pose several modeling challenges due to the non-uniform insertion of reactivity from transient rods and a unique core geometry. To aid in this effort the geometric capabilities of the code referred to as the Transient Reactor eXperiment simulator (T-ReX) has been modified to incorporate the Monte Carlo code KENO-VI in its calculation sequence. Previously, T-ReX relied on KENO V.a, which only supports simple geometry inputs. T-ReX provides advantages over typical codes by solving the three-dimensional time dependent transport equation with delayed neutrons with the Improved Quasi-Static method, which makes minimal physical approximations. Newly added capabilities in T-ReX are verified through comparison to computational benchmark and sample problems. Finally, TREAT temperature-limited transient experiments are simulated with both KENO V.a and KENO-VI models. Simulations with KENO-VI models resulted in improved agreement between calculated T-ReX values and experiment over KENO V.a models.

Zander is a second-year graduate student pursuing a PhD at the University of Florida. He graduated with a B.S. in Physics and a minor in Mathematics from the
University of San Francisco in 2014. At USF he complete an Undergraduate Thesis on Frequency Modulation Spectroscopy. He recently was awarded a NEUP Fellowship for work relating to the development of time-dependent neutron transport codes for transient analysis. Recent work has focused on multi-physics modeling of TREAT at the INL to support in its restart. As a graduate student for the GAMeS Lab at UF he mentors several undergraduates as part of the UF research mentorship program.

Apart from research he is highly active in ANS. Currently he is the President of the Student Chapter of ANS at UF. Additionally, he is the student program chair for the NETS meeting in 2017, and the student program chair for the 2018 National Conference in San Francisco. Apart from that he received the Nuclear Criticality Pioneers Scholarship for 2016.

When not pursuing academic endeavors Zander enjoys skateboarding, skiing, playing soccer, and fixing cars. He is particularly interested in decentralized computing platforms such as bitcoin, Ethereum and how they may disrupt the status quo of banking, information technology, and the distribution of nuclear data.
UIT-INMM Student Chapter Executive Committee Members

<table>
<thead>
<tr>
<th>Position</th>
<th>Full name</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>President</td>
<td>M. Youness Esserhir-El Fassi</td>
<td><a href="mailto:younesselfassi@hotmail.com">younesselfassi@hotmail.com</a></td>
</tr>
<tr>
<td>Vice-President</td>
<td>M. Aabid Mohamed</td>
<td><a href="mailto:aabid.mohamed92@gmail.com">aabid.mohamed92@gmail.com</a></td>
</tr>
<tr>
<td>Secretary</td>
<td>Ms. Khadija Mousaid</td>
<td><a href="mailto:kmoussaid147@gmail.com">kmoussaid147@gmail.com</a></td>
</tr>
<tr>
<td>Treasurer</td>
<td>Ms. Assia Lasfar</td>
<td><a href="mailto:Lasfar.assia@gmail.com">Lasfar.assia@gmail.com</a></td>
</tr>
<tr>
<td>Members at large</td>
<td>M. Taha Laghouazi</td>
<td><a href="mailto:taha.lagh@gmail.com">taha.lagh@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td>M. Mohammed Miniya</td>
<td><a href="mailto:miniyamohammed@yahoo.fr">miniyamohammed@yahoo.fr</a></td>
</tr>
<tr>
<td></td>
<td>M. Youness Hmimnat</td>
<td>younes <a href="mailto:shmimnat@outlook.com">shmimnat@outlook.com</a></td>
</tr>
<tr>
<td></td>
<td>Ms. Nadia Erraji</td>
<td><a href="mailto:erraji.nadia92@gmail.com">erraji.nadia92@gmail.com</a></td>
</tr>
<tr>
<td></td>
<td>M. Youness Hmimnat</td>
<td>younes <a href="mailto:shmimnat@outlook.com">shmimnat@outlook.com</a></td>
</tr>
<tr>
<td>Faculty Founder and Advisor</td>
<td>Prof. Oum Keltoum Hakam</td>
<td><a href="mailto:okhakam@yahoo.com">okhakam@yahoo.com</a></td>
</tr>
<tr>
<td>Deputy faculty advisor</td>
<td>Prof. Abdelmajid Choukri</td>
<td><a href="mailto:choukrimajid@yahoo.com">choukrimajid@yahoo.com</a></td>
</tr>
</tbody>
</table>

UIT INMM Student Chapter General Assembly, UIT, December 21, 2016

On the 21st of December, UIT-INMM organized its general assembly where the new executive committee members were elected. Furthermore, a presentation and two videos nuclear security were discussed. In addition, Prof. Hakam has welcomed new members and encouraged them to take part in the executive committee.

The Human Element in Nuclear Security Workshop, UIT, October 4, 2016

In collaboration with the U.S Department of State’s (DoS) Partnership for Nuclear Security (PNS) and Oak Ridge National Laboratory (ORNL); UIT INMM has organized a workshop entitled: The Human Element in Nuclear Security.

We had good discussion through expert’s presentations and scenarios. At the end, they got aware about the importance of human reliability in nuclear security.
Personal Development Training: From Dream to Reality, The Path of a Peaceful Warrior

In April 13th UIT INMM student chapter has organized a Personal Development Training (PDT) under theme: “From dream to reality: A path to a peaceful warrior”. The PDT has been animated by M. Mohamed REFFADI Founder and Manager of Me & You Consulting. During this event there was much discussion about the difficulties in the nuclear and other fields. This type of event within our association could only be an added value.

Nuclear applications and Nuclear Security Workshop

UIT-INMM Student Chapter has organized on June 1st, 2017 a full day workshop entitled nuclear applications and nuclear security in collaboration with the Faculty of Sciences Ibn Msik (FSB)-University Hassan II-Casablanca in Casablanca. The workshop is held in the framework of UIT-INMM student chapter objectives; dissemination of nuclear security culture at national universities. This workshop was a good opportunity for sharing knowledge and networking. The FSB students showed interest in nuclear security and to join our Chapter.

Participation of UIT-INMM at International events

57th INMM Annual Meeting, Atlanta, July 24-28, 2016

UIT INMM Student Chapter was represented at the 57th INMM Annual Meeting in USA by Taha Laghouazi. UIT INMM participated in this event by a presentation entitled: UIT-INMM Experience in conducting a Nuclear Security Insider Threat Table Top Exercise and a poster entitled: Nuclear Security Vetting: A Joint Chapter Developing Tabletop Exercise that was made in collaboration with international student chapters: Amity University, University of Tennessee, Gadjah Mada University, Ahnadu Bello University, Jordan University of Science and Technology, and Indian Institute of Technology Kanpur.

World Institute for Nuclear Security Academy Certification Program for Scientists Technicians and Engineers (STEs)

This semester, three UIT_INMM members have successfully passed the exam for the certificate program for Scientists, Technicians and Engineers.
Other participations related nuclear security events

UIT-INMM student chapter’s members have participated in some international activities:

• Submission of application at the PNS and CRDF Global Interactive Nuclear Security Training Resources Challenge INSTRuCT, January 2017,

• Mr. Youness El Fassi was ranked second place in the advancing nuclear security challenge for WINS academy alumni, December 2016;

• Participation at the IAEA nuclear security competition by a submission of application by Ms. Assia Lasfar, December 2016;

Upcoming Activities

• Dissemination of Nuclear Security culture in Moroccan Universities

• Tabletop exercise in Transport of Radioactive Materials

• International event in CBRN Security

Current Budget : 150$

Number of Active Members: 25
This year the INMM chapter at the University of Michigan increased our outreach activities and visibility throughout the department. Our newsletter has been a great way to spread awareness about nuclear materials management news, and communicate events hosted by our chapter. We have also continued hosting educational outreach events, and hope to continue this in the future.

Seminars:

Dr. Ulisse Gendotti visited on July 7th to present an overview of He-4 detection systems at Arktis detection. There was a lot of interest from the department, and about 25 students and faculty attended.

Our chapter co-sponsored another seminar on August 1st with the Consortium for Verification Technology. Dr. Robert Haight visited from Los Alamos National Laboratory to speak about nuclear fission research, and how a recent resurgence in interest for both experiments and simulations has re-energized the field.

The chapter hosted Dr. Scott Kiff of Sandia National Laboratory on January 25th. He discussed various ways neutron detection and imaging play important roles in nuclear safeguards, emergency response, and treaty verification. As this talk coincided with the UM College of Engineering Winter Career Fair, Dr. Kiff highlighted current work at SNL, and how past and present UM nuclear engineering students have contributed. This was a very popular topic, and about 35 people from around the department attended.

57th Annual Meeting:

Three students from our chapter, Tony Shin, Mark Norsworthy, and Mateusz Monterial attended the Annual Meeting in Atlanta along with faculty advisors Shaun Clarke and Sara Pozzi. Student presentations included:

“Fast Neutron Multiplicity Counter based on Stilbene and EJ-309 Scintillators for Nuclear Non-Destructive Assay”- Tony Shin

“Pulse Shape Fitting for Pulse Shape Discrimination and Light Output Applications”- Mark Norsworthy

“Demonstration of Time-Correlated Pulse Height Template-based Confirmation Measurements”- Mateusz Monterial

We are also very proud that Shaun Clarke was the recipient of the 2016 INMM Early Career Award!

Facility for Rare Isotope Beams Tour:

On August 20th our chapter organized a tour to attend an open house at the Facility for Rare Isotope Beams and National Superconducting Cyclotron Laboratory at Michigan State University, showing that for next-generation nuclear physics, we will even suffer through going to East Lansing. About ten students made the one hour drive to learn about work at the NSCL and the ongoing FRIB construction. We look forward to hearing about the exciting opportunities these facilities will offer in the future.

Outreach Events:

In November our chapter teamed up with the Society of Hispanic Professional Engineers chapter at Michigan to host a cloud chamber workshop as part of a tour of the UM Engineering campus. About 30 high school students attended, and they were able to learn about detection of radioactive material and build a cloud chamber with the help of our members.

A monthly newsletter has also been published through the fall, by editor-in-chief/ publicity chair Evan Leppink. These newsletters have been highlighting nuclear nonproliferation and materials control news, policy think-pieces, and upcoming INMM events. They have been well received by the department, and have helped to spread the word about our mission.
Social Events:

As a welcome back from winter break, the UM INMM chapter hosted a social meet and greet at the esteemed Blue Leprechaun Irish Pub. The event served as a great way to relax after the first full week of classes back, and introduce some new faces to INMM.

The chapter also hosted a social event at Bar Louie in Ann Arbor towards the end of February. It was great way to try to stay warm through the dead of winter, and talk about INMM with other people in the department.

Executive Committee Elections:

A well-attended ice cream social was held for the election of next year’s officers on April 18, 2017. Many new faces have joined the Executive Committee, where each position has a new officer except Evan Leppink as the publicity chair. The chapter is excited to see what improvements can be made by the new leadership. Congratulations to all those elected!

2017-18 INMM Chapter at The University of Michigan Executive Committee

<table>
<thead>
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<tr>
<td>President</td>
<td>William Steinberger</td>
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<td>Vice-President</td>
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<td>Valerie Nwadeyi</td>
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<td>Communications Chair</td>
<td>Austin Carter</td>
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<td>Publicity Chair</td>
<td>Evan Leppink</td>
</tr>
<tr>
<td>Past President</td>
<td>Tony Shin</td>
</tr>
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The University of New Mexico (UNM) INMM student chapter is happy to report a successful 2016-2017 academic year. This year has seen growth in terms of interest from students as well as interest of professionals in the surrounding community to help support our efforts. The fall semester started out with an orientation presentation by our president to a small group of underclassmen. At this meeting the INMM mission, vision and technical divisions were explained as well as an overarching set of goals that the UNM INMM student chapter had for that year. The first speaker of the year was Dr. Andrei Zagrai of the Mechanical Engineering Department of New Mexico Institute of Mining and Technology. He did work on piezoelectric sensors used to monitor the structural integrity of spaceships as they were exposed to hard radiation. He hoped that the technology could also be applied to nuclear energy industry in the future to help predict vessel failures. For the final event of the fall semester we were lucky enough to host the National INMM Executive Committee as well as some other local professionals in the field of nuclear science. These professional ranged from UNM professors to private industry scientist, national lab scientists and even the IAEA. The purpose of this meeting was to provide career development advice to students who are interested in nuclear science and, more specifically, nonproliferation efforts around the country/world. For the springs semester scientists from Sandia National Laboratories put on a seminar series. It was a four part introductory series that included “The Nuclear Fuel Cycle” given by Dr. Robert Finch on February 24th, “History of Nonproliferation Efforts” by Dr. Amir Mohagheghi on March 10th, “International Safeguards” by Mrs. Risa Haddal on April 7th and “Nuclear Waste Management” by Mr. John Cochran on April 28th. For all these events the UNM INMM student chapter provided lunch and advertised across campus to a wide range of students. It was our hope that we could reach out to groups apart from the nuclear engineering program at UNM with these talks since they required no prior technical knowledge to understand. We ended up with a fair amount of students from departments such as political science, education, ROTC and other engineering disciplines.

Activities planned start this summer, UNM INMM will have a booth and the incoming student orientation sessions so that we can get more involvement from younger students of multiple different disciplines. Once the academic school year begins we hope to include a beginning of the year BBQ/get together for incoming freshmen and other students to mingle and get to know each other. INMM has also funded five students to attend the 2017 Novel Technologies, Techniques and Methods for Safeguards and Arms Control Verification meeting at Sandia National Laboratories, August 29-30. Attending this workshop will be very beneficial to the students involved, they will be able to see how professional address problems in our field of study as well as meet and talk with these professionals. It is hoped that we can fund multiple social gatherings over the school year so that student can be better connected. We have been in contact with Los Alamos National Laboratory and we hope to take a tour of some of their facilities sometime in the fall. A similar plan is set out for Sandia National Laboratories in the spring but less is known about that. Our public outreach chair has spoken to multiple local schools and it is hoped that there can be multiple instances of INMM going and talking to middle/high school students about nuclear science and nonproliferation.
The budget for the previous year is as follows:

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The current roster of officers is as follows:
Phoenix Baldez – President
Sara Pelka – Vice President
Shelby Fellows – Treasurer
Nathan Gale – Public Outreach Chair
Chantell Murphy – Secretary

We did not accept dues this semester so it is hard to define who exactly was a member but we kept track of meeting participants and got 45 students who consistently participated and attended meetings over the year.
The Institute of Nuclear Materials Management (INMM) Student Chapter at the University of Utah (INMM@UofU) Executive Committee consists of the following members:

<table>
<thead>
<tr>
<th>Office</th>
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</thead>
<tbody>
<tr>
<td>Acting President</td>
<td>David Horvath</td>
</tr>
<tr>
<td>Vice President</td>
<td>November 2017</td>
</tr>
<tr>
<td>Secretary</td>
<td>Ian Schwerdt</td>
</tr>
<tr>
<td>Treasurer</td>
<td>Adam Burak</td>
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<tr>
<td>Faculty Advisor</td>
<td>Dr. Azaree Lintereur</td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Silvia Padilla</td>
</tr>
<tr>
<td>Member-at-Large</td>
<td>Matthew Newton</td>
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<tr>
<td>Member-at-Large</td>
<td>Parker Okabe</td>
</tr>
<tr>
<td>Immediate Past President</td>
<td>Devin Rappleye</td>
</tr>
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**Past Chapter Activities**

<table>
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<tr>
<th>Date</th>
<th>Activity Description</th>
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<tbody>
<tr>
<td>9/10/17</td>
<td>Tour of Idaho National Laboratory facilities</td>
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<tr>
<td>2/15/17</td>
<td>Molten Salt Webinar</td>
</tr>
<tr>
<td>April 2017</td>
<td>Attendance and representation at PNNL nonproliferation tour</td>
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**Planned Chapter Activities**

Fall 2017-Plazafest INMM booth  
Fall 2017-Nuclear reactor tour followed by recruitment bbq  
November 2017-Elections

**Financials**

**Past Year**

A recruitment bbq was planned and executed in September of the previous fiscal year. $100 was budgeted for the bbq, $275.85 was spent, and $194.21 was reimbursed. This money was reimbursed in the current fiscal year, from the student government on campus, ASUU. This leaves a net cost of $81.64, which is under budget.

**Current Year**

In the current fiscal year, reimbursement for the student recruitment bbq has been received in the amount of $194.21. T-shirts have been purchased for $176.83. Reimbursement for the shirts has been received in the amount of $176.83. The amount of $14.20 has also been received for various supplies and equipment, from ASUU. The student government also reimburses registrations. After renewal of their INMM memberships, several members have been reimbursed. Reimbursement was arranged for a total of 13 members in the amount of $30, each. After arrangement with ASUU, the fulfillment of the reimbursement is between the member and ASUU. Members are required to fill out a form and return it to ASUU to receive the reimbursement. The required form was partially pre-populated, and distributed to members expecting reimbursements.

A presentation on sodium cooled fast reactors was held, including refreshments. A total of $48.57 was spent on refreshments. $13.74 of this was reimbursed by ASUU. Food is only reimbursed at 50% by ASUU. In addition, the annual cap of $300 in reimbursement for food was purportedly reached. $200 was prepaid to ASUU in order to rent a van for the tour to INL. The reason for this is that university funds must be used to rent university vehicles. Because the chapter cannot generate university funds, the funds were prepaid to ASUU so they could source university funds to rent the van for the chapter event.

Travel funding was denied for this trip, because travel funds for this year had been exhausted by the time the application was processed. Return of the balance between the cost of the van, $145.80, and the $200 supplied is expected from ASUU in the future. A small 5% contingency will be used in this budget.

**Upcoming Events**

It is projected that a recruitment bbq, and an election event will transpire in the beginning of the fall 2017 semester. $100 will be budgeted for the bbq, and $100 will be budgeted for refreshments and election materials at the election event. It is unknown if funding from the INMM parent organization will be received, or in what amount. It will be assumed that $400 will be received, similar to last year’s funding.

Respectfully Submitted:  
David Horvath, INMM@UofU Chapter Acting President
**University of Utah Student Chapter (U.S.A.) (cont.)**

**FY2017 Budget**

**INMM Student Chapter at the University of Utah**

**Financial Statement – 10/01/2016– 06/30/2017**

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<td>Reimbursement from ASUU for t-shirts</td>
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<tr>
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<tr>
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<td>Sodium cooled fast reactor presentation</td>
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<td>INL tour</td>
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Overview of the Year

The University of Washington operates on a quarterly system starting in late September and finishing out the year at the beginning of June. In the opening of this year the chapter launched with a new president and a couple officer positions still open. By December all officer positions where filled and planning for the year was underway. The year’s strategic plan was to aim for two guest speaker events and an information session and/or fundraiser per quarter. The idea was to have one technical speaker and one policy oriented speaker to achieve the crossover between policy and technical. Accomplishing everything in the plan wasn’t always possible due to availability of guest speakers and unplanned cancelations. Other major focuses included a furtherance of research collaboration with the INMM Indonesia chapter and the promotion of individual nuclear related research with the end goal of being accepted into JNMM.

Two stand out guest speaker events accomplished this year was Shirley Johnson in autumn quarter and Mark Schanfein in winter quarter. In spring, the UW chapter helped facilitate and participated in the annual PNNL lab day and Hanford B reactor field trip hosted by acting INMM advisor Professor Hal Undem. Planning is already started for the 2017-2018 school year. In what will be one of our largest events, the UW chapter has teamed up with the group Friends of Fission to host a panel discussion on small modular reactors. The event is scheduled for November 1st, 2017.

The following is a more detailed description of all the organized events from this past year, the stem committee, officer overview, budget, and the future events.

Organized Events

Autumn Quarter

The focus of the autumn quarter was primarily on planning for the year and recruitment. Nevertheless, due to the connections made at INMM’s annual conference last year, Shirley Johnson reached out to our chapter since she was passing through Seattle. Therefore, in autumn quarter we had Shirley Johnson as a guest speaker, recruited students at the opening school year event “Dawg Dayz,” filled all officer positions and made a strategic plan for the rest of the year.

DAWG DAYZ

September 27-28, 2016

At the beginning of every school year the University of Washington puts on the Dawg Dayz event. Dawg Dayz is an annual tradition of welcoming new and returning students back to school and opportunity for student organizations to promote themselves. Student organizations set up their stands in in Red Square, which located the center of the school with the most foot traffic. This event provides and opportunity for new and returning student to walk through the various organizations and talk to its club members to see if they are interested. At the same time, the Dawg Dayz event is an opportunity for INMM exposure
and outreach with the aim of inspiring new membership. If students are interested they sign up to the email sheet and are informed of future meetings and events.

The result of this event was thirty emails added to the list serve and two serious members that occasionally came to meetings throughout the year. Unfortunately most of the students that sign up are bombarded with other student organization emails and few actually ever respond. Despite the lack of response, the UW INMM chapter will still participate in the Dawg Dayz event in coming year. Next year we may have better luck and it’s still is an excellent opportunity for the UW INMM chapter to talk with the UW student populace about INMM.

Shirley Johnson: A Day in the Life of Nuclear Watchdog
October 14th, 2016

In October 2016, Shirley Johnson was passing through Seattle so she reached out the UW chapter. On short notice the UW chapter put together an event for Shirley Johnson to come speaker. Roughly twelve students and one faculty attended this event.

Shirley Johnson shared her life story in the nuclear industry. She briefly talked about her academic background in chemistry at Gonzaga University and then doing graduate studies in separations chemistry at the Hanford Graduate Center in Richland, Washington. A large portion of the lecture pertained to her time as safeguards inspector at reprocessing plants while employed with the International Atomic Energy Agency. Towards the end of her talk, Shirley shared recommendations on seeking employment out of college, how to succeed in the nuclear industry and what to expect. After the event, some of the INMM members and Shirley went out for dinner where the students could talk to her in a more personal and informal setting about their future goals and ask her questions.

Following this event, Kate Evans inspired by Shirley’s talk, became a new member and later the treasurer for the UW chapter. In the next academic year, Kate will be the new vice president. She also teamed up with our STEM officer, James Penna, co-authoring research that is being presented at this year’s INMM annual conference.

Winter Quarter

The focus of the winter quarter was implementing the strategic plan devised from autumn quarter. The goal was to have two speakers, however we were only able to secure one speaker, Mark Schanfein. Since we didn’t have two guest speakers we replaced that with an info session and a fundraiser. All in all, winter quarter was our most productive quarter with one guest speaker, one info session, and one fundraiser. The UW chapter profited $60 from the fundraiser and gained two new members with one that will likely become an officer in the 2017-2018 academic year.

Mark Schanfein: Unattended Monitoring Systems
February 3, 2016

Crowd: Mark Schanfein talk: Unattended Monitoring Systems

Mark Schanfein: Unattended Monitoring Systems

Shirley Johnson and students: A day in the life of nuclear watchdog
For Mark Schanfein’s talk, roughly thirty people attended. The audience was a balanced mix of undergraduate and graduate students with a few non-student civilians as well. People from both the hard sciences as well as policy fields were in attendance. Mark Schanfein did a good job of backing up policy discussions with technical explanations so there was something interesting for everyone. The main focus of the presentation pertained to his experience in the IAEA as a safeguards inspector and Unit Head for Unattended Monitoring Systems (UMS) in Technical Science Services. He provided a background into the design and purpose of UMS technology as well as challenges, such as monitoring undeclared nuclear facilities.

This talk ended up being one of our greatest successes for the year regarding attendance. Following the event three of the thirty started coming to weekly meetings and about seven showed up to our INMM info session the following week. The two non-student civilians in attendance, Paula and Brian, are from the group Friends of Fission. In the spring Paula and Brian reached out to our chapter seeking collaboration on future events. The UW chapter is now teamed up with Friends of Fission and will be hosting a joint event on small modular reactors in November 2017 (see Future Events below).

INMM Information Session

March 2, 2016
About ten people came to our info session, and we gained two members and one prospective member. Stanley, UW INMM former president, did the opening remarks and promotion of INMM. Stanley has remained involved in the UW Chapter throughout the year while applying for graduate school. The opening remarks was an overview of the general mission of INMM as an organization and what the UW chapter does to help in the INMM mission. Following Stanley’s opening talk both policy and STEM officers talked in detail about their research. An email sheet was passed around and contact information was provided to the students. After the info session the prospective students and INMM officers mingled over free pizza and cola.

HUB Fundraiser

March 6, 2016
We set up a booth in front of the HUB building and sold donuts, brownies, cake and hot chocolate. It was January so selling hot drinks and deserts worked well. Overall we made $144.25, however a lot of our members paid for food and gave up reimbursement so the profit value would’ve actually been closer to $60. We received a mix of people solely interested in the club and those just looking to buy food. In the future having a banner and more professional flyers would help us gain members and attract customers. In the future it will be helpful to do reach out to other chapters and see what they do to maximize profit for their small fundraisers. We will continue to do fundraisers next year learning from this year’s experience.

Spring Quarter

The focus of the spring quarter mirrored that of the winter quarter, two speakers and one info session and/or fundraiser. In addition to this goal there was a call for papers to submit abstracts for the INMM annual conference. Due to unplanned guest speaker cancelations, Pacific Northwest National Lab (PNNL) day in Richland, Washington was the only event that occurred in spring quarter.

While the bar was set high, spring quarter turned out to be the least productive quarter for a number of reasons. To start, the three confirmed speakers all had to cancel. All three worked in Washington D.C. and their plans of traveling to Seattle unexpectedly changed due to work at the last minute. Secondly, spring quarter is probably the most draining for students. Spring is the end of the school year and the students are burnt out, seniors are looking to graduate and forget about school, and it’s one of the shortest quarters in terms of days. Trying to achieve support for events was at an all time low. So on top of no speakers, we didn’t have a fundraiser nor an information session, as everyone’s availability was extremely limited. I even reached out to Laura Denlinger from PNNL to come talk about the NNSA graduate fellowship and couldn’t garner any interested students. Most were just trying to meet their deadlines.

PNNL Lab Day

Every spring, UW INMM advisor and professor Hal Undem hosts a field trip to the Pacific Northwest National Laboratory in Richland, Washington. Professor Undem co-promotes the field trip between the UW INMM chapter and his spring quarter Weapons of Mass Destruction class. Participating students attending PNNL lab day visit the PNNL facility and get an overview of the labs numerous projects, as well as insight into their internship program. Two of UW INMM’s officers and twelve of professor Undem’s students went to Richland.
The STEM Committee activities

The STEM committee’s purpose in our group embodies the “advancing scientific knowledge” aspect of the mission statement. The STEM committee was formed the last academic year at UW as part of management reorganization in the chapter and is currently headed by the STEM Officer James Penna.

Since the beginning of the 2016-2017 academic school year to the present date at writing, the main efforts of the STEM committee was to organize research to submit to and present at the INMM Annual Meeting in July. This year members from the STEM committee will be presenting a project in collaboration with the Indonesian university Universitas Gadjah Mada (UGM). The topic is a study of the neutronics and criticality of an advanced compact thorium molten salt reactor (MSR) being designed in part by UGM researchers and in development for deployment as a safe source of energy for the island of Java. The project is being led by Professor Andang Harto at UGM and involves several UGM undergraduates as collaborators, however the neutronic analysis is being performed by the committee members here at UW. Such analysis will be performed using the standard MCNP – calculation software from RSICC at Oak Ridge National Lab, which enables our students to not only perform research but also receive training on industry-standard methods and tools in order to better prepare them for a career in nuclear science and analysis. Another project is currently underway which collaborates with from the UW’s Aeronautics and Astronautics department’s HIT-SI laboratory, which researches a novel method of plasma current generation for nuclear fusion experiments. The project utilizes the fusion energy study done on HIT-SI to design a hypothetical fusion neutron source as the core of a waste-burning fast-fission hybrid; such a project exemplifies the innovation needed to accomplish safe stewardship of nuclear materials. It is the hope of our chapter that this project can be presented at the 2017 Fall ANS meeting and 2018 INMM annual conference.

The STEM committee also focuses on science and career outreach with technical talks aimed towards educating both the interested public and prospective entries into the nuclear industry. This year the committee invited Dr. Mark Schanfein from Pacific Northwest National Lab (PNL). The STEM committee also organized a gathering at a Seattle town hall talk on nuclear energy at which we met representatives from TerraPower and more UW faculty willing to work with us, as well as members of the Seattle Friends of Fission organization that hosted the even. In the future we look forward to organizing more talk with our new contacts.

Officers Overview

By the begging of December 2016, all officer positions for the UW INMM chapter were filled. The officer positions include: president, vice president, secretary, treasurer, policy officer, STEM officer, web design, and media outreach.

At the end of the 2016-2017, three of the chapter’s officers graduated and are moving on in their careers. Thus, three officer positions are to be filled in in the coming 2017-2018 academic year. There will also be some lateral shift in leadership. The current president, Justin Collins, will remain the president until autumn quarter. Autumn quarter will serve as a transition period from one president to the next. The most likely candidate for the 2017-2018 academic year is the current STEM officer, James Penna, an aerospace engineering Ph.D candidate. The current treasurer, Kate Evans, will move from treasurer to vice president. Bruno Fiorentini, the policy officer, will remain in the policy officer position.

Current Officers and Positions

1. Chapter President: Justin Collins / Senior / International Studies major
2. Vice President: (open)
3. Secretary: (open)
4. Treasurer: Kate Evans / Junior / Physics major
5. Policy Officer: Bruno Fiorentini / Senior / International Studies major
6. STEM officer: James Penna / Ph.D candidate / Aeronautical Engineering
7. Web Design: Nihal Uppugunduri / Senior/ Computer Science
8. PR and Outreach: (open)

UW INMM Budget

1. $460
2. The $60 is the revenue from the fundraiser.
Future Events

Friends of Fission
As stated before, in late spring Paula and Brian from the group Friends of Fission reached out to the UW INMM chapter seeking collaboration. Friends of Fission are an activist group that hosts events and promoted nuclear energy as a clean energy source to solve climate change issues like carbon emissions. Right now UW INMM have a date set for a panel discussion on small modular reactors (SMR’s). In order to combine the Friends of Fission mission with the INMM mission, the UW chapter is seeking a speaker for panel to talk about nuclear non-proliferation challenges SMR’s present.

Right now Friends of Fission has confirmed two speakers and another speaker in the works. The forth speaker would be someone, likely from PNNL, that can talk on behalf of SMR’s and nuclear non-proliferation. The first speaker is James Conca, Chief Technical Officer for UFA Ventures. The second confirmed speaker is Lenka Kollar that has a degree in nuclear engineering from Purdue and works at NuScale. The third speaker in the works will be from Terra power.

Paula and Brian put together events on nuclear related topics outside of the university and regularly see attendance numbers between 80-100 people. With advanced planning, teaming up with the UW INMM chapter, and hosting this event on the university, we’re aiming for a crowd around 150 people.

Follow up with contacts
The UW Chapter will be following up with the guest speakers that couldn’t make it this yea. Such people include, Skip Harrison PNW INMM Chapter President, Laura Denlinger PNNL fellowship outreach, Reza Mizrashi former State Department Iran nuclear deal negotiator, Robert Buttersworth professor of arms control and founder of Aries Analytics.
**Introduction**

Few of the members will be aware but for some years now, the nuclear new-build programme in South Africa has been very much an ‘On again, off again’ process with a number of legal challenges by a number of Non-Governmental Organisations (NGOs). The latest challenge has seen the High Court declare a number of Intergovernmental agreements to be invalid and such have to be renegotiated. The result of this is that the Request for Information (RFI) that has been jointly issued by Eskom, the power utility in South Africa and The Nuclear Energy Corporation of South Africa (Necsa) has been shelved until such time as the Agreements can be renegotiated and signed. The trickle-down effect for both academia and industry is that something of a ‘hold’ has been put on any efforts to develop staff. This means closer to home, it has been a very difficult year in trying to generate enthusiasm for issues such as nuclear security or any of the allied disciplines found in the INMM. It makes it even harder to find people who are willing to work on our committee, replacing the two individuals who have had to resign either due to work pressures or who have gone overseas to seek greener (and more certain) pastures.

In fact, the flight of nuclear talent out of South Africa, is actually becoming something of a real concern. At the last time of enquiry something like seventy (70) staff members, from a standing workforce of approximately 1600 at the Koeberg Nuclear Power Station have emigrated from the country, many to the nuclear construction project in Abu Dhabi.

It is not all doom and gloom however, at the National Nuclear Regulator of South Africa (NNR) have taken the decision to open a Regional training and education centre, The Centre for Nuclear Safety and Security (CNSS). They are doing this in conjunction with a number of local and international universities and research organisations. In time then, things should look up for our local membership.

**Local Activities**

At the International Radiation Protection Association (IRPA) congress in May 2016, the local chapter of INMM hosted a workshop on “Introduction to Nuclear Security” This was presented by Professors Jason Harris and Ed Waller. They were going to be at IRPA 2016 and so I took the opportunity to get them to present material they had already developed. The topics covered are as below:

<table>
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<tr>
<th>Module</th>
<th>Time (Start)</th>
<th>Time (Finish)</th>
<th>Topic</th>
<th>Lecturer</th>
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<td>Introductions to lecturers</td>
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<tr>
<td>2</td>
<td>9:10 AM</td>
<td>9:45 AM</td>
<td>Basic concepts in nuclear security</td>
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<td>Interrelationship between safety, security and safeguards</td>
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<td>IT/Cyber security</td>
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<td>5</td>
<td>11:00 AM</td>
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<td>Threat Assessment and Design Basis Threat</td>
<td>Waller</td>
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<td>6</td>
<td>11:30 AM</td>
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<td>Physical Protection System Design</td>
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<td>7</td>
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<td>9</td>
<td>1:10 PM</td>
<td>1:15 PM</td>
<td>Wrap up</td>
<td>All</td>
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It was actually very well attended with something like 30 people sitting in.

At the same time we also hosted in conjunction with the Partnership for Nuclear Security (PNS) as workshop for INMM Student Chapter Presidents a workshop entitled “Development of a security screening programme”.

More recently I travelled to Nigeria to take part in a INMM Nigeria Chapter workshop “Nuclear Security Culture and Methodologies for Securing Nuclear and Radiological Materials”. This was a very successful workshop with very active participation by all the attendees, something like 30.
During the past year the members of the International Safeguards Division supported the 2016 INMM annual meeting and the 2017 ESARDA Symposium.

• **2016 INMM annual meeting – Atlanta, Georgia**  
The INMM annual meeting included 14 sessions beginning with a panel session on Iran and the JCPOA featuring Mark Appleton – Assistant Coordinator for the Office of Iran Nuclear Implementation, U.S. Department of State and concluding with a panel (last entry of the INMM program) which summarized the key discussions points from week.

• **2017 ESARDA Symposium – Dusseldorf, Germany**  
The ESARDA Implementation of Safeguards Working Group and the INMM International Safeguards Division hosted a roundtable meeting to recognize the 20th anniversary of the ‘Model Protocol Additional to the Agreement(s) between State(s) and the International Atomic Energy Agency for the Application of Safeguards’, as laid down in INFIRC/540(Corrected). Representatives of the IAEA, Euratom and 10 member states provided reflections on its achievements, lessons learned, and future prospects.

The two ISD working groups continued to engage its members over the course of the year. Both working groups will be holding meetings in conjunction with this year’s meeting. Anyone interested in the topics are invited to attend and participate.

• **Open Source / Geospatial Information**  
Chairs: Yana Feldman and Zoe Gastelum  
This working group shares experiences, expertise and expectations with regard to the emerging open source and geospatial information technologies for safeguards and arms control.

In December, Yana Feldman and Zoe Gastelum gave a video lecture to the Mercyhurst student chapter of INMM on open source information analysis for international safeguards, and current R&D in this area.

• **Safeguards Information Management (SIM)**  
Chairs: Kim Gilligan and Jenifer Samples  
The working group focuses on good practices and new concepts and approaches for managing safeguards-related information, with an objective of more efficient and effective international safeguards. Focus will include efforts for reporting such as under Comprehensive Safeguards Agreements, Additional Protocols, and Voluntary Offer Agreements.

The Working Group held a teleconference on November 1st and had e-mail communications in December and January. The SIM WG will be holding a meeting during the annual meeting to give the members a chance to meet in person and discuss pressing topics, identify a new co-chair and coordinate a 2018 topical meeting. The WG will have its first Annual Meeting technical session on Wednesday July 19, Concurrent Session V.B (After Break): International Safeguards: International Nuclear Materials Reporting

After many years of faithful service, Gotthard Stein announced that he is stepping down as the vice-chair of ISD. His knowledge, experience, leadership, and ‘presence’ will be greatly missed. We are extremely grateful for his unmeasurable contributions. While not planning on attending this year’s meeting, he will likely attend some ISD events in the future. Be sure to reach out to him with your best wishes for his ‘full’ retirement.

Irmgard Niemeyer has accepted an invitation to serve as the vice-chair and Carrie Matthews has accepted an invitation to serve as ISD’s representative on the JNMM.

We also express gratitude to George Baldwin for his many year of service to the ISD management team. George has stepped down from this position earlier this year. Shirley Johnson who has regularly supported ISD through many roles has accepted an invitation to ‘officially’ join the management team.
INTERNATIONAL SAFEGUARDS (CONT.)

Upcoming Events:

- **2017 IAEA Novel technology workshop**
The SW chapter will be hosting a topical workshop in Albuquerque in August to bring together professionals spanning policy and technology communities involved in novel safeguards and arms control verification technologies, techniques and methodologies.

- **2018 IAEA Safeguards Symposium**
The IAEA has begun making arrangements for the next safeguards symposium to be held in Vienna November 5-9, 2018. The symposium fosters dialogue information exchange with member states, the nuclear industry, and members of the broader non-proliferation community and gives the Department of Safeguards the opportunity to describe and address its strategic priorities and key challenges.

- **2019 Joint INMM/ESARDA workshop**
Initial arrangements are being discussed regarding the 9th Joint INMM/ESARDA workshop to be held in Japan. Tentative dates in October 2019 are being reserved.

Submitted respectfully.

**ISD Management Team:**
Michael Whitaker, Chair; Irmgard Niemeyer, Vice-Chair; Arden Dougan; Shirley Johnson; Susan Pepper; and Mark Schanfein
Carrie Matthews - JNMM
The last Materials Control and Accountability (MC&A) Technical Division meeting was held Sunday afternoon, July 24, 2016 at the 2016 INMM Annual Meeting.

Efforts have continued throughout the year to encourage greater participation by members from industry, national laboratories, and regulatory authorities in INMM related activities. The primary focus has been active participation by NRC staff and licensees in workshops and meetings, such as the Central Region Chapter’s meeting on holdup; and seeking to accept leadership and support roles within the INMM.

Joint meeting of the NDA and DA Users Group

As requested by members of the MC&A Technical Division during the 2016 INMM meeting, the MC&A Technical Division leadership have worked with the INMM Management Team to arrange for the first joint meeting of the INMM Destructive Analysis (DA) Working Group and Nondestructive Assay (NDA) Working Group Meeting preceding the INMM Annual Meeting. The joint meeting will be held on Sunday, July 16, 2017 from 9:00 AM until 10:00 AM. This special meeting will allow DA and NDA users to jointly discuss areas of mutual interest. Initial topics for discussion include: measurement uncertainty, including the Guide to the Expression of Uncertainty in Measurement (GUM); reference standards and the status of the ASTM working reference material standard, and ANSI standards (ANSI N15.41, Derivation of Measurement Control Principles, and ANSI N15.36, Measurement Control Program, Nondestructive Assay Measurement Control and Assurance). Please note, the individual DA and NDA Working Group meetings will immediately follow the conclusion of this joint meeting.

INMM Accredited Standards Committee N15

All members of the INMM are strongly encouraged to support the INMM Accredited Standards Committee N15 with their time and expertise. ASC N15 has several standards under review or development and draws upon the knowledge and experience of members from industry, national laboratories, and regulatory authorities to ensure a sound scientific and regulatory basis. Interested individuals should contact the Committee Chair, Melanie May, melanie.may@hq.doe.gov, of Vice-Chair, Lynne Preston, lynne.preston@hq.doe.gov for further details. Note: The INMM Accredited Standards Committee N15 submits a separate report to the INMM Executive Committee detailing the committee’s activities.

Potential certification program for nuclear material measurement personnel

During the 2016 INMM meeting, a question was raised concerning the potential of the INMM developing a certification program for nuclear material measurement professionals. This issue was raised and discussed during the February 2017 Executive Committee meeting. At that time, it was noted this issue had been previously raised but not pursued. However, there was significant uncertainty as to the rationale for the lack of action. It was agreed that this issue was not a high priority but that a whitepaper on the issue could be prepared and the issue reevaluated. The MC&A Technical Division Chair and a member of the INMM Executive Committee were assigned the task of reviewing and evaluating the whitepaper. To date, no further actions have been taken as the MC&A Technical Division Chair and designated INMM Executive Committee are still awaiting receipt of a whitepaper on this topic.

Preliminary agenda for the MC&A Technical Division meeting at the 2017 INMM meeting

1. Tom Grice and Philip Gibbs, Welcome, Overview and General INMM Topics of Interest
2. Richard Meehan, Training program for nuclear materials managers (pending availability)
3. Susan Smith, Summary of the Nondestructive Assay Working Group meeting
4. Peter Mason, Summary of the Destructive Analysis Working Group meeting
5. Melanie May, Summary of the INMM Accredited Standards Committee (ASC) N15 meeting
6. Michael Bridson, Updates to the Australian Nuclear Science and Technology Organisation (ANSTO) database
7. Debarah Holmer, Update on DOE policy initiatives
8. Tom Pham, Update on the U.S. Nuclear Regulatory Commission’s 10 CFR Part 74 Rulemaking
### JNMM Related Activities


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<tr>
<th>JNMM Volume and Issue</th>
<th>MC&amp;A Papers</th>
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<tbody>
<tr>
<td>Volume 45, No. 1</td>
<td>Axial and Azimuthal Gamma Scanning of Nuclear Fuel – Implications for Spent Fuel Characterization</td>
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<td>Peter Jansson, Michael L. Fugate, Andrea Favalli, Stephen J. Tobin, Anders Sjoland, Henrik Lijenfeldt</td>
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<tr>
<td>Volume 45, Number 2</td>
<td>Discussion of the IAEA Error Approach to Producing Variance Estimates for Use in Material Balance Evaluation and the International Target Values, and Comparison to Metrological Definitions of Precision</td>
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<td>Stephen J. Walsh, Tom Burr, Klaus Martin</td>
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The following table contains the current roster of MC&A Technical Division Officers and their contact information.

<table>
<thead>
<tr>
<th>Roster of MC&amp;A Technical Division Officers</th>
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<tbody>
<tr>
<td><strong>Chair</strong></td>
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<td><strong>Vice Chair</strong></td>
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<td><strong>Secretary</strong></td>
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<td><strong>NDA Users Group</strong></td>
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<td><strong>JNMM Associate Editor</strong></td>
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<td><strong>JNMM Associate Editor</strong></td>
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Respectfully Submitted by: Thomas Grice – Chair  
Philip Gibbs – Vice Chair  
Amy Wilson - Secretary
In general, it was a quiet time for the Nonproliferation and Arms Control Technical Division. The initial plans of the MIIS Student Chapter to hold a NAC workshop on the future of the P-5 was postponed due to the uncertainty in USG policy positions and potential speakers to invite. However, the Southwest Chapter is planning a workshop on Novel Technologies, Techniques and Methods for Safeguards and Arms Control Verification in Albuquerque, New Mexico 29-30 August 2017. Using a scenario-based approach, the participants will look about 10-15 years into the future and consider the factors that could fundamentally alter technologies and techniques for both international safeguards and arms control.

At the Annual INMM Meeting, a number of sessions and panels were specifically designed to focus attention on key topics facing the INMM community, such as advances in arms control verification, the status of the JCPOA two years after implementation and US-Russia cooperation – past, present, and future.

At the NAC Technical Division Meeting, the group will be able to informally explore the status of a controversial new endeavor – the Ban Treaty currently being negotiated at the United Nations.

Respectfully submitted,

Mona Dreicer, Chair
Nina Rosenberg, Deputy Chair
Teri Leffer, Secretary
Kevin Whattam, Strategic Trade Controls
Susan Voss
Workshop Planning

NSPP recognizes that technical workshops are key elements to fiscally support the Institute and to operationally support the membership. In recent years, NSPP feels that the division has been relatively successful in the development and presentation of meaningful and economically feasible workshops. We are continuing to evaluate the need, benefit, and cost considerations for additional workshops and events.

The planning team associated with the most recent (September 2015) workshop addressing VA Tools has continued limited discussions on the need and value for a follow-up workshop. Our initial thoughts were focusing on a more hands-on approach to the VA process and available tools. The team has refocused its efforts on how to best utilize and populate the various assessment methodologies in support of the evaluation of overall protection systems. Elements remaining under discussion now include security planning, support for force on force exercises, the conduct of upgrade evaluations, and long range planning.

Workshop planning in general and specifically member needs are topics for discussion during the NSPP Technical Division Meeting in July 2017.

2017 Annual INMM Meeting

As of the end of June 2017, the NSPP will host six technical sessions, including approximately 40 presentations. Five of the papers will be judged for student awards; Michlle Silva has graciously volunteered to coordinate the judging. In a departure from past meetings, we have no student posters eligible for evaluation.

As in previous years, several abstracts/papers have been withdrawn in advance of the meeting. Discussions with some of the authors indicated that budget constraints and fiscal uncertainties on the U.S. budget have limited their ability to participate. This has also impacted the attendance of several pre-scheduled session chairs.

2017 NSPP Technical Division Meeting

The planned agenda for the Nuclear Security and Physical Protection Technical Division meeting will center on a presentation and demonstration of the NNSA Global Material Security Alarm Response Training Tabletop Exercise, which serves as part of a related three-day program. It is intended to serve as a capstone for classroom training, which couples with the students own tactics, techniques and procedures that allows them to better prepare for an attack on their facility and to protect their radiological materials.

This tabletop exercise combines subject matter expertise with cutting-edge technology. This technology enables the use of pre- and post-CCTV footage, allows the responders to position their personnel on an on screen floorplan of the facility under attack. The Tabletop incorporates all stakeholders to include the Radiation Safety Officer, on-site security, local law enforcement and third party alarm monitoring companies. The presentation / demonstration will include technology facilitation and attendee participation.

NSPP had also discussed the presentation of parallel technologies on tabletop exercises with representatives from other National Laboratories, but as of June 2017, the Y-12 presentation is the only one scheduled.

The NSPP Technical Division will also present and discuss planning efforts for a projected Vulnerability Assessment Workshop in the latter months of 2017.

Tom Bonner
Nuclear Security and Physical Protection Technical Division Chair

Felicia Durán
K. J. Maddux
Nuclear Security and Physical Protection Technical Division Deputy-Chairs
Packaging, Transportation and Disposition Division

Jeff England, Chair

The 18th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM 2016) was held in Kobe, Japan. PATRAM is an international conference dedicated to the advancement of the safe and secure transport of radioactive materials and has become the premier world forum on this topic. It is held every three years, alternating between the United States and other countries. The Packaging, Transportation and Disposition Division supported the host nation organizations for the 2016 event.

The 19th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM 2019) will be August 4-9, 2019 at the New Orleans Marriott in New Orleans, Louisiana. The PATRAM 2019 management plan has been sent out for review, the Technical Program Chair has been selected, and the other committees are being staffed. INMM, in conjunction with WNTI, are working with DOE, DOT, NRC, and IAEA for PATRAM 2019.

The 20th International Symposium on the Packaging and Transportation of Radioactive Materials (PATRAM 2022) will be held in Paris France in 2022. WNTI, in conjunction with INMM, are working with the PATRAM stakeholders around the world for PATRAM 2022.

The INMM Packaging, Transportation and Disposition (PT&D) Division presented the INMM 32nd Spent Fuel Management Seminar January 10-12, 2017 at the Washington Marriott Georgetown, Washington, DC. The U.S. Nuclear Infrastructure Council (USNIC) has been a partner with INMM since 2011. INMM / USNIC are presenting the INMM 33rd Spent Fuel Management Seminar in January 23-25, 2018, at the Hilton Alexandria Old Town, in Washington, DC.

The world’s increasing need for safe, efficient and secure nuclear energy is driving the need for a new evolution of safe RAM storage, transportation and disposition systems. New and innovative solutions are needed for “Used Fuel Disposition” and other radioactive material. The objective of the INMM Packaging, Transportation and Disposition Division is to be the international forum for meeting these evolving worldwide needs.

Respectfully Submitted,
Jeff England
Spent Fuel Management Seminar Chair
Chair, Packaging, Transportation and Disposition

Robert Watkins
Co-Chair, Packaging, Transportation and Disposition