



MINUTES OF THE 2022 IEEE NUCLEAR AND PLASMA SCIENCES SOCIETY (NPSS) NUCLEAR  
MEDICAL AND IMAGING SCIENCES COUNCIL (NMISC) MID-YEAR TELE-CONFERENCE  
MEETING

DATE: THURSDAY, MAY 26, 2022, 5:00PM EST

LOCATION: VIRTUAL (ZOOM PLATFORM)

***Voting Members:***

*Executive*

Andrew Goertzen (NMISC Chair)

Youngho Seo (NMISC Vice Chair)

Roger Fulton (NMISC Past Chair, NMISC Awards-Fellows Sub-Committee Chair)

***NMISC Term ending 2022:***

Joyita Dutta

Antonio Gonzalez Martinez

Marie-Claude Gregoire

Craig Levin

Youngho Seo

***NMISC Term ending 2023***

*Dimitra Darambara*

*Andrea Gonzalez Montoro*

*Hamid Sabet*

*Emilie Roncali*

*Volkmar Schultz*



***NMISC Term ending 2024:***

Esther Giarrochi

Arman Rahmim

Mitra Safavi-Naeini

Hideaki Tashima

Larry Zeng

***Non Voting Members:***

Steve Meikle (MIC 2018, NPSS Vice President)

Adam Alessio (Adcom representative)

Robert Miyaoka (Adcom representative)

Merry Keyser (Valentin T. Jordanov Award Committee Chair)

Dimitris Visvikis (TRPMS Editor in Chief)

Nicolas Karakatsanis (NMISC Secretary)

Suleman Surti (JOS Chair)

GianFranco Della Batta (JOS Past Chair)

Michael Lerch (JOS Vice Chair)

Steven Meikle (NPSS President)

**1. Introduction.** Delivered by Andrew Goertzen

**2. NMISC Chair's report.** Delivered by Andrew Goertzen

- Reviewed technical committees and executive members



- Reviewed 2022 Elections
  - New NMISC Adcom representative needs to be elected (Adam Alessio's term ends in 2022)
  - Five new NMISC members needs to be elected – Deadline for nominations: May 30<sup>th</sup>, 2022
  - New NMISC JOS representative needs to be elected (Larry Zeng's term ends in 2022)
- IEEE TryEngineering Tuesday Partnership
  - Initiative of IEEE Educational Activities group (<https://tryengineering.org/>)
    - Create pre-university student guide and webinar featuring technical topics
    - Reached out to NPSS seeking partnership – suggested them was Medical Imaging
  - Many thanks to Andrea Gozalez Montoro from Stanford University for Volunteering
    - Title will be “Biomedical Engineering and Medical Imaging”
- NPSS Strategic Initiatives
  - Can be 1, 2 or 3 years, starting on January 1. Typical budgets are \$15k-\$150k.
  - Funding requests normally best submitted in January for funding in following year.
  - NMISC has two current initiatives:
    - Balanced Representation Subcommittee (currently funded) – Led by Joyita Dutta
    - Open Kinetic Modeling Initiative (recommended for approval at March 2022 AdCom meeting) – Led by Guobao Wang
- Young/student Participation at NMISC/MIC
  - At 2021 AGM we discussed increasing involvement of young/student trainees though greater participation in MIC abstract reviews
    - This continues to be discussed for the 2023 meeting
  - We also want to consider having one or two trainee participants in NMISC activities
    - We want to explore options for how this can be done – identifying candidates and defining their involvement - and welcome feedback and suggestions from NMISC
- Upcoming Activities
  - Conference Record Subcommittee
    - Will need to be a joint project with RISC
    - Youngho Seo will lead NMISC subcommittee
  - Review of Constitution and By-laws
    - Last revised in 2013. Was scheduled for 2020.
    - Subcommittee will be chaired by Andrew Goertzen
    - RISC involvement required due to sections involving JOS and JES
    - Please reach out if you are interested in participating in either subcommittee
  - November 2022 AGM
    - Poll of committee members to ask plans for attending
- AdCom Activities
  - Most recent meeting held March 5, 2022. Next meeting planned for June 29-30, 2022. Motions:
    - Approved transfer of \$25k to NPSS Foundation Fund.



- Approved prioritization list for Fast Track initiatives – included Open Kinetic Modeling Initiative that requested \$45k over two years.
- Zane Bell reappointed for another 3 year term as Editor-in-Chief of IEEE TNS
- Steve Gitomer reappointed for another 3 year term as Editor-in-Chief of IEEE TPS
- Approved changes to IEEE NPSS Graduate Scholarship Award – to comply with IEEE award description requirements
- Approved technical co-sponsorship of ANIMMA 2023 and IPMHVC 2024
- Approved amending PSAC by-laws
- EduCom (established as new Functional Committee on Jan. 1, 2022). Roles and responsibilities:
  - be responsible for the NPSS Schools
  - identifying supportive local organizers to share work and costs with NPSS
  - assembling teams to organize and run Schools
  - create an inclusive and diverse environment by organizing Women in Engineering and Young Professional Events during our educational activities
  - managing the annual budget for Schools
  - identify and help establish new educational initiatives in collaboration with Technical Communities
  - identify hosts and speakers for NPSS educational activities
  - create and maintain an EduCom page on the NPSS web site
- EduCom Founding chair is Stefan Ritt
  - EduCom Membership is published online (<https://ieee-npss.org/technical-committees/education-committee/>)
- Call to apply for a NPSS Educational Activity

### 3. A. NMISC Awards Subcommittee, delivered by Roger Fulton

- Announcement and reminder of the available 2022 NMISC awards
  - Edward J Hoffman Medical Imaging Scientist Award
  - Medical Imaging Technical Achievement Award
  - Bruce H Hasegawa Young Investigator's Award
  - Nomination deadline for the first recipient: July 15
    - Aim to get 4-6 nominations for each award
    - Appoint award sub-committees (6 members each) by end of July for results in mid-September
    - Aiming for diversity in committee membership.
- Conflict Of Interest
  - The Awards subcommittee takes the responsibility to avoid Conflicts of Interest seriously.
  - Award sub-committee members may not make nominations and endorsements for the awards cycle in which they are seated.



- Award-subcommittee members need to be replaced prior to submitting a nomination or endorsing, otherwise the nominee is ineligible.

### 3. B. Secretary's Report, delivered by Nicolas A Karakatsanis

- Non-Routine Motions Voted on Since 2020 AGM (October 2020)
  - Elected JOS member last December (1 of the 2 NMISC representatives in JOS)
    - Kisung Lee (2-Year term: 1/1/2022 – 12/31/2023)
  - Dr Lee agreed to serve as NMISC representative for a 2<sup>nd</sup> consecutive 2-year term
    - considering the disruption of JOS activities in 2020-2022 due to the global pandemic situation
- Welcome note to the new elected NMISC members starting in 2022 (term of 2022-2024)
- Eleven candidates were nominated for new NMISC members for the next 3-year term (1/2023 – 12/2025)
  - Only 3 of the candidates were female. Aim for a larger female representation among NMISC candidates
  - Deadline for submission: May 30<sup>th</sup> 2022 5pm EDT
- Sustainability and Carbon Footprint in the post-pandemic era
  - Detailed report on this topic was provided at 2020 NMISC T-Con by Dr Steven Meikle
  - IEEE Meetings, Conferences & Events (MCE) has been looking into this issue prior to Covid-19 (start of 2020),
  - In last two years the discussions paused as MCE had been consumed by Covid-19 issues
  - No progress update on this topic during the first semester of 2022
  - NPSS Chair Dr Steven Meikle will ensure the topic stays on the MCE agenda and will be happy to report back to NMISC when there is further progress
  - Consider the prospect of re-opening this discussion in NMISC in the post-pandemic era
  - Should future IEEE NSS/MIC be organized as in-person only or hybrid (in-person and virtual) conference events?

### 3. C. NPSS Fellow Evaluation Committee (FEC), delivered by Edl Schamiloglu (Chair, FEC)

- The detailed timeline is presented for the candidate, beginning from the submission of the IEEE Fellow nomination until its evaluation and submission of the committee's final recommendation.
- NPSS FEC Evaluation criteria:
  - ranking of all nominees through a consensus process [numerical scores 90-100 are extraordinarily qualified; 80-89 are highly qualified; 70-79 are qualified; 60-69 are marginally qualified; below 60 are unqualified]. **Only those nominees scoring 90-100 have a chance at being elevated to Fellow by the IEEE-level committee.**
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### 3. D. Joint Oversight Subcommittee (JOS) update Report, delivered by Suleman Surti, JOS Chair



- Current JOS membership and IEEE NSS/MIC/(RTSD) conference meeting schedule is presented
  - 2022 – Milan
  - 2023 – Vancouver
  - 2024 – Boston (makeup for 2020)
  - 2025 – Yokohama (makeup for 2021)
  - 2026 – Europe (back to normal cycle)
  - 2027 – likely North America
  - 2028 – likely Rest of the World (outside Europe and North America)
- Plans for 2026 site selection (European site)
  - General call went out in April for sites in Europe to submit bids for the 2026 NSS/MIC/RTSD meeting
  - Bid submission deadline is Aug 31, 2022
  - Currently have had an inquiry from Netherlands
  - Plan to contact previous bidders from Europe
  - In-person presentations in Milan from potential sites
  - Site visits through Feb 2023
  - Complete site selection by Apr 2023
  - A call was issued to current NMISC members to send candidate site suggestions and bids for the 2026 meeting
    - Some involvement from members of our technical committees in the bid preparation and submission is useful and important
- Plans for 2027 site selection (North America site)
  - Send out general call for sites in North America for the 2027 NSS/MIC/RTSD meeting with deadline of Mar 31, 2023
  - Plan site visits through summer 2023
  - Complete site selection by Nov 2023

### **3. E. Conference Record Report for 2021 IEEE NSS/MIC** delivered by Nakamura and Tomita

- The status of the conference record completion was presented
- The Conference Record will be published in September 2022

### **3. F. Future Directions Subcommittee Report**, delivered by Andrew Goertzen

- Committee created in 2021 and tasked with providing recommendations on:
  - How to ensure that MIC keeps current in the broader scientific field
  - How to deal with possible overlaps with dedicated topical workshops
- Committee Membership:
  - Vesna Sossi (Chair)
  - Simon Cherry
  - Georges El Fakhri



- Alberto del Guerra
- Dimitris Visvikis
- Decided to now formalize as standing subcommittee
  - 2022 will be transition year as recommendations begin to be implemented
- Original Committee Recommendations
  - Flow for introduction of new topics to MIC:
    - Year 1: Hot topic identified by NMISC community
    - Year 2: Workshop dedicated to topic
    - Year 3: Topic becomes a mainstream topic and meeting
  - Overlap with topical workshops:
    - Content of specialized workshops should be 'drawn into' the MIC
    - Spokespeople from relevant conferences (e.g. Total Body PET, PSMR, etc.) can be invited to present conference highlights.
      - Could be lunch time oral session, series of dedicated posters, etc.
- Recent Activity of the subcommittee
  - Subcommittee met February 7, 2022
    - Discussion focused on how the recommendations could be implemented for the 2022 meeting, including:
      - Identification of hot topics
      - Plans for highlight lectures from satellite meetings
      - Identification of new topics that may be ready for workshop stage
    - Discussion will resume once trends in submissions to 2022 MIC are known

#### 4. NSS/MIC/RTSD 2021 Yokohama (Virtual) Report, delivered by I. Kanno

- Submitted contributions 1,069 (NSS 461, MIC 517, RTSD 91)
- 1,553 registered attendees, 23 exhibitor booths
- NSS Invited talks: 3
- MIC Invited talks: 2
- New trial: Mini-Oral sessions: 9 contributions x 4 sessions NSS, MIC
  - Short 7 min presentation + 2 min Q&A
  - Crossover sessions which might inspire new ideas
  - New category of oral sessions
- Short courses - Registrations
  - Integrated circuits for detector signal processing and radiation hardened design 54
  - Application of the machine learning to the collider experiments 12
  - Scientific writing 25
  - Spectral photon counting CT 61
  - Medical image reconstruction using deep learning 138



- Fast-timing scintillation detectors in PET 55
- PET kinetic modeling and parametric imaging 56
- Workshops - Registrations
  - Radiation measurement for accelerating Fukushima's environmental recovery ... 174
  - Advanced technologies for future large-scale neutrino experiments 157
  - Quantum sensing for biomedical application 206
  - Total-body PET image reconstruction 314
  - Challenges moving from the lab bench to clinical practice for nuclear medicine 214
  - GATE User's Meeting 193
- Budget of the conference presented
- Announcement that the 2025 NSS/MIC conference will also be planned for Yokohama
  - Planned schedule 1<sup>st</sup> (Sat.) -8<sup>th</sup> (Sat.) Nov. 2025
  - Venue Pacifico Yokohama North (as originally planned for 2021)
  - Further planning will start after the 2021 meeting
  - Organizing committee is planned to be the same as 2021

## 5. NSS/MIC/RTSD 2022 Milan (hybrid) Report, delivered by C. Guazzoni

- Conference center contract signed and first invoice paid
- Hybrid model conference:
  - Dedicated platform developed to include remote attendees
  - Difficult to predict number of remote and in-person attendees?
- Short courses:
  - NSS SC1: Semiconductor Radiation Detectors (Lothar Strüder)
  - NSS SC2: Front-End Electronics For Radiation Detectors (Gianluigi De Geronimo)
  - NSS SC3: Organic Flexible Electronics For Radiation Detectors (Dario Natali)
  - NSS/MIC SC4: Machine Learning (James Ghawaly)
  - MIC SC5: Fast-Timing Scintillation Detectors And Their Use In Time-Of-Flight PET (Dennis R. Schaart)
  - MIC SC6: Image Reconstruction And AI (Andrew Reader)
  - MIC SC7: PET Kinetic Modeling And Parametric Imaging (Guobao Wang)
- Conference sponsorship in progress
- 2022 Organizing Committee presented
- Submissions by topic:
  - MIC: 582
  - NSS: 534
  - RTSD: 118
- Submissions by Topic for MIC were also presented
  - Most popular topic: MIC-08 (119) followed by MIC-01 (65) & MIC-02 (62)





- MiCo Conference Center layout presented
- Social Events were organized

#### 6. NSS/MIC/RTSD 2023 Vancouver (hybrid) Report, delivered by M. Daube-Witherspoon

- November 4-11, 2023 @ Vancouver Convention Centre
- Statement from Vesna Sossi (General Chair): "... we have an in-person site visit in Vancouver on June 10-11. Everything is on track."
- The planning committee has had periodic teleconferences since last June.
- Agenda for site visit (just before SNM meeting) includes:
  - Discussion of layout and walk-through of the convention centre
  - Considerations of registration/abstract handling, general conference plan
  - Exhibitors' situation, deadlines, prospectus, etc.
  - Joint sessions, short courses, workshops
  - Companion program, fundraising/sponsorship, scholarships
  - Format, including a discussion of hybrid option
- Thoughts were discussed on how NMISC can help the organizers
  - Suggestions for workshops, short courses
  - Suggestions for "hot topics"
  - Discussion of student reviewers (a 4<sup>th</sup> abstract reviewer under supervision, designed to train new reviewers and get them involved in the MIC early in their careers)
  - Any special considerations or concerns you may have...
  - Margaret Daube-Witherspoon (MIC program chair) – [daubewit@pennterms.edu](mailto:daubewit@pennterms.edu)
  - Rutao Yao (MIC deputy program chair) – [rutaoyao@buffalo.edu](mailto:rutaoyao@buffalo.edu)

#### 7. NSS/MIC/RTSD 2024 Boston? , delivered by G.E. Fakhri

- considering to continue offering a hybrid meeting, contingent on the experience in Milan and Vancouver.
- Planning to hold our first committee meeting in Milan, expected Thursday during lunch time as usual.
- Standard services are planned to be sourced to EventClass (abstract submission, exhibit management, registration) as in most previous years.
- Involvement of MCE in a similar way to what NSS/MIC 2023 organization committee is doing.
- 2024 Organization Committee Chairs announced
  - General Chair: L. Fabri,
  - MIC Chairs: G. El Fakhri & Kira Grogg
  - Other committee members to be announced soon

#### 8. Any Other Business

- None