



Newsletter | June 2022

Editor's Note

Welcome to the June 2022 issue of the Nanotechnology Council newsletter. This issue brings you the latest updates and activities in the IEEE-NTC community. We hope you enjoy it and do let us know if there is any topic you'd like to see covered in the future. All future content submissions to the newsletter should be sent to the new editors: [Yijun Cui](#) and [Ke Chen](#).



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Extended Call for Papers: TNANO Special Section on IEEE NANO 2021



IEEE Transactions on Nanotechnology (TNANO) Special Section on the 21st IEEE International Conference on Nanotechnology (IEEE NANO 2021)

Submission deadline extended: **30 June 2022**

To make interesting research presented at the 21st IEEE International Conference on Nanotechnology (IEEE NANO 2021) widely available, in expanded form and in one publication, *IEEE Transactions on Nanotechnology* (TNANO) is extending a Call for Papers for a Special Section reflecting the scope of the conference. Submitted manuscripts will undergo a full peer review process. Submissions are welcome, and all interested NANO 2021 participants are encouraged to submit.

For details, see the [Call for Papers](#).

TC-10's Summer Internship Program

TC-10 Modeling and Simulation has started a IEEE NTC Modeling and Simulation Summer Internship program.

This program is handled by Prof. Arindan Das (Eastern Washington University), Josef Weinbub (Technical University, Vienna) and M. P. Anantram (University of Washington). We are expecting five high school students to participate this summer for an eight week internship.

For details, please contact TC-10 Chair Prof. M. P. Anantram (anantmp@uw.edu).

TC-10 Call for Members

We are looking for new committee members both from academia and industry who focus on Modeling & Simulation (not experiments). Committee members review submissions for the IEEE Nanotechnology Council (NTC) publications, help / lead organization of special sessions in IEEE NTC conferences etc.

For information on the TC-10 see their [web page](#).

If you have the time, energy and an interest in leading TC-10 activities, please send an e-mail to the TC-10 Chair, Prof. M. P. Anantram (anantmp@uw.edu).

Call for Volunteers: IEEE NTC Industrial Advisory Committee

A new Industrial Advisory Committee (IAC) is coming soon to the IEEE Nanotechnology Council.

Our main goal is to promote and sustain robust industry engagement across the NTC. In coordination with IEEE Nanotechnology Council leadership, IAC will partner with leading industry experts in (nano)manufacturing, (nano)metrology/(nano)characterization, (nano)materials, modeling/computation, consulting and nanotechnology start-ups to curate stimulating activities and useful technical trainings. We envision activities like IAC-sponsored webinars from equipment manufacturers that highlight advances in characterization/sensitivity /throughput or perhaps a novel in-line quality control capability.

Other strategic duties for the IAC include providing activities for continuing education credit opportunities for IEEE NTC professional engineers; assisting the IEEE Nanotechnology Council's leadership with industry-related outreach initiative development; or helping our Chapters and NTC-sponsored Conference Organizers with grass-roots industry engagement.

As a new committee, our mission will reflect the unique personalities and professional experiences of our founding membership. Thus, if you work in an industrial position, or hold an academic position with strong industry ties and have interest in joining this Committee, we would love to hear from you!

A brief response (via email) with your affiliation, how long you have worked in industry and whether you are active in any of the IEEE NTC groups or Chapters would be a great start. A short Bio or CV would be a plus, but is not required. Our goal is to form a committee that is geographically-, career- and gender-diverse and inclusive, with representatives from different engineering/science backgrounds and interests. We will follow up with further information for the first organizational meeting (online) as soon as we reach a critical mass of responses.

Should you have any questions, please do not hesitate to contact us at your earliest convenience.

Thank you beforehand for your interest in the foundation of the IEEE NTC Industrial Advisory Committee.

With kind regards, on behalf of the IEEE NTC Industrial Advisory Committee,

Dan Gopman (daniel.gopman@ieee.org) and Val Novosad (novosad@ieee.org).

CHAPTERS

2021 Outstanding Chapter of the Year

The 2021 Nanotechnology Council Chapter of the Year Award goes to the [IEEE Nanotechnology Student Branch Chapter at IIT Indore](#).

"For creating an interactive platform to incorporate design, and development of nanotechnology and it's scientific, engineering, and industrial applications."

The IIT Indore NTC Student Chapter is actively involved in the technical domain by organizing technical events such as Distinguished Lecturer Program, Mini Colloquia and sponsoring/co-sponsoring various conferences, webinars and workshops, membership drives, opportunities to network with peers, the Resource Center, environmental awareness campaigns and promotional activities with the objective of sustainable developmental growth.

The members of the Chapter are striving to create an interactive platform for young professionals like academicians, scientists, technologists and engineers to discuss, explore and collaborate in the domains of semiconductor, nanoelectronics, photonics, optoelectronics, photovoltaic, biomedical sensors and memory devices.

The IEEE Nanotechnology Council (NTC) Chapter of the Year Award is intended to encourage a successful and effective overall performance of the Chapter in terms of its activities. Exemplary Chapters must have a high number of activities and creativity. The Chapter must consistently be active in organizing activities throughout the year.

EDUCATION

**Virtual Student Research Symposium (SRS-2022)
10-11 August 2022
from Indian Institute of Technology Indore, India**

<https://ieee.ntc.iiti.ac.in/srs22/home>

"Emerging Nanotechnology in Electron Devices"

The objective of this **Virtual Symposium** is to provide a platform for the exchange of thoughts between distinguished guests and participants, coming from diverse fields of scientific research, renowned industries, entrepreneurs, and academicians with an emphasis on the technological requirements of the emerging industries in line with self-reliant India. The symposium aims to inspire and encourage the young researchers, and undergraduate and postgraduate student community to pursue a career in research and development. See flyer below.

The SRS-2022 is jointly organized by IEEE-NTC Student Chapter IIT Indore, IEEE Madhya Pradesh Section EDS Chapter, and IEEE Sensor Council Student Chapter IIT Indore.






SRS '22

STUDENT RESEARCH SYMPOSIUM

"Emerging Nanotechnology in Electron Devices"

August 10-11, 2022

This event organized by IEEE-Nanotechnology Council Student Chapter Indian Institute of Technology Indore with the collaboration of IEEE EDS Chapter, MP Section and IEEE Sensors Council Student Chapter IIT Indore.

Objective

The SRS-2022 aims to inspire and encourage the undergraduate and postgraduate student community to pursue career in research. SRS-2022 has become a veritable platform to nurture the young minds towards research, innovation and entrepreneurship and intends to bring the undivided attention of the students towards both industries and academia to redress the academic research challenges, concerns of the entire student community and upcoming entrepreneurs around the globe.

Modules

- ❖ Transistors Technologies
- ❖ Non-volatile Memories Technologies
- ❖ Sensors Technologies
- ❖ Health Care Technologies
- ❖ Photonics Technologies
- ❖ Energy Technologies
- ❖ Flexible Electronics Technologies

Advisory Committee

- ❖ Prof. G. S. Tomar, Chair IEEE MP Section
- ❖ Prof. Shaibal Mukherjee, IIT Indore
- ❖ Shri. M. K. Badapanda, IRC Chair, IEEE MP Section
- ❖ Prof. Mukesh Kumar, IIT Indore
- ❖ Prof. Ram Bilash Pachori, IIT Indore
- ❖ Dr. Pankaj Sharma, IITDM Jabalpur
- ❖ Prof. Ajay Agarwal, IIT Jodhpur
- ❖ Prof. Santosh K. Vishvakarma, IIT Indore
- ❖ Dr. Saptarshi Ghosh, IIT Indore
- ❖ Shri Subham Gupta, Head of Student Activity IEEE MP Section

Events

- ❖ SRS-2022 Student Activities
 - Research (Oral/Poster) Presentation,
 - Model Presentation
 - Thesis Presentation (PG and Ph.D.)
- ❖ Distinguished Lecture Series- Academicians and Industrialists

Organizers



Mayank Dubey
Chair, IEEE-NTC
Student Chapter IIT Indore



Sanjay Kumar
Event Head
SRS-22



Pawan Kumar
Chair, IEEE Sensor Council
Student Chapter IIT Indore



Richi Singh
Secretary, IEEE-NTC
Student Chapter IIT Indore



STANDARDS

CALL FOR PARTICIPATION - IEEE P3155™, Standard for Programmable Quantum Simulator

IEEE Nanotechnology Council/ Standards Committee & Programmable Quantum Simulator Working Group Meeting

IEEE Standards Association (IEEE SA) invites you to participate in the Working Group for IEEE P3155™, Standard for Programmable Quantum Simulator.

The quantum simulator (i.e., one controllable quantum system simulates another) has a quantum advantage over classical supercomputers that fail by exponential explosion (i.e., number of parameters grows exponentially with the quantum system size). This standard defines programming methods of quantum simulators according to analog (i.e., target Hamiltonian), digital (i.e., non-native Hamiltonian evolution) and hybrid (i.e., quantum-quantum or quantum-classical architectures) devices for the simulation of quantum phenomena beyond classical computing

applications. It includes algorithms to represent the nano-scale properties of quantum simulation devices, and excludes any proposal for the architecture of quantum simulators.

Date: Friday, 15 July 2022

Time: 11:00 AM - 1:00 PM EDT

Meeting registration is required. Register [here](#).

For additional information, contact the IEEE P3155™ Working Group Chair, **Jonathan J. Attia**, at jja@ieee.org or the IEEE SA Program Manager, **Vanessa Lalitte**, at v.lalitte@ieee.org.

WOMEN IN NANOTECHNOLOGY

IEEE NTC WIN – Virtual Round Table, DEI Prospects and Challenges

To be successful, diversity, equity, and inclusion (DEI) strategies require the ongoing support of the entire organization, as well as continued application of improvement. The IEEE Nanotechnology Council Women in Nanotechnology (WIN) held a Virtual round table discussion on DEI prospects and challenges on 20 April.

Moderator:

Kanika Singh, IEEE NTC Women in Nanotechnology Chair

Panelists:

- Fabrizio Lombardi, IEEE NTC President
- Kanika Singh, IEEE NTC Women in Nanotechnology Chair
- Jenifer Castillo R., IEEE WIE (Women in Engineering) Chair
- Dalma Novak, IEEE Technical Activities Board (TAB) Committee on Diversity and Inclusion (CDI) Chair

The recording is now available, see <https://ieeenano.org/2022/ieee-ntc-win-virtual-round-table-dei-prospects-and-challenges#replay>.

YOUNG PROFESSIONALS

NTC Young Professionals Update

Five Regional NTC YP LinkedIn pages have been established and are timely updated. The regional coordinators established cooperation with the regional NTC conference organizers in order to support and ensure presence of young professionals.

NTC YP LinkedIn:

- [Region 7 \(Canada\)](#)



- Region 9 (Latin America)
- NTC YP India
- Region 8 (Africa, Europe, Middle East)
- Region 10 (Asia and Pacific)

CONFERENCES

IEEE NANO 2022:



The 22nd IEEE International Conference on Nanotechnology (IEEE-NANO 2022) will be held from 4 to 8 of July 2022, at the Campus of Balearic Islands University (UIB) in Palma, the capital of Balearic Islands, Spain.

The conference program has been announced! [Click here](#) to see it!

Registration is open, see <https://2022.ieeenano.org/registration/>.

For information related to entering Spain please check: <https://spth.gob.es>.

IEEE-NMDC 2022:



The IEEE Nanotechnology Materials and Devices Conference will be first time to held on-site in Mainland of China, on 16-19 October 2022 at the International Conference Hotel in Nanjing, China. It will bring together key researchers from every sector in the nanotechnology research field, with a special focus on Materials and Devices. Conference papers will be published in *IEEE Xplore* after passing peer-review, with limited invitation for submission to *IEEE Transactions on Nanotechnology* or *IEEE Nanotechnology Magazine*. There are special award sessions for posters, graph contest, young scientists, women in engineering and entrepreneurs.

Important Dates:

Notification of Acceptance: 15 July 2022

Camera Ready & Early Bird Registration Deadline: 30 July 2022

For details see the NMDC 2022 [Website](#).

IEEE-3M-NANO 2022:



3M-NANO is the annual International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale; it will be held on 8-12 August 2022 in Tianjin, China. The ultimate ambition of this conference series is to bridge the gap between nanosciences and engineering sciences, aiming at technology opportunities and new markets. The advanced technologies for manipulation, manufacturing and measurement at nanoscale promise novel revolutionary products and methods in numerous areas of application. Scientists working in research fields related to 3M-NANO topics are invited to submit papers. All accepted full papers (presented at the conference and following IEEE format) will be submitted in *IEEE Xplore* database and Ei Compendex. Selected papers will be recommended for publication in the *IEEE Trans. on Automation Science & Engineering*, *Int. J of Nanomanufacturing*, *IFAC Mechatronics*, *Int. J of Optomechatronics*, *J of Micro-Bio Robotics*, *Journal of Bionic Engineering*, *Light (Science & Applications)*, *Optics and Precision Engineering*, *Micromachines*, *International Journal of Extreme Manufacturing* and *Material Today Bio* and other SCI/EI journals.

Important Dates:

Registration is now open. Early bird discount rate is available up to 15 July 2022.

Notification of acceptance: 1 July 2022

Final paper submission: 15 July 2022

Advanced registration: 15 July 2022

Registration for accepted papers: 15 July 2022

For details see the 3M-NANO [Website](#).

MARSS-22: Call for Papers



The 5th International Conference on Manipulation, Automation and Robotics at Small Scales

25-29 July 2022, Toronto, Canada

MARSS, the annual International Conference on Manipulation, Automation and Robotics at Small Scales, will be held in-person on 25-29 July 2022, in Toronto, Canada. The conference is the flagship forum for cross-disciplinary R&D communities to discuss current activities related to manipulation and automation (including measurement and characterization) at micro and nano scales, and all kinds of small scale robots and their applications.

Important Deadlines:

Submission of final full papers: extended until 30 June 2022

Upload of recorded talks (18 min) by virtual speakers: 30 June 2022

Registration for the full papers: extended until 30 June 2022

Registration is open, see <https://marss-conference.org/registration/>.

For details see the MARSS [Website](#).

IEEE NAP 2022: Call for Participation



The 2022 IEEE 12th International Conference "Nanomaterials: Applications & Properties" will be held on 11-16 Sept. 2022, in a hybrid format, with a "physical" meeting in Kraków, Poland. We are happy to have a beautiful and modern 4- star GALAXY hotel as our conference venue!

The Conference is organized through a partnership between the IEEE Nanotechnology Council, Silesian University of Technology, and Sumy State University, with endorsements and support from the International Union for Pure & Applied Physics and the IEEE Magnetics Society.

The prime focus of the IEEE NAP-2022 is on nanoscale materials with emphasis on interdisciplinary research exploring and exploiting their unique physical and chemical proprieties for practical applications. Although nanoscience and nanotechnology are still in their infancy, this rapidly evolving field of research is quickly transforming almost all aspects of our everyday life. From the low power electronics and supercomputers to advanced drugs and personalized medicine, from new industrial applications and renewable energy to advanced transportation and clean air technologies, nanoscience is the foundation of many transformational discoveries in the decades to come.

Plenary/Invited Speakers:

We are honored to host truly world-class Plenary Speakers, internationally recognized physicists, chemists, and materials science experts:

- [Prof. Anne M. Andrews](#), University of California, Los Angeles;
- [Prof. Sandro Carrara](#), Swiss Federal Institute of Technology;
- [Prof. Yury Gogotsi](#), Drexel University;
- [Prof. Laura H. Greene](#), National High Magnetic Field Laboratory & Florida State University;
- [Prof. Nicola Pinna](#), Humboldt University of Berlin;
- [Prof. Paul S. Weiss](#), University of California, Los Angeles.

Please visit the conference website with a complete list of our outstanding [invited speakers](#).

Important Dates:

Acceptance notification: 30 June 2022

Early registration fees deadline: 15 July 2022

Conference Program available: 15 August 2022

For details see the NAP 2022 [Website](#).

PUBLICATIONS

IEEE Transactions on Nanotechnology

View the full current issue of IEEE T-NANO

For additional information, visit the [IEEE Xplore website](#).

To learn how to submit to T-NANO, [click here](#).

T-NANO, VOLUME 21



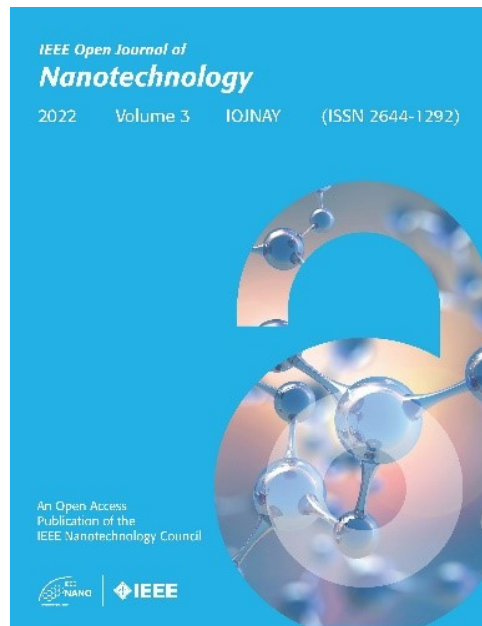
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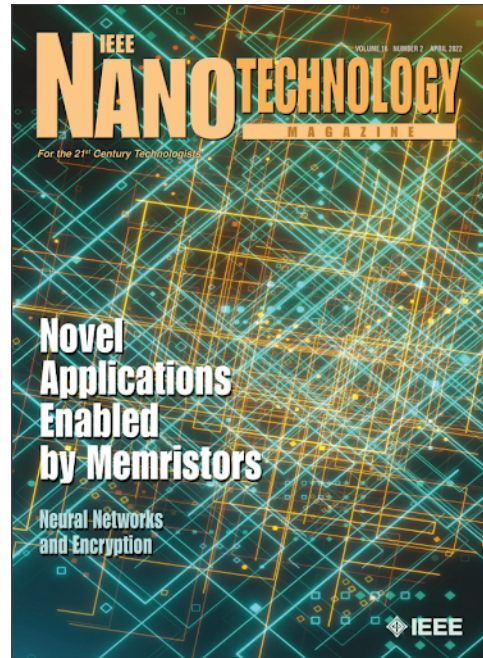
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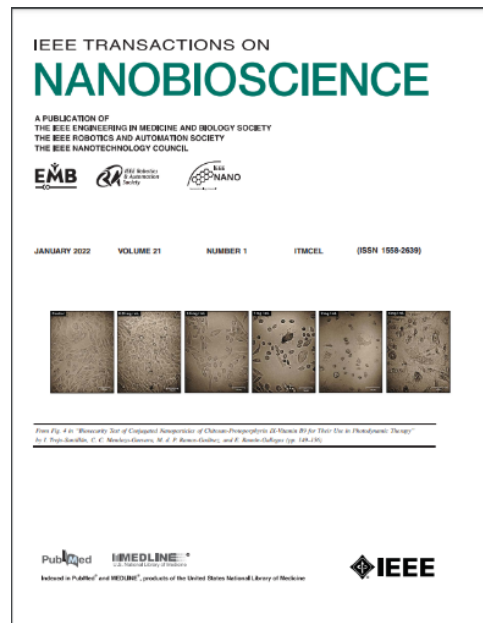
IEEE Transactions on NanoBioscience

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T-NB

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T-NB, Volume 21, Number 2



LIST OF NANOTECHNOLOGY COUNCIL OFFICERS (2022)

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