



Newsletter | June 2024

Editor's Note

Welcome to the June 2024 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 editors: Yijun Cui and Ke Chen.



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BREAKING NEWS

Call for Proposals for Future Site for IEEE NMDC 2026

Initial Proposal Deadline: 30 June 2024

The IEEE Nanotechnology Materials and Devices Conference (IEEE-NMDC) aims to develop critical assessment of existing work and future directions in nanotechnology research from every sector in the nanotechnology research field, with a special focus on materials and devices. NMDC 2024 will be held in Salt Lake City, Utah, USA. Past locations of the NMDC have been in Asia (Korea, Japan, Taiwan, Singapore), USA (California, Michigan, Hawaii, Alaska, Portland), Canada (Vancouver, BC) and Europe (Italy, France, Sweden). NMDC typically runs between mid-September and mid-October, with the later dates preferred since IEEE NANO runs in the first half of July.

We are now seeking proposals for IEEE-NMDC 2026 which is expected to run in **IEEE Region 8 (Europe, Africa/Middle East)**. For conference history, visit https://ieeenano.org/nmdc.

Early indication of an intention to submit a proposal is strongly recommended. Candidates for NMDC 2026 will be expected to present a 5-10 minute "Proposal in Preparation" based on the initial proposal at the NTC ExCom and AdCom meetings in July 2024 held at IEEE-NANO 2024 in Gijon, Spain. Final proposals are due in October for presentation at the Fall NTC ExCom meeting.

PROPOSAL FORMAT:

Initial proposals should be prepared in PowerPoint presentation format. An NTC Conference Proposal Guidelines and a PPT template are available upon request. Proposals should cover:

- Venue: City (or nearby city for rural locations); visitor access (e.g., daily flights,) with typical travel costs; hotel costs (including wi-fi, breakfast, etc.); tourist information
- Facilities: Hotel or campus venue if known (with verification of availability for formal proposals): lecture theater and meal capacities
- formal proposals); lecture theater and meal capacities
 Personnel: General Chair(s), Program Chair(s), Treasurer, other volunteer personnel (e.g., program/advisory committees), and any administrative staff or management company
- · Budget information:
 - For informal proposals: Target registration rates, estimated number of attendees, estimated income (registration, tutorials, exhibition, grants/donations, etc.), estimated expenses (meals/receptions/breaks, administrative costs, etc.), other features of interest. Please prepare and submit two version of the budget: one corresponding to the expected number of attendees (typically ~200 250) and a second one for 100 attendees less. This request is related to risk evaluation.
 - For formal proposals: As above, but with more detail covering all budgeted income and expenses in the required IEEE NetSuite spreadsheet format. Note that the (Income-Expense)/Expense ratio must be at least 20%, in accordance with IEEE policy.

Formal proposals must be e-mailed prior to the appropriate deadline to: NTC Vice-President for Conferences Kremena Makasheva (kremena.makasheva@laplace.univ-tlse.fr) with copies to Ed Perkins, NTC Secretary (e.perkins@ieee.org).

Contact Kremena Makasheva, (kremena.makasheva@laplace.univ-tlse.fr) with any questions.

CFP: IEEE Journal on Exploratory Solid-State Computational Devices and Circuits (JxCDC)

A call for papers is now open for the *IEEE Journal on Exploratory Solid-State Computational Devices and Circuits* special topic on "Energy-Efficient In-/Near-Memory Computing with Emerging Devices."

Topics of Interest include but are not limited to:

Prospective authors are invited to submit original works and/or extended works based on conference presentations on various aspects of compute-in-memory. Memory technologies of interest include (but not limited to) SRAM, DRAM, eDRAM, NOR/NAND Flash, and emerging NVM devices such as PCM, RRAM/CBRAM, STT-MRAM/SOT-MRAM (or other spintronic memories), FeFET (or other ferroelectric memories), etc. The following topics are specifically solicited:

- New materials and devices that can enable energy-efficient IMC/NMC
- Integration of emerging technologies with silicon for energy-efficient IMC/NMC
- Crossbar array design and array-level demonstration for energy-efficient IMC/NMC
- Peripheral circuit design for energy-efficient IMC/NMC
- Architectural-level design for energy-efficient IMC/NMC
- Algorithms and hardware co-design for energy-efficient IMC/NMC
- Benchmarking simulators for energy-efficient IMC/NMC
- New applications for energy-efficient IMC/NMC beyond AI workloads (e.g. combinatorial optimization, general purpose computing, etc.)

Important Dates

Open for Submission: 1 June 2024 Submission Deadline: 1 September 2024 First Notification: 1 October 2024 Revision Submission: 15 October 2024 Final Decision: 1 November 2024 Publication Online: 15 November 2024

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For more information, please check the IEEE NTC website.

Announcing TNANO 2023 Best Paper Award

At the beginning of each year, T-NANO selects a paper that appeared in the Transactions during the previous calendar year for its Best Paper Award. Candidate papers are nominated by members of the Editorial Board. Evaluation is done by members of the Senior Editors Panel, with criteria including technical merit, originality, potential impact on the field, clarity of presentation, and practical significance for applications.

The winner of the 2023 TNANO Best Paper Award is:

"High Sensitive Metasurface Absorber for Refractive Index Sensing," published in: *IEEE Transactions on Nanotechnology* (Volume: 22), Year: 2023, Page(s):328 – 335.

Co-authored by Rajan Agrahari, Satyamitra Dwivedi, Pradip Kumar Jain and Manpuran Mahto; Electronics and Communication Engineering Department, National Institute of Technology Patna, Patna, India

DOI: 10.1109/TNANO.2023.3290953

To read the paper, go to https://ieeexplore.ieee.org/document/10169113/

EDUCATION

Request for Proposals for 2024 IEEE Summer School on Nanotechnology

Call for proposals: The IEEE Nanotechnology Council is requesting proposals for 2024 Summer School which should be organized along some of the themes typically covered in the call for abstracts of the yearly IEEE NANO meeting, the flagship IEEE Nanotechnology Conference. These include a wide range of nanoscience and nanotechnology topics, encompassing nanorobotics; quantum, neuromorphic, and unconventional computing; nanobiomedicine; nanosensors and nanoactuators; nano-optics/photonics/optoelectronics; nanoelectronics; spintronics; plasmonics; nanomagnetics; nano-acoustics; nanoenergy; nanoscale communications; modeling, simulation, and characterization of nanostructures and devices; nanofabrication, nanopackaging, and nanomanufacturing; nanomaterials; and other emerging nanotechnologies.

The IEEE Summer School on Nanotechnology should be geared towards senior undergraduates, graduate students, post-docs, and researchers and practitioners who could deepen and broaden their skills in nanoscience and nanotechnology. Based on the success of the previous Summer Schools, it is expected that the attendance at the school should be around 50 to 100 participants. The main objective is to stimulate future generations to stay abreast of these rapidly evolving fields and to foster participation in the adventure of research that will lead to the next generation of nanopioneers.

Dates and Length: The IEEE Summer School on Nanotechnology will be held in the Fall of 2024. The length of each summer school has typically been a minimum of 3 days to 1 week. Although we have retained the name "summer school", the date of the school is not restricted to the summer season.

Format: A successful summer school will consist of lectures, seminars, discussions, and visits to local academic and industrial organizations. Lectures will be given by international scholars working in the areas of nanoscience and nanotechnology and focusing on a central theme among the typical topics covered during the IEEE Nano flagship conference.

Funding: The IEEE Nanotechnology Technical Council is able to provide up to US\$5,000 of funding for the summer school, to be used for such expenses to support the school. Local organizers need to provide partial support as well, and the participants (or their labs or supervisors) may need to pay registration (tuition) fees to compensate for inviting lecturers.

Benefits to Participants: In addition to acquiring an organized view of an important area of nanotechnology, the summer school participants will be able to interact with peer researchers and international scholars (especially young scientists) to discuss hot topics and ongoing research, and also to experience local industry and culture.

You are encouraged to submit a proposal to hold a 2024 IEEE Summer School on Nanotechnology. If the proposal is approved, the IEEE Nanotechnology Council will provide upon request a financial contribution to support the initiative. The co-funded amount depends on the available budget, the number of financed proposals, and the soundness of the school budget, but will not exceed US\$5,000. We recall that organizers can take advantage of other initiatives, e.g., the IEEE Nano Distinguished Lecture Program to further support the school (related regulations apply).

The IEEE Summer School Subcommittee will review the received proposals based on

- 1. The quality of the proposed technical program and topic balance
- 2. The soundness of the budget
- 3. The length of the school
- 4. The geographical balance of all funded summer schools (for future schools).

In writing your proposal, please address the following aspects:

- 1. Aim and theme.
- 2. Lectures and lecturers. Indicate if lecturers have agreed to participate.
- 3. Tentative program and schedule.
- Local organizer(s). Brief bios of the School director and leadership. Registration. Tuition.
- 5. Budget and financial sponsor(s). Expected number of participants.

Important Dates:

- Eligible period: September to December 2024
- Deadline for submitting the proposal: 1 July 2024
- Notification of the outcome of the review process: 1 August 2024

Please submit your proposal using the RFP 2024 Summer School on Nanotechnology Form. Potential hosts are encouraged to contact the subcommittee to express their interest and to work with the subcommittee to strengthen their proposals. Questions regarding the submission process can be directed to the Summer School Subcommittee Chair, Prof. Luca Pierantoni at I.pierantoni@staff.univpm.it.

Call for Applications - NTC Chapter's Activity Grant

The IEEE NTC Chapters & Regional Activities Committee is calling for applications from NTC Chapters (student Chapters included) for NTC Chapter's Innovation Grant. The purpose is to support regional NTC Chapters to propose new innovative activities to be carried out in 2024. Up to US\$2000 can be applied from each eligible Chapter.

1. Eligibility

All **active** NTC Chapters, but priority will be given to new Chapters formed in the last 3 years, and those that have not received any funding support from the Chapter's committee in the last 3 years.

2. The Application Pack should

- include a list of the past Chapter activities carried out in 2022-2023 (that have been reported in Vtool).
- include a brief proposal (up to 2 pages) on the proposed activities, with a clear description on each activity, its action plan (such as for activity promotion, format/venue and duration) and relations to the topics of the current NTC Technical Committees (https://ieeenano.org/technical-activities/tech-current) and the NTC Distinguished Lecturers (DL) program (https://ieeenano.org/dl-program), as well as the main benefits to IEEE NTC members and wide community.
- include a budget justification for each planned activity (note: travel expenses cannot be funded). Typical funding is US\$1000. In special well-documented cases, funding can be increased but no more than US\$2000.
- be sent by email to: Prof. Lan Fu: lan.fu@anu.edu.au by 30 June 2024.

3. The selection committee

- Prof. Malgorzata Chrzanowska-Jeske (NTC VP for Finance)
- Prof. Weiqiang Liu (NTC VP for Technical Activities) Dr. Vasuda Bhatia (R1-7 Coordinator)
- A/Prof. Attila Bonyar (R8 Coordinator)
- Prof. Murilo Romero (R9 Coordinator)
- Prof. Brajesh Kumar Kaushik (R10-India Coordinator)
- Prof. Li Tao (R10-Other, Coordinator)
- Prof. Lan Fu (NTC Chapters Chair)

4. Important dates:

Application open: 20 May 2024Application close: 30 June 2024

Notification/Announcement of outcome: 15 July 2024

YOUNG PROFESSIONALS

YP R2 Coordinator is Open to Apply

The call for volunteering as a Regional Representative for the IEEE Nanotechnology Council Young Professionals in Region 2 are open.

As a representative, candidates will shape local initiatives, foster networking, and amplify opportunities for young professionals (YPs). Responsibilities include event organization, advocacy, and collaboration with Council leadership.

Don't miss this chance to showcase leadership, expand your network, and contribute to the future of nanotechnology. Contact Matteo Bruno Lodi (NTC YP Rep. matteobrunolodi@ieee.org) for details.

NTC Young Professionals (YPs) Strikes Again

Read here: Summer School 2022 – IEEE NTC R10 YP how NTC YPs supported the great initiative of the IEEE Summer School on Nanotechnology 2022. This initiative's was inspired by YPs for YPs, as well as students and researchers on nanomaterials. This work highlights the knowledge dissemination and the training programs conducted during 16th – 19th November 2022 as part of Training on Fabrication and Characterization of Nanomaterials at VNR Vignana Jyothi Institute of Engineering.

Congratulations to Region 10 NTC YPs representative Dr. Santhosh Sivasubramani for being awarded with the IEEE Pre-University STEM Portal Grant proposal for the initiative TryNano – The NanoQuest: Empowering Girls in STEM through Nanotechnology Exploration.

NTC YPs and the VP for Educational Activities are supporting the the first time ever the first edition of the NANO STUDENT DESIGN COMPETITION (NANO-SDC) to be held during IEEE NANO 2024. Did you submit a paper to IEEE NANO 2024? There is still time to apply and participate in the Student Design Competition! Please complete this form.

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

NANO 2024 - Call for Registration



The 24th IEEE International Conference on Nanotechnology (IEEE NANO 2024) will be held from 08-11 July 2024, in Gijón, Spain.

https://2024.ieeenano.org/ Registration is open, see https://2024.ieeenano.org/registration/

Since its founding in 2001, IEEE NANO has been the flagship conference of the IEEE Nanotechnology Council (NTC). It promotes advanced research in nanoscience and nanotechnology.

Technical Categories

- Nanorobotics & Nanomanufacturing
- Nanofabrication
- Spintronics
- Nanosensors & Nanoactuators
- Nano-Metrology & Characterization
- Nanopackaging
- Nano-Energy, Environment, & Safety
- Nano-Acoustic Devices, Processes, & Materials
- Emerging Plasma Nanotechnologies
- AI in Nanotechnology
- Nanobiomedicine
- Nano-Optics, Nanophotonics, and Nano-Optoelectronics
- Nanoelectronics
- Nanomaterials
- Modeling & Simulation
- Nanomagnetics
- Nanoscale Communications
- Quantum, Neuromorphic, & Unconventional Computing
- Nanotechnology in Soft Electronics

Organizing Committee

General Chair

Montserrat Rivas (University of Oviedo, Spain)

General Co-Chairs

Kremena Makasheva (French National Center for Scientific Research (CNRS), France) Valentine Novosad (Argonne National Laboratory, USA)

Program Committee

- Giovanni Finocchio (University of Messina, Italy)
- Jia Yan Law (University of Sevilla, Spain)
- Vito Puliafito (Politecnico di Bari, Italy)

NANOXpress Special Event at IEEE NANO 2024 Thursday 11 July 2024 (18:00 - 20:00)

This inaugural special session aims to bolster international research cooperation within the IEEE Nanotechnology Council (IEEE NTC) Global Community through proactive Speed Ideation and team-building initiatives. Collaborating internationally not only boosts research visibility but also enriches perspectives, leading to increased citations. Moreover, research teams can leverage each country's strengths and resources. Successful collaborations offer enhanced professional growth opportunities such as Fulbright scholarships.



Furthermore, these partnerships can expand funding opportunities through bilateral agreements between countries. The session will commence with a 30-minute presentation on relevant International Funding Opportunities for the IEEE NTC community. Subsequently, two 45-minute brainstorming/ideation sessions will pair researchers from different countries based on: (1) areas of expertise, (2) interest in branching out, and (3) countries with existing MOUs or mutual funding opportunities.

Interested participants must register for this complimentary session when registering to the IEEE NANO 2024 conference, to facilitate better pairing by organizers. The registration to the NanoExpress session is free of charge. Once registered, organizers will request additional details to optimize ideation sessions. Those interested are encouraged to reach out to Sanjukta Bhanja (Bhanja@usf.edu) for further information, specifying their areas of expertise and desired collaborations in the email.

NMDC 2024 - Call for Papers



19h IEEE Nanotechnology Materials and Devices Conference (IEEE NMDC 2024)
22-25 October 2024, Salt Lake City, Utah, United States
https://ieeenmdc.org/nmdc-2024

Conference venue: Radisson Salt Lake City Downtown

IEEE NMDC is a flagship conference series of the IEEE Nanotechnology Council (NTC), focusing on research advances in the fields of nanoscience and nanotechnology.

Key Dates:

Full Paper Submission: 15 July 2024

Notification of Acceptance: 1 September 2024
Final Paper Submission: 1 October 2024
Accepted and presented full papers (4 to 6 pages) for IEEE NMDC 2024 will be included in IEEE Xplore as well as other Abstracting & Indexing (A&I) databases.

We are proud to announce that the 19h IEEE Nanotechnology Materials and Devices Conference (NMDC) will be held in lovely Salt Lake City, Utah, USA 22 to 25 October 2024. IEEE NMDC 2024 will be the perfect stage to promote research from all across the world.

IEEE-NANOMED 2024: Call For Papers



2-5 December 2024 Honolulu, Hawaii, USA http://ieee-nanomed.org/2024/ NANOMED2024-CFP

IEEE-NANOMED is one of the premier annual events organized by the IEEE Nanotechnology Council (NTC), and brings together physicians, scientists, and engineers from all over the world and every sector of academy and industry for the advancement of basic and clinical research in medical and biological sciences through nano/molecular medicine and engineering. Attendees of IEEE-NANOMED can share their latest research in engineering and nano/molecular medicine with other practitioners in their field and related fields, ranging from basic scientific and engineering research to translational and clinical research.

Suggested topics:

- Nano and molecular technologies in medical theranostics
- · Nanotechnology in drug delivery
- · Biomedical imaging
- · Bio/Nano sensing
- · Biochips and Bio-MEMS
- Biomechatronics
- · Biological interfaces
- Nanobiotechnology
- Translational medicine
- Bioprinting
- Biomicrofluidics

Important Dates:

Two-Page Abstract Deadline: 12 July 2024

Notification of Acceptance: 13 September 2024 Full Paper Deadline: 12 July 2024 (for best paper competition)

11 October 2024 (for inclusion on IEEE Xplore) Early Bird Registration: 30 September 2024

Accepted full papers will be published in the IEEE Xplore database and are EI indexed

(http://ieeexplore.ieee.org).

MARSS 2024 Call for Participation

International Conference on Manipulation, Automation and Robotics at Small Scales



Delft, Netherlands July 01-05, 2024

https://marss-conference.org

MARSS, the annual International Conference on Manipulation, Automation and Robotics at Small Scales, is a non-profit conference run by the microrobotic community and technically supported by IEEE-RAS and IEEE-NTC. MARSS2024 will be held **in-person** on 01-05 July 2024, in Delft, Netherlands. The conference is the flagship forum to discuss cross-disciplinary activities on 1) manipulation, automation, measurement, and characterization at micro/nano scales, and 2) all kinds of small-scale robots (nm - cm) and their applications.

Program: MARSS2024 offers 13-14 plenary talks and up to 36 technical sessions. The high-profile plenary talks (40 min) will be given by distinguished experts. All accepted papers (full and short) will be presented in the technical sessions (20 min, oral presentation) Accepted full papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore's scope and quality requirements.

Awards: All presented full papers will contest for various. The Best Paper Awards Awards include a certificate and a cash prize. Additionally, MARSS2024 will present Big-on-Small Award, along with a commemorative plaque and a cash prize. This Award is intended to promote upcoming talents in MARSS-related fields of research with excellent performance and international visibility.

IEEE NAP-2024: Call for Papers

https://ieeenap.org/ Download CFP

The 2024 IEEE 14th International Conference "Nanomaterials: Applications & Properties" is devoted to the most interesting aspects of modern Materials Science with a prime focus on nanoscale materials. The IEEE NAP-2024 Conference is organized through a partnership between the IEEE Nanotechnology Council and the University of Latvia, and technical support from the Latvian Academy of Sciences, the Institute of Electronics and Computer Sciences and Sumy State University, with endorsements and support from the IEEE Magnetics Society.

Important Dates:

Manuscript acceptance/rejection notifications: 31 Jul 2024 Early registration fees deadline: 15 Jun 2024

PUBLICATIONS

IEEE Transactions on Nanotechnology

View the full current issue of IEEE T-NANO.

For additional information, visit the IEEE Xplore website.

To find how to submit to T-NANO, click here.

T-NANO, VOLUME 23



IEEE Open Journal of Nanotechnology

View the full current issue of IEEE OJ-NANO.

For additional information, visit the IEEE \it{Xplore} website.

To find how to submit to OJ-NANO, click here.

The IEEE Open Journal of Nanotechnology (OJ-NANO) is dedicated to publishing articles on timely topics in the field of nanotechnology by making them available immediately, freely, and permanently available to all. All articles published in OJ-NANO are exposed to 5 million unique monthly users of the IEEE Xplore® Digital Library. Among numerous articles published so far, we've selected a few review articles to highlight here.

OJ-NANO, VOLUME 5



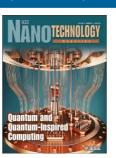
IEEE Nanotechnology Magazine

View the full current issue of IEEE INM.

For additional information, visit the IEEE *Xplore* website.

For information on submitting to INM, click here.

INM, VOLUME 18, NO. 3



IEEE Transactions on NanoBioscience

View the full current issue of IEEE T-NB.

For additional information, visit the IEEE *Xplore* website.

To find how to submit to T-NB, click here.

T-NB, VOLUME 23, NO. 2



LIST OF NANOTECHNOLOGY COUNCIL OFFICERS (2024)

Position	Name	Position	Name
President	Jin-Woo Kim	Past-President	Fabrizio Lombardi
Vice President for	Kremena	Vice President-Elect for	John Yeow
Conferences	Makasheva	Conferences	
Vice President for	Luca	Vice President for	Malgorzata
Educational Activities	Pierantoni	Finances	Chrzanowska-Jeske
Vice President for	Georgios	Vice President for	Weiqiang Liu
Publications	Sirakoulis	Technical Activities	
Secretary	Edward G. Perkins		

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