

2023 IEEE NSREC Is Planning for Kansas City, Missouri



Nuclear and Space Radiation Effects Conference, 24th - 28th July 2023

CONFERENCES

- NSREC 1
- NSS/MIC/RTSD 3

SOCIETY GENERAL BUSINESS

- President's Report 4
- Secretary's Report 5
- New AdCom member 6

TECHNICAL COMMITTEES

- Nuclear Medical and Imaging Sciences 6
- Radiation Instrumentation 7

FUNCTIONAL COMMITTEES

- Education and Transnational Committees 8
- Awards 9
- NPSS Fund 9
- Nominations 10

LIAISON REPORTS

- Book Review NCRP 10
- Smart Village 11

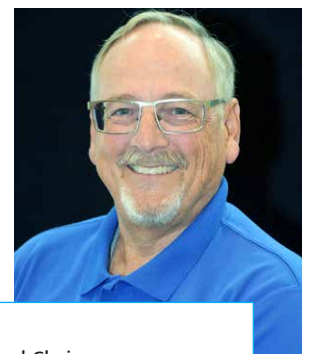
ARTICLES

- Women in Mechanical and Electrical Engineering 12
- Free 2TB Data Storage 13

NSREC 2023 will be held at the Sheraton Kansas City Hotel at Crown Center, Kansas City, Missouri. The conference is sponsored by the IEEE Nuclear and Plasma Science Society (NPSS) with guidance provided by the Radiation Effects Steering Group (RESG). Keith Avery, Air Force Research Laboratory, is the General Conference Chair, and Robert Reed, Vanderbilt University, is RESG Chair. Corporate supporters of the conference include The Aerospace Corporation, Analog Devices, The Boeing Company, EMPC, EPC Space, Frontgrade, Honeywell, IR HiRel Products, An Infineon Technologies Company, Jet Propulsion Laboratory, L3Harris, Radiation Test Solutions, Renesas, SkyWater Technology, and Southwest Research Institute.

The NSREC organizing committee has worked hard to offer an interesting venue and outstanding program for this year's conference and will continue the tradition of previous Nuclear & Space Radiation Effects Conferences by offering a Technical Program, a Short Course that precedes the technical program, a Radiation Effects Data Workshop, and an Industrial Exhibit. Engineers, scientists, and managers from around the world who are interested in radiation effects will attend.

Please visit the NSREC website (www.nsrec.com) for 2023 conference details and travel planning tips.



Keith Avery
NSREC 2023 General Chair
Air Force Research Laboratory

"It is my distinct honor to invite you to attend NSREC 2023 in the heart of America, Kansas City, Missouri. My Conference Committee and I are excited to host all of you with some Midwest hospitality while providing an outstanding conference and time to enjoy all of the social opportunities. Kansas City is known as the City of Fountains and home to professional sports, world class art, museums, music, and some of the best barbeque in America. The NSREC website will provide extensive links to all that Kansas City has to offer. Start planning your adventure now! On behalf of the many who make NSREC possible, I welcome you to NSREC 2023. Kansas City, here we come!"

NSREC

Cont. from PAGE 1

TECHNICAL PROGRAM

The Technical Program Chair, Jonny Pellish, NASA Goddard Space Flight Center, and his team have assembled an outstanding set of technical papers that are organized into ten oral sessions and a poster session. Papers presented in the NSREC technical sessions are expected to be submitted for publication after the conference in the January 2024 issue of the *IEEE Transactions on Nuclear Science* (TNS), subject to the independent TNS peer-review process. A Radiation Effects Data Workshop is also included in the Technical Program with papers that emphasize data on electronic devices and systems and descriptions of new simulation tools and radiation test facilities. These papers will appear in a non-peer reviewed workshop record. In addition to the contributed papers, three invited talks will be presented that are of general interest to conference attendees and their companions.

NSREC 2023 will have three exciting guest speakers whose talks are open to technical attendees and their guests:

Negro League Baseball — The Giants. Why is it important to us today?

Phil S. Dixon, Researcher, Writer, and Co-Founder of the Negro Leagues Baseball Museum, Kansas City, Missouri

KANSAS CITY GIANTS; ONE OF THE FASTEST SEMI-PRO TEAMS IN WEST



Brewing Beer: Process Overview from Grain to Package

Rob Odell, Fermentation Supervisor, and Taran Winnie, Brewing Team Member, Boulevard Brewing Company, Kansas City, Missouri



Kansas City National Security Campus Through the Decades

Dr. John Jungk, Chief Technology Officer, Honeywell Federal Manufacturing and Technologies, Kansas City, Missouri



SHORT COURSE

The Short Course Chair is Ethan Cannon, The Boeing Company. The theme of the 2023 course is "Radiation Considerations for Board-Level Computing Systems."

Presentations and speakers for the four sessions are:

Advancements and Challenges with Radiation-Tolerant Spaceflight Computers

Tyler Lovelly, U.S. Air Force Research Laboratory

Radiation Effects in FPGAs and SoCs

Nadia Rezzak, Microchip Technology, & Pierre Maillard, AMD

Radiation Effects in Data Links

Zac Diggins, Cyclo Technologies

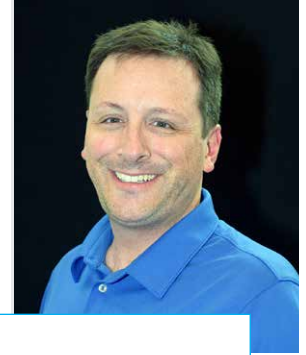
Experimental Evaluation of Artificial Neural Networks Reliability: from GPUs to Low-Power Accelerators

Paolo Rech, University of Trento, UFRGS

SOCIAL EVENTS

Sarah Armstrong, NAVSEA Crane, is the Local Arrangements Chair who has arranged an exciting social program in Kansas City.

- » The Conference Social will be held at the Negro Leagues Baseball Museum and the American Jazz Museum on Wednesday evening.
- » Two companion events include tours of Harry S. Truman Presidential Library and the Kansas City Zoo.



Jonathan Pellish
Technical Program Chair



Ken LaBel
Industrial Exhibits Chair



Teresa Farris
RE Vice Chair, Publicity

INDUSTRIAL EXHIBIT

An Industrial Exhibit will be included as an integral part of the conference and will be chaired by Ken LaBel, SSAI, Inc./NASA GSFC. Exhibitors will include companies or agencies involved in manufacturing electronic devices or systems for applications in space or nuclear environments, modeling and analysis of radiation effects at the device and system level, and radiation testing. Exhibit sales are currently open, and information is available at www.nsrec.com.

Teresa Farris, Radiation Effects VP for Publicity can be reached by E-mail at teresa.farris@archon-llc.com

2023 IEEE Nuclear Science Symposium and Medical Imaging Conference (NSS/MIC) and Room-Temperature Semiconductor Detectors Conference (RTSD)

3rd – 11th November 2023



Vancouver Science World, location of the NSS dinner

The 2023 IEEE Nuclear Science Symposium and Medical Imaging Conference, together with the International Symposium on Room-Temperature Semiconductor X-Ray and Gamma-Ray Detectors will be held in Vancouver, B.C., Canada November 3rd to November 11th in the Vancouver Convention Centre. At the time of writing, the first call for abstracts has been sent out. A major change implemented this year is the publication of Conference Abstracts in Xplore, which will serve as the Conference Record. This will ensure a timely record of the conference content, while minimizing any potential conflict with a more extensive manuscript on the same topic that authors may want to submit for peer review publication.

The conference planning itself is well on its way. Most of the plenary speakers have been chosen (possibly already announced on the conference website by the time this Newsletter is distributed); we endeavored to follow the NPSS WIE pledge in our selection of speakers. Eight short courses have been defined — they will run from Saturday, November 4th to Tuesday, November 7th. They include some of the previously presented and extremely well received materials and cover some new areas: Fast timing detectors — materials and readout; Integrated circuits for detector signal processing and radiation hardened design; Radiation detection and measurement; Real-time machine learning for physics; Medical image reconstruction: from foundations to AI;

PET kinetic modeling and parametric imaging, GATE, a Monte Carlo simulation platform for imaging and therapy; and Artificial intelligence in nuclear medicine image analysis and processing. Full course syllabi and biographical sketches of course instructors should already be on the

conference website and potential attendees can review them before making decisions to register for these courses.

As of now, we are planning to offer three workshops — the selection criterion was to identify emerging areas that may soon become mainstream and have a significant technical or educational impact in the field: Ultra-low-dose PET imaging, a workshop on single photon avalanche diode (SPAD) detectors to foster conversation between designers and users of these devices and a Young Investigator Workshop, which will provide an opportunity for young researchers to directly interact with and be mentored by established senior scientists and representatives from relevant industries. More detail is given on the conference website. Refresher courses are also planned and will be finalized in the next several weeks. As every year, recipients of the relevant NPSS Awards will be honored at the meeting. In addition to the regular events, NSS is planning a special session to honor the late Marek Moszynski's vast contributions to the radiation instrumentation community.

We also already have a good industrial exhibit presence with more than 60% of booths sold by end of March. As of today, we plan to open the Industrial Exhibition from Tuesday through Thursday; we anticipate having a relaxing networking opportunity during the "Happy Hour" reception on Tuesday evening. The presentations



Vesna Sossi
General Chair

from the Exhibitors where they can present their latest developments and products, so called technical talks, are foreseen to take place on Wednesday.

All the venues for the social events have been chosen: the RTSD lunch will be held in the Pinnacle, a revolving top floor restaurant with 360° views of the city and the mountains (and we'll keep our fingers crossed for blue skies). The NSS dinner will take place at the Science World, while the MIC dinner attendees will be able to explore different varieties of marine inhabitants while enjoying their food at the Vancouver Aquarium.

Each year we aim to offer as much financial support as possible to our participants as well as recognition to distinguished people in the field. This is accomplished through donations and society support. At this time, most grant deadlines have passed and we are hoping that there will be sufficient funding to support all of the applications. Please remember that we are still accepting applications for the Paul Phelps Continuing Education Grant and the NPSS Child Care Assistance Grant, which is aimed at providing financial support for participants who require childcare on site. More details are available directly on the conference page <https://nssmic.ieee.org/2023/information/#Grants-Awards>

We are really excited to welcome you to Vancouver and are striving to make this an unforgettable meeting; we are working on a few more ideas on how to make this meeting even more vibrant and forward looking — stay tuned for the next newsletter and keep checking the website!

And finally, I would also like to take this opportunity to thank all of you who have submitted abstracts and all the reviewer volunteers who generously donate their time to ensure that this meeting maintains and exceeds its standard of continued excellence.

Vesna Sossi, 2023 NSS/MIC/RTSD General Chair, can be reached by E-mail at vesna@phas.ubc.ca

President's Report

In February I attended my first IEEE Technical Activity Board (TAB) meeting series in my capacity as NPSS President. The IEEE current financial and operational status was reported to be currently in good health; ongoing challenges presented by the continuously evolving open access (OA) requirements and conference delivery formats are met by creation of new opportunities such as efforts to increase the number of 'Read and Publish' agreements and possible inclusion of new products when renegotiating publication arrangements. Hybrid conferences are spurring creative ways to enhance in-person experience leading to value-added for attendees, while making conferences more widely accessible through virtual participation, thus possibly reaching new audiences. The IEEE Meetings, Conference & Events (MCE) group is actively researching novel conference organization and delivery formats and can serve as a useful resource when planning our own.

The meeting series was heavily focused on presenting current IEEE strategic directions and identifying future relevant areas for technological development at several timescales, ranging from three-to-five-years-long initiatives to envisioning the world's needs 30 years from now. Climate change, increased industry engagement and Smart Technologies and Innovations Applied to the Food Supply Chain (SmartAg) were presented as important strategic priorities. Some of the several interesting new IEEE future directions initiatives include Metaverse (<https://cmte.ieee.org/futuredirections/projects/ieee-metaverse/>), an effort to organically merge the physical and cyber world) and Wireless Power Technologies (<https://cmte.ieee.org/futuredirections/2018/04/17/disruptive-technologies-for-a-smart-planet-impacting-beyond-2040-iv/>), i.e., designing efficient solutions to wireless transfer of electricity in response to a rapidly increasing demand for electric power).

The need to foster interactions among IEEE societies was stressed in several contexts: successful implementation and advancement of the strategic priorities require multiple areas of expertise; development of educational resources, humanitarian activities and definition of best practices to promote Diversity and Inclusion (D&I), benefit from sharing experiences and ideas across operational units (OU). TAB level committees exist for most such programs and they often call for volunteers to serve on their committees; I would encourage any of you who may have an interest in active participation to reach out for more information. Similarly, I would encourage you to check out already available resources in several of these areas, if relevant to your field or activities.

The TAB meeting series was followed by our first AdCom retreat held at the usual March date following the pandemic: we all realized the vibrancy conferred by in-person interactions. The overall theme of the retreat centered on improving communication and interactions between different NPSS areas to work more effectively towards our strategic goals and find ways in which NPSS can better serve the educational, research and professional development needs of our community. We focused on the following three topics:

1. Restructuring of the Communication Committee (ComCom), including change to the Newsletter format;
2. Modification of the initiative funds application process and seed ideas for initiatives;
3. Improving the communication among Technical Areas.

Restructuring of the ComCom committee, under the leadership of Peter Clout, reflects the fact that effective communication is key to successful collaborations and growth and so is the need to reach and listen to a broad range of audiences. The proposed new ComCom composition will include: the ComCom Chair, President (Ex-officio on all NPSS committees), TC Chairs or their designee, Publication Committee Chair, Conference Committee Chair, Membership Committee Chair, Regional Membership Committee Chairs, Webmaster, Social Media Host, Email Blast Editor and the Newsletter Editor. And here I would like to pause to welcome our new Membership Chair, Robert Miyooka. Robert has a long and productive history with NPSS, he comes the NMISC community, has served in multiple roles, including conference treasurer, AdCom elected member, and chair of the NMISC Initiative subcommittee.

Martin Purschke presented a first iteration of a more interactive newsletter format — substantial changes are expected for 2024 — stay tuned!

We adopted a new initiative submission process meant to facilitate involvement of a broader community, if collectively beneficial: draft applications will be requested by end of February. These applications will be discussed in a free format during the AdCom annual retreat, where additional contributions to/interest in any initiative will be discussed amongst AdCom members. Applicants will then be able to revise an application if appropriate, and submit it for final evaluation in early May. Seed ideas for initiatives in D&I and climate change were discussed.



Vesna Sossi
IEEE NPSS President

And finally, we discussed how different technical areas address topics such as: how they are increasing the value of membership to attract junior and diverse people from academia and industry, how they are promoting applications of initiatives and how they would benefit from stronger interactions with other technical areas. The aim of this part was to identify common successes and problems and learn from each other. Effective use of the initiative process and dissemination of NPSS mission and activities to a broader audience were identified as common challenges; discussions during a breakout session led to several suggestions for improvement. Our VP, Sara Pozzi, will compile common ideas into a summary of 'best practices' reflecting the collective wisdom. This is meant to be an evolving document to be revisited regularly. An important component will be facilitation of dissemination of NPSS activities at our conferences, likely in the form of a set of slides made available to General Chairs for their introductory remarks and additional material to be presented at the membership desks.

We'll assess our progress at our June AdCom meeting. Any ideas, comments and involvement from any of our members are always welcome. Please reach out to our secretary, Albe Larsen, our VP, Sara Pozzi, or myself with any suggestions: let's continue making our society an IEEE flagship!

Vesna Sossi

Vesna Sossi
IEEE NPSS President

Vesna Sossi, IEEE NPSS President, can be reached by E-mail at vesna@phas.ubc.edu

Secretary's Report

As our new president Vesna Sossi noted, we held our first regular in-person March AdCom retreat and meeting since the start of the pandemic in 2020 in San Diego, CA. The meeting was hybrid with full virtual attendance offered, but we had a substantial attendance in person, about three-quarters of the attendees.

Ralf Engels, our treasurer, reported that conference closings are going well and conferences are meeting their budgets. However, because most of the 2020, 2021 and many 2022 conferences were virtual or hybrid, income was substantially lower than in prepandemic times, Publication income remains strong but not all of our journals are meeting their paper numbers. The effects of open access requirements are not yet discernable but there will most probably be a significant income decrease in the next several years which will limit NPSS's opportunities to engage in initiative programs that benefit our members and our world.

Ralf also noted that gifts over \$100 are not allowed, and that all conference treasurers must use our conference budget software. AdCom members report expenses using Concur.

John Verboncoeur, the TAB VP and our Financial Committee vice chair, reported on current challenges and opportunities including threats to revenue from open access and from the uncertainties of hybrid meetings where operating costs are higher and in-person attendance is lower with less leverage for on-site expenses such as AV, food and beverages and so on. However, the hybrid conferences do allow attendance for those unable to travel and have enabled more students to participate.

Our conferences are going well in both hybrid and in-person formats. AdCom has also approved a number of new initiatives and modified the initiative process. Our journal, TRPMS, will soon see its first impact factor!

ADCOM ACTIONS

- » PAST requests approval of Technical Sponsorship for Advanced Accelerator Concepts Workshop AAC'24. Approved: 25 Y, 0 N, 0 A.
- » PAST requests waiver of the IEEE administrative fee. Passed: Unanimous
- » RE moves that AdCom approve that the 2023 RADECS (Radiation and its Effects on Components

and Systems) conference be an NPSS technically co-sponsored conference. Passed: Unanimous.

- » RE moves that AdCom approve that the 2023 RADECS (Radiation and its Effects on Components and Systems) Data Workshop be an NPSS technically co-sponsored conference. Passed: Unanimous
- » The Nominations Committee Chair moved and Sara Pozzi seconded a motion that AdCom approve the following membership of the 2023 Nomination Committee: Steven Meikle (Past President & NC Chair); David Abbott (CANPS); Martin Nieto Perez (FTC); Andrew Goertzen (NMISC); Wolfram Fischer (PAST); Heather O'Brien (PPST); Brad Hoff (PSAC); Robert Reed (REC); Srilalan Krishnamoorthy (RISC). Approved: Unanimous.
- » AdCom approves expansion of the scope of budget authority by the NPSS Chapters Program to allow use of up to \$5,000/yr to support free one-time-only IEEE+NPSS undergraduate student memberships in order to support NPSS student chapters in low-income countries. • Endorsed by FinCom 02-Mar-2023 • Financial impact: none; uses existing budget. Passed: Unanimous.
- » AdCom approves support of the Coalition for Plasma Science in 2023- 2025 at \$7,000/yr. • Financial impact: \$7,000/yr, tentatively includes: \$1500 for high-school science fair awards; \$1500 for undergraduate conference poster award; \$2000 for PlasmaNET workshop (e.g., support K-12 teachers' participation); \$2000 congressional visits and for updating and maintaining the CPS website. Approved: 23 Y, 3 N, 1 A.
- » A vote on proposed changes to the NPSS C&BL to reduce the required number of elected members of the steering committees of elected technical committees was postponed to meet the 30-day requirement for AdCom review. This was approved by a special meeting of AdCom held on March 21, 2023.

PROPOSED CHANGES TO THE ISSS NPSS CONSTITUTION AND BYLAWS

Please note that any objections to these changes should be sent to the NPSS secretary as soon as possible.

ARTICLE V, SECTION 9, NPSS CONSTITUTION

Current

(c) Each Elective Standing Technical Committee shall



Albe Larsen
IEEE NPSS Secretary and Newsletter Editor

consist of at least 15 members and shall be governed according to a written Constitution and Bylaws approved by the committee and by the AdCom which shall include the following: (1) Provision for periodic election of officers; (2) Provision for amendment of their Constitution and Bylaws subject to the approval of the AdCom; (3) A statement of criteria for membership.

Proposed

(c) Each Elective Standing Technical Committee shall consist of at least 9 members and shall be governed according to a written Constitution and Bylaws approved by the committee and by the AdCom which shall include the following: (1) Provision for periodic election of officers; (2) Provision for amendment of their Constitution and Bylaws subject to the approval of the AdCom; (3) A statement of criteria for membership.

SECTION 7.6 OF THE NPSS BYLAWS

Current

7.6. Appointive Standing Technical Committee shall gain elective status by presenting a petition requesting such status signed by at least 15 members of the Committee, which shall demonstrate that the requirements of Article V, Section 9 of the Constitution have been met. Approval of the elective status of a Standing Technical Committee shall be processed as an amendment to the Bylaws in accordance with Article X of the Constitution.

Proposed

7.6. Appointive Standing Technical Committee shall gain elective status by presenting a petition requesting such status signed by at least 9 members of the Committee, which shall demonstrate that the requirements of Article V, Section 9 of the Constitution have been met. Approval of the elective status of a Standing Technical Committee shall be processed as an amendment to the Bylaws in accordance with Article X of the Constitution.

Albe Larsen, IEEE NPSS Secretary and Newsletter Editor, can be reached by E-mail at amlarsen@slac.stanford.edu

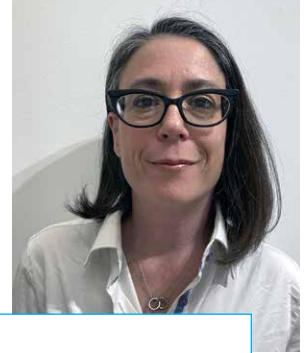
New AdCom Member: Giulia Hull

Giulia Hull received her Ph.D. in Physics from the University "Roma Tre" (Rome, Italy) in 2005, defending an experimental thesis on the development of new scintillator-based instrumentation for medical imaging applications. She further pursued this research activity as a post-doctoral collaborator for another year. In 2006 she joined the Lawrence Livermore National Laboratory (LLNL) as Post-Doctoral Research Staff member in the "Physics and Advanced Technologies" directorate. Her work at LLNL focused on the study of the detection properties of new scintillator materials, with particular attention to the light yield, the energy resolution and the nonproportionality effect.

In 2010 Giulia Hull joined the Centre National de la Recherche Scientifique (CNRS), in France, as a Research Engineer, and since 2019 she is Senior Research Engineer. From 2010 to 2016 she was a member of the "R&D Detectors" group of the "Institut de Physique Nucléaire d'Orsay" (IPNO) and from 2017 she was

head of the group. Since 2020, she is the head of the "Particles Detectors and Instrumentation" group in the Engineering Department of the "Laboratoire de Physique des 2 Infinis Irène Joliot-Curie — IJCLab", a recently established laboratory resulted from the merging of five institutes, including the former IPNO.

Detectors and detection properties have always been at the heart of Giulia Hull's research interests. Her current activity is centered on the design and R&D of ionizing radiation detectors for physics experiments in different applications. In particular she is the lead engineer for the development of photodetectors and scintillator-based detectors. Her most recent work includes the development of the calibration system for NectarCam, a medium size telescope at Cherenkov Telescope Array, the development of the Neutral Particle Spectrometer at JLab, R&D activity on the new LiquidO detection technique, and the R&D for a new generation shashlik calorimeter for high-energy physics experiments.



Giulia Hull
AdCom Class of 2026, RISC

Since 2008 Giulia has been a reviewer for the IEEE Transactions on Nuclear Science; she was a RISC member in 2019-2021, and currently she is chair of the subcommittee to revise the RITC Constitution and Bylaws.

Giulia Hull can be reached by E-mail at giulia.hull@ijclab.in2p3.fr

Nuclear Medical and Imaging Sciences

By the time this newsletter is published abstracts will have been received for the 2023 NSS/MIC/RTSD meeting that will be held in Vancouver, Canada from 4th – 11th November 2023. The meeting will again be a hybrid format meeting that builds on the success and experience of the 2022 hybrid meeting in Milan. Please keep an eye on the conference website and your email for announcements related to this meeting.

NMISC members, supported by the NPSS Education Committee, organized an IEEE NPSS School on Advanced Topics in PET/CT and PET/MR. The school was organized in conjunction with the Thai Medical Physicist Society (TMPS) and held from 27th January – 1st February 2023 in Nan and Bangkok, Thailand, coinciding with the 2023 Annual Scientific Meeting of the TMPS. There were 25 participants from Thailand, Indonesia and Myanmar. Five on-site and four remote instructors provided refresher lectures on the physics of PET, CT, MRI and hybrid imaging and topical lectures on image reconstruction, AI in medical imaging and kinetic modelling. On-site school instructors were also able to present lectures at the TMPS Meeting and run hands-on workshops for students. The school also included a Women in Engineering (WIE) event and student presentations. I want to acknowledge and thank the organizing committee led by Roger Fulton and his

counterpart in Thailand Professor Anchali Krisanachinda from King Chulalongkorn Memorial Hospital for organizing this successful event. I also want to thank the school instructors and lecturers Margaret Daube-Witherspoon, Kris Thielemans, Guobao Wang, Andrew Reader, Martin Grossmann, Chao Ma, Steven Meikle, Youngho Seo and Cinzia Da Via. Please read the full report about the school in this newsletter prepared by Roger Fulton and Martin Grossmann. This was the first time that NMISC has organized an NPSS School and I hope that this successful event can serve as a template for future schools.

The deadline for nominations for the 2023 NMISC Awards is July 15th, 2022. These awards, normally presented at the NSS/MIC/RTSD meeting, are the Edward J. Hoffman Medical Imaging Scientist Award, given annually to an individual in recognition of outstanding contribution to the field of medical imaging science; the Medical Imaging Technical Achievement Award, given annually to a mid-career individual who has made significant and innovative technical contributions to the field of medical imaging science; and the Bruce Hasegawa Young Investigator Medical Imaging Science Award, given annually to a young individual in recognition of significant and innovative technical contributions to the field of medical imaging



Andrew Goertzen
NMISC Chair

science. Please consider nominating a colleague or encouraging others to nominate a deserving candidate. Further information can be found at: <https://ieee-npss.org/technical-committees/nuclear-medical-and-imaging-sciences/>

Nominations for the 2024 – 2026 Nuclear Medical and Imaging Sciences Council (NMISC) Member-at-Large terms are now open. NMISC manages the Nuclear Medical and Imaging Sciences Technical Committee and its conferences. These three-year terms allow members to become active in Technical Committee and IEEE activities and guide the future of NMISC. Please send nominations to NMISC Secretary Nicolas Karakatsanis (nak2032@med.cornell.edu). The nomination deadline is June 1st, 2023.

NMISC has an Initiative Subcommittee chaired by Robert Miyaoka, created to support the development of applications to the NPSS Strategic Initiatives funding program. We are actively seeking expressions of interest from the MIC community for new initiatives. Initiatives are meant to advance NPSS priorities and can provide funding for multiyear projects. We have had a proposal

advanced to develop an Instrumentation Hardware Library that would establish a library of components that can be loaned to research groups and NPSS Schools. If you are interested in leading this proposal or proposing a new initiative concept please reach out to me or to Robert (rmiyaoka@uw.edu).

More information on NMISC activities is available at <https://ieee-npss.org/technical-committees/nuclear-medical-and-imaging-sciences/>

Andrew Goertzen, NMISC Chair, can be reached by E-mail at Andrew.Goertzen@umanitoba.ca

Radiation Instrumentation Steering Committee

As we reach the half-way mark in 2023, it is almost time for the first RISC-related conference of the year. ANIMMA 2023 will be held from June 12th – 16th in Lucca, Italy. Unlike RISC-associated conferences in the past three years, all of which have either been virtual-only or hybrid, ANIMMA 2023 is an in-person-only event. Preceding the conference, a two-day workshop has also been organized in Pisa, which is a short ride away from Lucca. Early registration for the conference would be closed by the time this newsletter gets distributed, but I encourage everyone to register as soon as possible.

The 2024 NSS/MIC conference will be held in Tampa (Florida, USA) with Lorenzo Fabris from Oak Ridge National Laboratory (USA) as the General Chair. The conference Joint Oversight Subcommittee (JOS) is currently evaluating proposals for the 2026 NSS/MIC conference which will be held in Europe and a decision is expected soon.

As every year, nominations for the various Annual Radiation Instrumentation awards are due by July 15th.

- » The Radiation Instrumentation Early Career Award (RIECA) is given to a young investigator in recognition of significant and innovative technical contributions to the fields of radiation instrumentation and measurement techniques for ionizing radiation. The prize consists of US\$1,500 and an engraved plaque. The past recipients of the RIECA can be found on the Radiation Instrumentation Technical Committee (RITC) web page.
- » The Emilio Gatti Radiation Instrumentation Technical Achievement Award (RITAA) recognizes a mid-career individual who has made significant and innovative technical contributions in the field of radiation detectors, radiation instrumentation, and/or nuclear electronics, and/or measurement techniques for ionizing radiation. The prize consists of US\$2,000 and an engraved plaque. The past recipients of the

RITAA can be found on the Radiation Instrumentation Technical Committee (RITC) web page.

- » The prestigious Glenn F. Knoll Radiation Instrumentation Outstanding Achievement Award (RIOAA) is given to an individual in recognition of outstanding and enduring contributions to the field of radiation instrumentation. The prize consists of \$3,000 and an engraved plaque. The past recipients of the RIOAA can be found on the RITC web page.

Please send your nominations to the current RISC Awards Chair, John Valentine (JDValentine@lbl.gov)

Also, a reminder that every year, five members from the radiation instrumentation technical community are elected to a three-year member-at-large position in the Radiation Instrumentation Steering Committee (RISC). Nominations for the 2024 – 2026 term are now open. RISC manages the Radiation Instrumentation Technical Committee and its conferences. There are several members in our community who can contribute to the future of our RITC community as well as to NPSS and IEEE. Please nominate yourself or an interested colleague. Nominations are to be sent to Christer Fröjdh (christer.frojdh@miun.se) who is the current RISC Nominations Chair. The nominations deadline is June 1st, 2023.

More information on the Radiation Instrumentation Technical Committee is available at <https://ieee-npss.org/technical-committees/radiation-instrumentation/>

Srilalan Krishnamoorthy is with University of Pennsylvania; Phone: +1 (215) 746-6892; Mobile +1 (631) 355-9958; E-mail: srilalan@penntestmed.upenn.edu



Srilalan Krishnamoorthy
RISC Chair

PERHAPS THEY SHOULD JUST BE LAID OFF

If all the economists were laid end to end, they would not reach a conclusion.

George Bernard Shaw

IN VINO VERITAS

And Malt does more than Milton can to justify God's ways to man

A.E. Housman

BUT NEVER THEIR OWN

The trouble with socialists is that they always run out of other people's money.

Margaret Thatcher

AND OF OUR CHILDREN

Government is the great fiction through which everybody endeavours to live at the expense of everybody else.

Frédéric Bastiat

AND (ALMOST) EVERYBODY LOSES

In the Soviet Union, capitalism triumphed over communism. In [the United States] capitalism triumphed over democracy.

Franz Lebowitz

EDUCATIONAL and TRANSNATIONAL COMMITTEES

SCHOOL ON ADVANCED TOPICS IN PET/CT AND PET/MR IN THAILAND

The EduCom school on "Advanced Topics in PET/CT and PET/MR" was held in Thailand Jan 27th – Feb 1st, 2023. It took place in two different locations: first we went to Nan in the North of Thailand, where our school was attached to the annual meeting of the Thai Medical Physicist Society, TMPS. Then we moved to Bangkok for three days where we had access to medical imaging facilities at the King Chulalongkorn Memorial Hospital

It was the first school organized by NMISC. We thank the NMISC planning committee and our local counterpart in Thailand, Anchali Krisanachinda, who with her team did an excellent job in preparing the event and making sure that everything went smoothly on site.

The participants had to apply on our website and fill in a questionnaire. In total we selected 25 participants (15 female, 10 male; 22 from Thailand, one from



Clockwise from top right:

Running the EasyPET exercise at King Chulalongkorn Memorial Hospital

Students working on the exercises for AI in medical imaging

Three generations of speakers at the WIE event

Wuri from Indonesia had to take along her little daughter and the babysitter in order to attend the EduCom school — only the youngest student doesn't seem to be happy

Attendees at the WIE event to raise awareness for IEEE and NPSS

Meeting for dinner after the WIE event

Students and lecturers at the Thai Medical Physicists Society meeting in Nan

Coffee table discussion on medical imaging

Indonesia, two from Myanmar). Five teachers (Margaret Daube-Witherspoon, Guobao Wang, Kris Thielemans, Andrew Reader, and Martin Grossmann) traveled to Thailand to lecture and run practical exercises on PET, PET/CT, image reconstruction, kinetic modeling and AI in medical imaging. Three remote lecturers (Chao Ma, Steven Meikle, and Youngho Seo) gave refresher courses on MRI, CT and hybrid imaging.

The hands-on workshops were, as always, a very important part of the school. For image reconstruction, AI and kinetic modeling we had prepared exercises that students could run either remotely on the UK's STFC JupiterHub platform or locally on their own laptops using a virtual machine. The EasyPET kit that demonstrates basics of PET imaging could use F-18 samples produced by the hospital in Bangkok. For the PET/CT quantification workshop we were able to use the hospital's scanner.

All teachers also gave invited plenary presentations at the TMPS meeting about their field of research. Additionally we were invited to make a 40-minute presentation about IEEE, NPSS and the EduCom program — an excellent opportunity to fly the flag for our society to over 200 participants from Thailand and neighboring countries.

One afternoon was dedicated to the WIE event. We had one remote (Cinzia Da Via) and eight local speakers who ranged from senior scientists (who had pioneered medical physics in Thailand) to young professionals to Ph.D. students and even a high-school student so the WIE event at the Bangkok school featured presentations by local speakers from all generations. The talks were very motivating and high quality, demonstrating the impressive impact that women scientists have made in Thailand. You can watch the recording of the individual presentations here: <http://spotsan.ch/WIE>

Individual presentations by all students about their own research or their research interest rounded up the program on the last day, and at the end each student received a certificate.



Martin Grossmann
TNC Chair

In summary it was a very successful school: the facilities in Nan and Bangkok were excellent which made it an enjoyable experience for students and lecturers. The knowledge level of the participants was high, and they took home tools that allow them to independently extend their knowledge and skills. Our presence at the TMPS meeting raised awareness of IEEE, NPSS and its activities.

Roger Fulton can be reached by E-mail at roger.fulton@sydney.edu.au and Martin Grossmann can be reached by E-mail at martin.grossmann@psi.ch

Awards

The Nuclear and Plasma Sciences Society gives three different categories of awards each year. Some Awards are given by the Society, some by a Technical Committee, and some by individual Conferences. In addition, there are several IEEE-level Awards for technical achievement in areas that overlap with the NPSS. There are a wide variety of awards, recognizing accomplishments from student and early-career researchers all the way to more senior contributors. Many of the awards are designated for particular technical areas. Detailed descriptions of these awards are available at: <https://ieee-npss.org/awards/npss-awards/>

The deadline for receiving nominations for most of these Awards is January 31st of each year. Please consider nominating a colleague for one of these awards.

If you have any questions, Ron Schrimpf, NPSS Awards Chair, can be reached by E-mail at ron.schrimpf@vanderbilt.edu



Ron Schrimpf
Awards Chair

NPSS Foundation Fund

The NPSS Foundation Fund was established in 2021 to support NPSS projects for educational, outreach, diversity or humanitarian purposes, consistent with the IEEE's mission to foster technological innovation and excellence for the benefit of humanity.

As a subsidiary of the IEEE Foundation, the Fund is able to receive donations from individuals, and limited amounts of unspent NPSS initiative funds and operating surpluses that would otherwise go into IEEE reserves.

Individuals can donate to the Fund at <https://ieee-npss.org/technical-committees/npss-foundation-fund/>. If you are interested in knowing more about the NPSS Foundation Fund, please take a look at this webpage and consider making a donation. Your generosity will enable NPSS to:

- » Expand its support for NPSS Schools on instrumentation and medical imaging in developing regions,
- » Improve the living conditions and access to education for people in remote parts of the world through humanitarian projects,
- » Promote the participation of women and other minorities in NPSS-related engineering and scientific professions and
- » Support fellowship grants and awards for students and early career researchers in NPSS-related fields.

Roger Fulton, NPSS Foundation Fund Chair, can be reached by E-mail at roger.fulton@sydney.edu.au



Roger Fulton
NPSS Foundation Fund Chair and Thai
Medical Imaging School Organizer

NOMINATIONS

Five NPSS AdCom positions are open for nomination. The NPSS Administrative Committee (AdCom) includes elected members who represent our eight Technical Committees (TC) and the Transnational Committee. Five TCs have open positions starting in 2024 for a term of four years.

- » Computer Applications in Nuclear and Plasma Science (CANPS)
- » Fusion Technology (FTC)
- » Plasma Science and Applications (PSAC)

- » Pulsed Power Science and Technology (PPST)
- » Radiation Effects (REC)

If you are interested in one of these positions or want to nominate somebody, please contact our Nominations Chair, Steven Meikle, at steven.meikle@sydney.edu.au. Candidates must be members in good standing of the NPSS and the IEEE. Each nomination must contain a statement of the willingness and ability of the nominee to serve if elected, the membership status and number of the nominee, a short biography, and a statement of priorities that the candidate wishes to address as an AdCom member. Nominations must be sent to the Nominations Chair before June 1st, 2023.



Steve Meikle
Nominations Committee Chair

Steven Meikle, NPSS Nominations Chair, can be reached by E-mail at steven.meikle@sydney.edu.au

National Council on Radiation Protection

BOOK REVIEW OF *THE LEAK*

The Leak (by Robert P. Crease with Peter D. Bond, 2022, The MIT Press, Cambridge, MA) provides a comprehensive review of the incidents leading up to the unfortunate shutdown of the High Flux Beam Reactor (HFBR) at Brookhaven National Laboratory (BNL), one of the U.S. Department of Energy (DOE) multiprogram national laboratories located on Long Island, New York. A long chain of political and managerial incidents, with little technical basis, led to this decision in 1999 by Bill Richardson, then the Secretary of Energy in President Clinton's administration.

The HFBR was a 60 MW (maximum) reactor at BNL that started operation in 1965 and provided a source of neutrons for scientific research in materials science, chemistry, biology, and physics. It was one of only a few facilities in the U.S. available for neutron science. The facility had external neutron beams as well as irradiation positions for activation of samples and was an important source for neutron science in the U.S., including research associated with Nobel Prize winning science and medical isotope production. A major upgrade of the HFBR was proposed to occur in the early 2000s. In early 1997, while the HFBR happened to be shut down for routine maintenance and refueling, a relatively small amount of tritium (equivalent to that found in an Exit sign) was detected in groundwater south of the facility but well inside the BNL property boundary. This discovery led to a major series of events that ultimately could have permanently shut down the entire laboratory.

The book reports that further investigation showed that the leak came from the spent fuel pond and not the reactor. The spent fuel was removed from the pool, which then was upgraded with a stainless-steel liner. But it was too late since nuclear opponents were already spun up and spreading false news and sensational nonsense about the reactor and the laboratory in general.

The author of *The Leak* presents an in-depth story of the reaction of the public, special interest groups, the DOE, and local and national politicians to the events surrounding the discovery of the tritium leak. It is clear from the narrative that the entire series of trials and tribulations that followed were not handled well by any



Richard Kouzes
Liaison to NCRP

of the interested parties. Antinuclear groups made up stories about widespread contamination and nonexistent cancer clusters. The lab was required to report every step of discovery leading to sensationalized news headlines. Scientific facts were lost among the hype and the lack of understanding of science and technology by the public. Politicians teamed up with special interest groups to garner votes for reelection rather than supporting an unbiased investigation.

The book notes that the end result of two years of uncertainty, finger pointing, and misinformation was a political decision by Secretary Bill Richardson, under the influence of Hollywood celebrities, to permanently shut down the HFBR.

The HFBR is currently in a stabilized state to allow decay of the remaining radionuclides prior to future final decommissioning.

The Leak provides a fascinating insight into how not to manage a minor nuclear-related incident.

Richard Kouzes, liaison to NCRP can be reached by E-mail at RKouzes@iee.org

The Leak



**Politics,
Activists, and
Loss of Trust
at Brookhaven
National
Laboratory**

Robert P. Crease with Peter D. Bond

IEEE Smart Village and Rotary International: An Opportunity to Multiply Impact

Since its founding more than ten years ago by Ray Larsen and Robin Podmore, we at IEEE Smart Village (ISV) have expanded our primary mission. To support growth for greater impact, we have formed five Regional Working Groups within ISV, in four continents: this has improved our local presence through culturally connected IEEE members. Originally started to grow enterprises for solar lighting in underserved communities, we now mentor local enterprise to improve livelihoods through the productive use of technology. With this expansion in scope to use all technology from IEEE for electrifying rural economies, we also realized the need for expertise outside electrical engineering.

Rotary e-club Silicon Valley Smart Village (SVSV) was started almost two years ago by members of ISV, to broaden our impact with a wider spectrum of experts. The Rotary connection has expanded our expertise, areas of focus, and access to funding. In the first year of the partnership with Rotary, we started two telehealth initiatives in Africa, and deployed an oxygen plant in the mountains of India.

ISV provided Solar PV and telecom expertise for the telehealth initiatives in Uganda and Kenya. One of the

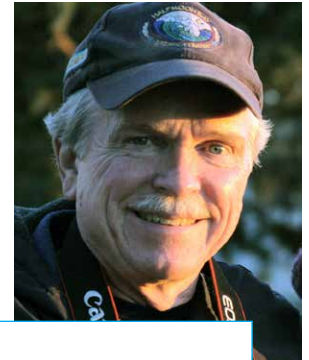
authors, Dr. Jack Higgins, a medical doctor from Rotary developed protocols for front-line medical practitioners in underserved communities to access backup expertise from remote medical experts. Software for maintaining this protocol is being developed by ISV volunteers in Africa, for a hub and spoke model utilizing local hospitals and doctors in country as first-line support, and overseas doctors as backup support. ISV provided \$70,000, supplemented by approximately \$130,000 from Rotary sources. These Rotary-sponsored projects have been completed and are now operational.

At the height of the COVID-19 epidemic in May-2021, a small Rotary Club in the mountains of India approached us with a unique proposal. Rotary Manali is located in an area that has a permanent population of five hundred thousand spread over 7,500 square miles. It is served by the 55-bed Lady Willingdon Mission Hospital in Manali, Himachal, India. Patients live in mountains between 5,000 feet and 11,000 feet. Oxygen cylinders are supplied via a 160-mile round trip that takes 8 hours.

Their leadership, Mr. Amitabh Sharma and Mr. Vimpy Bakshi contacted another of the authors, Dr. Rajan Kapur, through E-Club SVSV, to partner in deploying an



Rajan Kapur
President, IEEE Smart Village



Dr. Jack Higgins
Global Telehealth Network

oxygen plant at the Mission hospital. We jumped at the opportunity to provide a durable solution to a pressing need. The project started with a budget of \$86,000. As with ISV, Rotary has strict guidelines for projects they fund. In this instance we raised the funds entirely from sources associated with Rotary. We also provided technical assistance in reviewing the equipment for the plant.

In Aug-2021, Dr. Kapur visited Dr. Philip Alexander at the Mission hospital. He showed a covered site for the proposed oxygen plant, and back-up generator. He spoke about plans for training, operation and maintenance.

We are delighted to report that the deployment has been completed. A formal inauguration is planned, with Himachal state leadership invited to preside. The RC Manali team has overcome procurement, logistics, construction and price escalation hurdles as a show of their commitment to the community.

Rajan Kapur, ISV President, can be reached by E-mail at rajan.kapur@larankelo.com and Dr. Jack Higgins can be reached at jhigginsmd1@gmail.com.



How Can We Exploit the Strong Presence of Women in STEM and Push Them to Study Mechanical and Electrical Engineering?

The presence of women increases workplace diversity, resulting in a diverse range of viewpoints and ideas that can provide firms with a competitive advantage. More research is needed to determine how to address the issues that women in STEM fields, particularly mechanical and electrical engineering, face. Analyzing science, technology, engineering, and mathematics (STEM) education data for Egypt and the United Kingdom in parallel reveals that Egypt outperforms the average in terms of the number of women studying STEM. Women made up 43% of Egyptian university STEM students in 2017, compared to 35% in the UK and worldwide. Women were 47.2% of the student body in Egypt's university science faculty in 2018-2019, accounting for roughly half of Egypt's STEM graduates. Moreover, the percentage of female graduates per subject is as follows: agriculture 49.4%, engineering 20.9%, health & welfare 56%, natural sciences 64.2%, and ICT 36.8%.¹

REASONS THAT PREVENT GIRLS WITH A DEEP INTEREST IN MACHINES FROM TAKING UP MECHANICAL OR ELECTRICAL ENGINEERING AS A CAREER.

A current network cooperation between Nile University in Egypt and Heriot-Watt University in Edinburgh is currently looking at the reasons that prevent girls with a deep interest in machines from taking up Mechanical Engineering as a career. They will discuss what can be done internally within the profession to accelerate the pace of change.

According to the Higher Education Statistics Agency (HESA) the participation rate for women in mechanical engineering degree courses rose sluggishly from 8% in 2012 to just 10% in 2016. This is against a background where the number of women accepted into full-time STEM undergraduate courses rose by 49% between 2010 and 2020. The participation rate for women in Electrical Engineering degree courses grew from 10% in 2012 to just 13% in 2016.²

The numbers of females that are in either the mechanical or electrical field from 13 colleges in Egypt, were 150 female students compared to 1266 male students between 2018 and 2020.³ In the case of Nile University in Egypt, female students represent 10% in the mechanical engineering field (2018-2022).

The twelve-month project, entitled *Unlocking the Equality Pipeline in Mechanical Engineering*, will form two parallel networks in the UK and Egypt, of 100 women at various stages of the career "pipeline" from first-year undergraduates to the most senior levels of the profession. The networks will be complemented by 100 men at similar career stages. Once formed, the networks will share their experiences of the challenges and opportunities they have faced in their careers, underpinned by periodic surveys aimed at identifying the "blockages" in the pipeline. The UK part of the study is being led at Heriot-Watt University and the findings collated alongside the work carried out by academics at Nile University.

The network will be formed from undergraduates, postgraduates and graduates of Heriot-Watt University and Nile University. As well as including the current undergraduate and postgraduate students and staff in mechanical engineering the research team will reach out to alumni stretching back to those who entered the University 40 years ago. A sub-project includes staff and students at Heriot-Watt's campuses in Dubai and Malaysia, offering the opportunity for cultural comparisons to complement those between Heriot-Watt and Nile Universities.

Dr. Irene Samy Fahim, Head of the Smart Engineering Systems Research Center at Nile University, said: "A wide plethora of research exists on women in STEM education, but research on female mechanical engineers in educational and employment settings is scarce, especially in the Middle East and North Africa region." In the domain of engineering, girls and mechanical engineering are frequently seen as incompatible, and in the current environment, one rarely finds girls pursuing mechanical engineering, she said. According to Irene,

most current industries use computer-driven machinery, and rising levels of automation and automated control systems that are driven by machines have altered shop-floor procedures. The necessary qualifications and skills for mechanical jobs have changed as a result. So, she thinks, women can study this subject just as well as men.

How do we attract even more women to these roles? Says Irene: "Female instructors in Mechanical and Electrical Engineering programs would be a significant factor in changing the perspective of aspirant students." Female faculty members are seen by female students as evidence of the existence of women in the areas of Mechanical and Electrical Engineering. "More importantly, the presence of women in positions of authority would encourage young women to pursue mechanical-engineering jobs."

WHY EGYPTIAN WOMEN ARE UNDERREPRESENTED IN STEM FIELDS AT THE PROFESSIONAL LEVEL?

Science, technology, engineering, and math (STEM) education in Egypt is advancing. At least 15 STEM high schools operated by the Education Ministry have been established since 2011. In 2017, 43% of Egypt's university STEM students were women which is higher than the percentage in the UK and all over the globe. The percentage increased to reach almost 47% in 2018/2019 as was reported in a higher education bulletin from CAPMAS. The percentage of female graduates by field is shown in the 2021 UNESCO scientific report using data from 2018: agriculture 49.4%, engineering 20.9%, health & welfare 56%, natural sciences 64.2%, and ICT 36.8%. According to UNESCO data, in 2018 only 46% of Egypt's total number of scientific researchers were women. This percentage exceeds the average percentage of female researchers in the Arab World, which accounts for around 43%, while female researchers in the EU only account for 34%.

1 <https://enterprise.press/wp-content/uploads/2021/06/%D8%A7%D8%AD%D8%B5%D8%A7%D8%A1-%D8%A7%D9%84%D8%B7%D9%84%D8%A7%D8%A8.pdf>
<https://unesdoc.unesco.org/ark:/48223/pf0000375429>

2 <https://educationhub.blog.gov.uk/2021/02/09/more-young-people-are-taking-stem-subjects-than-ever-before/>

3 CAPMAS (2021, November), Annual Bulletin of higher education & higher degrees graduates 2020



Irene Samy Fahim, author
Associate Professor, Nile University, Egypt

Dr. Fahim concluded “We are looking forward very much to this project. There are some clear cultural differences between Scotland and Egypt, but our discipline faces the same challenges. We also look forward to extending our engagement with Heriot-Watt University into the research and staff exchange arenas.”

Project lead, Professor Bob Reuben from Heriot-Watt’s School of Engineering and Physical Sciences, explains: “I have been committed to equality for all the 40 years that I have been teaching mechanical engineering in HW. This project gives us a chance to identify whether equality of opportunity exists for women in a quasi-longitudinal fashion by simultaneously engaging with both ends of the pipeline, complemented by published historical national benchmark data. Currently, we don’t see anywhere near as much growth in participation rate amongst women in mechanical engineering even when compared with other areas of engineering. We want to unpack equality of opportunity and participation rate

and, if we can, break any negative feedback loops that we can identify by publishing our findings.

“Do female university applicants not see modern mechanical engineering as a fulfilling career? Is there a societal bias about the subject? Has the environment in peer groups at school, university and in the workplace changed over the past decade? We’re unsure but we want that information to try to accelerate the pace change as it affects our subject.

“Mechanical engineering has shed its traditional, almost exclusive, association with cars, pumps, and engines. Whilst these remain important, the subject embraces everything that moves from micromachines in medicine to huge tidal turbines for renewable energy generation. As such it offers so much to men and women, and by encouraging more women and girls that this is an exciting and fulfilling career choice, we hope to contribute to a more equitable and diverse workforce to the benefit of everyone connected to the sector.”

Also working on the Heriot-Watt part of the project is Dr Yuhang Chen from the School of Engineering and Physical Sciences who is the Mechanical Engineering Admissions Tutor, and whose areas of research expertise include computational mechanics and biomedical engineering. He said: “This project is a great opportunity to publicize how exciting mechanical engineering is to those contemplating their university choice. In my own research area, participation rate amongst women appears much higher than in the subject in general and we hope that some of our research associates and Ph.D.

students will serve as role models in the network.”

Another partner in the project, Nahla M. Salatein, Ph.D., and researcher at the Smart Engineering Systems Research Center at Nile University, stated: “Women must engage in all fields in order for societies to advance and stay up with the times.” However, in some fields, such as the male-dominated fields of mechanical and electrical engineering, there is very little female participation, so we are striving to raise awareness among youth in society. Nahla says that we will focus on targeting universities and STEM schools and providing women mentors early in their careers, which should help dispel the “jobs for the boys” misconception.

“We hope to play a small part in this by documenting women’s work in engineering with all of its qualitative ramifications, highlighting success stories, and focusing on advancing and sustaining their presence in public and private sector institutions to emphasize the significance of women working in this profession and empowering them in the fields of Mechanical and Electrical Engineering.

Irene Samy Fahim is an Associate Professor of Industrial Engineering at Nile University and is an active member of the ISV community and of the Smart Village Silicon Valley Rotary e-club. She can be reached by E-mail at isamy@nu.edu.eg.

Start Using Your Free 2TB of Data Storage and Access Valuable Research Data Today

In addition to the numerous educational and networking opportunities included in your IEEE society membership, did you know that your membership also comes with a free individual subscription to IEEE DataPort? Just login to IEEE DataPort using your society member credentials to activate your free individual subscription, \$480 per year value

IEEE DataPort is IEEE’s sustainable data solution that thousands of scientists, researchers, and authors use to access, store, and manage research data. As a society member, you can search and download any of the 4,000+ datasets on IEEE DataPort to advance your own research more rapidly. In addition, you can upload your own datasets up to 2 TB to receive citations, obtain a DOI, and gain global exposure for your valuable research.

EXPLORING THE BENEFITS OFFERED BY THE IEEE DATAPORT DATA PLATFORM

All datasets added to IEEE DataPort are stored on Amazon Simple Storage Service (S3), a widely used AWS storage service that offers industry-leading scalability, data availability, security, and performance. Every IEEE DataPort member is given an AWS access key to upload datasets to or download datasets directly from AWS. In addition, since IEEE DataPort uses the AWS platform, individuals can use their other AWS computing resource subscriptions such as Amazon Athena, AWS data pipeline, or AWS Glue to perform more advanced analysis.



Figure 1. Key benefits offered to IEEE DataPort individual subscribers.

With IEEE DataPort, it is easy for users to find what they are looking for as all datasets can be searched by topic, author, keyword, or dataset type as shown in Figure 2.

Free 2TB of Data Storage

Cont. from PAGE 13

With your free individual subscription, you can access any dataset in the Cloud or by direct download. Datasets with a CC BY license can be copied, analyzed, or used for any other purpose with proper attribution. Since IEEE DataPort is integrated with 170 IEEE journals, you can easily upload your dataset and link it to your manuscript to strengthen your submission and support research reproducibility.

Another benefit of your free IEEE DataPort subscription is the ability to host Data Competitions. The Data Competition module allows users to host time-limited data challenges in which a dataset and DataPort Competition instructions are uploaded by the competition initiator. Members of the global technical community, or a specific set of participants, can then join the Data Competition and provide their specific analyses or make predictions based on the dataset.

Go to ieee-dataport.org/ today and login to activate your free individual subscription and start taking advantage of all the platform has to offer.

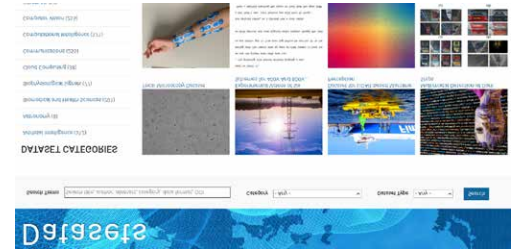


Figure 2. An example of the search functionality offered by IEEE DataPort.

For more information contact Melissa Handa at melissa.handa@ieee.org

ADCOM OFFICERS 2022

President Vesna Sossi
Vice President Sara Pozzi
Treasurer Ralf Engels
Secretary Albe Larsen

ADCOM CLASS OF 2026

Giulia Hull (RI)
Jae Sung Lee (NMISC)
John Lewellen (PAST)
Philippe Paillet (RE)

ADCOM CLASS OF 2025

Lorenzo Fabris (RI)
Martin Purschke (CANPS)
William White (PPST)
Tor Raubenheimer (PAST)

ADCOM CLASS OF 2024

Christine Coverdale (PSAC)
Martin Grossmann (TNC)
Robert Miyaoka (NMISC)

ADCOM CLASS OF 2023

Arati Dasgupta (PSAC)
David Donovan (FT)
Ken Galloway (RE)
Joshua Leckbee (PPST)
Masaharu Nomachi (CANPS)

TECHNICAL COMMITTEE CHAIRS

David Abbott (CANPS)
Martin Nieto-Perez (FTC)
Andrew Goertzen (NMISC)
Wolfram Fischer (PAST)
Heather O'Brien (PPST)
Brad Hoff (PSAC)

Robert Reed (RE)
Srilalan Krishnamoorthy (RI)

FUNCTIONAL COMMITTEE CHAIRS

Ron Schrimpf (Awards)
Steve Gold (Chapters)
Peter Clout (Communications)
Susanne Kuehn, Chiara Guazzoni (Conferences)
Dan Fleetwood (Distinguished Lecturers)
Stefan Ritt (EduCom)
Edl Schamiloglu (Fellow Evaluation)
Alberto del Guerra (Fellow Search Committee)
Harold Flescher, John Verboncoeur (Finance)
Robert Miyaoka (Membership)
Steve Meikle (Nominations Chair)
Roger Fulton (NPSS Foundation Fund)
Paul Dressendorfer (Publications)
Martin Grossmann (Transnational)
Srilalan Krishnamoorthy (Young Professionals)

LIAISONS

Eva Kostadinova (Coalition for Plasma Science)
Dan Fleetwood (Educational Activities Board)
Peter Clout (ICALPECS)
Brendan Godfrey (IEEE-USA AI Policy)
Sandra Biedron (IEEE-USA R&D Policy)
Dick Kouzes (National Council on Radiation Protection)
Harold Flescher, Ken Galloway (RADECS)
Martin Purschke (Social Media)
Ray Larsen (SSIT, SIGHT, IEEE Smart Village)
Jane Lehr, Mitra Safavi-Naeini (TAB Diversity & Inclusion)
Sibelle Ziegler, Margaret Daube-Witherspoon (TMI)
Audrey Corbeil-Thierren, Cinzia Da Via (Women in Engineering)

Contact Information for all AdCom members can be found on our web site: <https://ieee-npss.org/>

NEWSLETTER EDITOR:

Albe Dawson Larsen
E-mail: amlarsen@slac.stanford.edu

CONTRIBUTORS LISTED ALPHABETICALLY:

Irene Samy Fahim, Teresa Farris, Roger Fulton, Richard Kouzes, Andrew Goertzen, Martin Grossmann, Melissa Handa, Jack Higgins, Rajan Kapur, Srilalan Krishnamoorthy, Albe Larsen, Steven Meikle, Ron Schrimpf, Vesna Sossi

CONTRIBUTED ARTICLES

Publicity releases for forthcoming meetings, items of interest from local chapters, committee reports, announcements, awards, or other materials requiring society publicity or relevant to NPSS should be submitted to the Newsletter Editor no later than July 5, 2023 for inclusion in the September 2023 Newsletter.

News articles are actively solicited from contributing editors, particularly related to important R&D activities, significant industrial applications, early reports on technical breakthroughs, accomplishments at the big laboratories and similar subjects. The various Transactions, of course, deal with formal treatment in depth of technical subjects. News articles should have an element of general interest or contribute to a general understanding of technical problems or fields of technical interest or could be assessments of important ongoing technical endeavors.

Advice on possible authors or offers of such articles are invited by the editor.

©2023 IEEE. Information contained in this newsletter may be copied without permission provided that the copies are not made or distributed for direct commercial advantage, and the publication title and date appear.

