

Physics, Instrumentation and Data Sciences Council FY21 Business Plan – DRAFT June 2020 Value Initiative 2.0

The Physics, Instrumentation and Data Sciences Council is made up of Society members who have an interest in medical physics, nuclear instrumentation, and data sciences and their applications in diagnostic, therapeutic, or investigational nuclear medicine. It provides a source of information relating to medical physics, nuclear instrumentation science and data analysis to the Society through meetings, seminars, and publications as well as promoting the advancement and dissemination of knowledge in this area.

SNMMI Value Initiative 2.0 – Engagement of Councils and Centers of Excellence

In 2018, SNMMI launched its Value Initiative – a comprehensive strategic plan to advance the crucial role of nuclear medicine and molecular imaging in patient care and science and discovery. The next step will become SNMMI's Value Initiative 2.0. As part of Value Initiative 2.0 SNMMI will continue to adjust our organization to the changing health care environment. Value Initiative 2.0 will also engage as many SNMMI members as possible through the work of various committees, working groups, SNMMI councils and centers of excellences and the SNMMI chapters.

As part of this inward focusing effort, councils and centers of excellence will be participating in Domain conference calls and working directly with the chairs from the six (6) domains to address the opportunities and develop strategies to meet them.

As a council, the Physics, Instrumentation and Data Sciences Council will be involved in almost every domain; Quality of Practice, Research and Discovery, Workforce Pipeline and Organizational Strength and Stability.

Goals and Programs for FY2021

The PIDSC will provide technical expertise in the area of new instrumentation and data analysis technologies, quality control and proper use of new instrumentation and data analysis technologies. The PIDSC will provide expertise as needed on dosimetry of radionuclide therapy and incorporate appropriate technical educational information. The PIDSC, through its educational efforts, will provide information on imaging instrumentation quality control, and patient dosimetry and its optimization. Efforts will be made to provide core educational information to those who may be new in the field, refresher information and information on new and evolving technologies. Specific goals and objectives include:

1. The PIDSC will continue to hold a Board of Directors (BOD) and business meeting at the SNMMI Annual Meeting as well as fall and spring PIDSC BOD conference calls as necessary to address programmatic needs and discussion topics.
2. The PIDSC will continue to sponsor educational opportunities and materials relevant to technological topics of interest to PIDSC members and to SNMMI members in general.
 - a. Provide the Vice Chair and three Sub-Chairs to oversee the Physics, Instrumentation & Data Sciences Track for the 2021 SNMMI Annual Meeting Scientific Program Committee in the areas of Data Analysis and Management, Image Generation and Instrumentation. In addition, a Sub-Chair will be provided to oversee the PIDSC Young Investigator Award Symposium.
 - b. Provide approximately 100 reviewers for the submissions to the Physics, Instrumentation & Data Sciences Track for the 2021 SNMMI Annual meeting.
 - c. Sponsor CME sessions at the 2021 SNMMI Mid-Winter Meeting.
 - d. Sponsor CME sessions and/or Categorical Seminars at the 2021 SNMMI Annual Meeting.



3. The PIDSC will continue to recognize innovation and excellence in the arena of technology in molecular medicine, particularly nuclear medicine imaging.
4. Organize and moderate the PIDSC Young Investigators Award (YIA) Symposium for the 2021 SNMMI Annual meeting.
5. Organize and moderate the 2020 Edward J. Hoffman Memorial Lecture to be held at the 2021 SNMMI Annual meeting.
6. The PIDSC will organize the PIDSC Physics, Instrumentation & Data Sciences Track Summary Session to be held at the 2021 SNMMI Annual meeting.
7. The PIDSC will communicate with members via email blast announcements, periodic newsletters, and the PIDSC website.
8. The PIDSC provides expertise for the oversight of technological aspects of SNMMI scientific conferences and publications.
9. The PIDSC supports efforts on standards relevant to molecular medicine, particularly nuclear medicine. Digital Imaging and Communications in Medicine (DICOM) and Integrating the Healthcare Enterprise (IHE) represent areas of significant interest to SNMMI members. Other areas of interest include technical accreditation standards for nuclear medicine and PET of entities such as the Intersocietal Accreditation Commission (IAC), American College of Radiology (ACR) and the Joint Commission (JC).
10. The PIDSC will seek constructive interactions with other entities both within the SNMMI and externally with other organizations when relevant. SNMMI entities that have membership and interests overlapping with PIDSC include, but are not limited to, the Young Professionals Committee, Quality Assurance Committee, Clinical Trials Network, PET Center of Excellence, and Center for Molecular Imaging Innovation and Translation. Outside entities with overlapping interests include the American Board of Science in Nuclear Medicine (ABSNM), the American Association of Physicists in Medicine (AAPM) and the Nuclear and Plasma Sciences Society (NPSS) of the Institute of Electrical and Electronics Engineers (IEEE).
11. The PIDSC will seek to increase engagement of its members and broaden the speaker pool for CE sessions that it sponsors at the SNMMI Annual and Mid-Winter meetings.

Budget and Resource Requirements

1. Summary of Financial Needs
The attached budget summarizes the total resources needed to accomplish all of the goals set forth in the business plan.
2. Resource Requirements
No additional staff, materials, technology, or marketing support is required beyond the usual support provided by SNMMI headquarters.

Physics, Instrumentation and Data Sciences Council Background Overview

1. Mission

The mission of the Physics, Instrumentation and Data Sciences Council (PIDSC) of the Society of Nuclear Medicine and Molecular Imaging (SNMMI) is to promote advancement of and proper use of computers, instrumentation, data analysis and medical physics in diagnostic, therapeutic, and investigational molecular medicine, particularly diagnostic, therapeutic, and investigational nuclear medicine. The PIDSC has pursued this mission:

- by creating, organizing, and presenting educational programs focused on molecular diagnostic, therapeutic, and investigational technologies—including, but not limited to, imaging technologies,
- by assisting in development of scientific paper and poster sessions focused on molecular diagnostic, therapeutic, and investigational technologies,
- by providing awards for outstanding contributions to molecular diagnostic, therapeutic, and investigational technologies, and
- by providing awards to individuals who have made outstanding contributions in the area of molecular diagnostic, therapeutic, and investigational technologies.

2. Council Leadership

Officers

President: Osama Mawlawi, PhD
Vice President: R. Glenn Wells, PhD
Vice President Elect: Chi Liu, PhD
Treasurer: Yong Du, PhD
Secretary: Nikolaos Karakatsanis, PhD
Immediate Past President: Richard Laforest, PhD

Term

July 2020 – June 2021
 July 2020 – June 2021
 July 2020 – June 2021
 July 2020 – June 2022
 June 2019 – June 2021
 July 2020 - June 2021

Board members

Mathieu Hatt, PhD
 Keisha McCall, PhD
 Jing Tang, PhD
 Ciprian Catana, MD, PhD
 Summer Khairi, MBA, BS, CNMT, NMTCB(CT)
 Dustin Osborne, PhD

June 2019 – June 2021
 June 2019 – June 2021
 June 2019 – June 2021
 July 2020 – June 2022
 July 2020 – June 2022
 July 2020 – June 2022

Intern

Tyler Bradshaw, PhD

June 2019 – June 2021

3. Current Status

a. Financial

As of June 6, 2020, the PIDSC had a total revenue of \$21,003 and projected FY2020 expenses of \$5,056. This includes \$3,015 in member dues and a carryover of \$15,988 from FY2020. Revenue is generated through annual membership dues which are \$15.00 per member.

b. Membership

As of June 6, 2020, the PIDSC has 693 members which includes 197 physicians and scientists, 41 technologists, and 455 in-training members with complimentary membership. The PIDSC membership history for the past few years is listed below:

PIDSC Membership History (not including in-training members)

2019 = 213
 2018 = 192
 2017 = 193

c. Member Benefits

- PIDSC members influence the scientific program of the SNMMI AMs as the PIDSC President serves as or appoints the SNMMI AM SPC Vice Chair and Sub Chairs for the SNMMI AM Physics, Instrumentation & Data Sciences Track.
- PIDSC members may serve on the sub-committee to select the Edward J. Hoffman Memorial Lecturer.
- PIDSC members are eligible to serve as Physics, Instrumentation & Data Sciences Track Session Moderators at the SNMMI AM.
- PIDSC members are eligible to serve as PIDSC YIA judges.
- PIDSC members may serve as Physics, Instrumentation & Data Sciences Track Scientific Poster Award judges.
- PIDSC members are eligible to vote in elections to select PIDSC board members and officers.
- PIDSC members are eligible to be reviewers of submissions to the SNMMI Annual Meeting Physics, Instrumentation & Data Sciences Track.
- PIDSC members are eligible to propose, organize, and present at PIDSC-sponsored educational sessions for the SNMMI Mid-Winter and Annual meetings.

4. Accomplishments for FY2020

- a. The PIDSC hosted 6 webinars on AI. Attendance topped 400 members. These were the highest attended webinars in SNMMI history
- b. The PIDSC sponsored the following CE session at the 2020 MWM:
 - Technological Developments and Fundamentals of Quantitative PET
 - Technology Review, Development in PET/CT, PET/MR and Total Body PET
 - Basics of Image Reconstruction Review and Data Analysis
 - Quality Control, Acceptance Testing and Quantitative Imaging
 - Dynamic Imaging, kinetic modeling and parametric imaging

+ PIDSC co-sponsor a session with Brain Imaging Council (PIDSC speaker was Georges el Fahkri)
 Session title
 Improve your knowledge in PET Quantification and Artificial Intelligence
- c. The PIDSC was approved to sponsor or co-sponsor the following CE sessions at the 2020 SNMMI Annual Meeting, prior to the decision to hold a virtual meeting:
 - Education Sessions
 - CE27: Simultaneous PET/MRI: Advances and Clinical Applications
 - CE42: Basic Elements of Radiopharmaceutical Dosimetry
 - CE45: PIDSC Faber/Hoffman Award Lecture – scheduled June 30th
 - CE70: Advances in Quantitative Imaging for Dosimetry Guided Radionuclide Therapy including Targeted Alpha-Emitter Therapy
 - CE83: Academic, Clinical and Industrial Pathways for Nuclear Medicine Physicists, Engineers, and Data Sciences

- CE12: Current Perspective on Total Body PET and Applications (virtual meeting)

Categorical on Artificial Intelligence and Nuclear Medicine
PIDSC (primary), CMIT, PC, George El Fahkri

Co-Sponsor Categorical in Cardiovascular imaging
Nuclear Cardiology in 2020 and Beyond: Image Guided Decision Making

- d. PIDSC organized and moderated the PIDSC YIA Symposium at the 2020 SNMMI Annual meeting and presented YIA winners with certificates during the YIA ceremony:
 - 1st Place – Zhaoheng Xie
 - 2nd Place – Martin Lyngby Lassen
 - 3rd Place – Haewook Park
 - Honorable Mention: Ziping Liu
 - Honorable Mention: Tiantian Li
 - Honorable Mention: Yiran Want
- e. Presented the 2020 Edward J. Hoffman Memorial Award to Dimitris Visvikis, PhD for contributions to advances in PET imaging research, and to education and dissemination of findings within the scientific community
- f. Presented the 2020 Tracy Lynn Faber Memorial Award to Fanny Orhac, PhD for outstanding contributions to radiomics in PET imaging, including advances in methodological rigor and strengthened biological and clinical relevance.
- g. The PIDSC provided communications to members via email blast announcements, periodic newsletters, and the PIDSC website.
- g. Support the internship of Tyler Bradshaw, PhD, with mentoring and a project which supports PIDSC's programs/goals.