



Newsletter | February 2023

Editor's Note

Welcome to the February 2023 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.



Yijun Cui

Nanjing University of
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Ke Chen

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BREAKING NEWS

Call for 2023 NTC New Awards Nominations

The Nanotechnology Council (NTC) has received approvals to offer these new awards starting in 2023:

- **Best PhD Thesis Award in Nanotechnology** (publication)
- **Test of Time Publication Award (e.g., over 10-25 years)** (publication)
- **Technical Achievement Award(s)** (Technical Committees)
- **Nanotechnology Magazine Best-Paper Award** (publication)
- **Best Paper Award for the IEEE Transactions on Nanotechnology** (publication)

The IEEE Nanotechnology Council (NTC) is soliciting nominations for these Awards. See the [Awards page](#) for more information on all the NTC's awards. To view the full detailed listing of each award please visit the [Awards nominations page](#). Awards are presented at the IEEE-NANO conference.

Nominations for these awards are due on 1 MARCH 2023. (Deadline for other NTC awards remains as 1 October.) Nominators should utilize the forms associated with each award description found on the [website](#). Please make sure that nominators and references specifically address contributions, impact, and evidence related to the Basis for Judgment associated with each award.

Call for Proposals for Future Site for IEEE-NMDC 2025

Initial Proposal Deadline: 30 April 2023

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 2023 will be held in Paestum, Italy. Past locations of the NMDC have been in Asia (Korea, Japan, Taiwan, Singapore), USA (California, Michigan, Hawaii, Alaska, Portland), Canada (Vancouver, BC) and Europe (Sicily, France, Stockholm). NMDC typically runs between mid-September and mid-October, with the later dates preferred since IEEE NANO runs in late July.

We are now seeking proposals for IEEE-NMDC 2025 which is expected to run in **IEEE Region 10 (Asia and Pacific)**. For conference history, visit <https://ieeenano.org/nmdc>.

Early indication of an intention to submit a proposal is strongly recommended. Candidates for NMDC 2025 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 2023 held at IEEE-NANO 2023 in Jeju Island, Korea. 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
- **Personnel:** General Chair(s), Program Chair(s), Treasurer, other volunteer personnel (e.g., program/advisory committees), if known, 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.
 - *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 Kremema Makasheva (makasheva@laplace.univ-tlse.fr) with copies to Ed Perkins, NTC Secretary (e.perkins@ieee.org).

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

Request for Proposals for 2023 NTC Emerging and Selected Topics for Industry Forums (NTCIF)

Call for proposals: The IEEE Nanotechnology Council is requesting proposals for 2023 Emerging and Selected Topics for Industry Forums (NTCIF) which should be organized along emerging and cross-discipline topics, where industrial speakers describe real-world challenges and academic speakers describe potential technologies that could address those challenges. These topics may be associated with the themes typically covered in the yearly IEEE NANO meeting, the flagship IEEE Nanotechnology Conference. These include a wide range of nanoscience and nanotechnology topics, encompassing nanorobotics; quantum and neuromorphic computing; nanobiomedicine; nanosensors and nanoactuators; nano-optics/photronics/optoelectronics; nanoelectronics, spintronics, and plasmonics; nanomagnetism; nano-acoustics; nanoenergy; nanoscale communications; modeling, simulation, and characterization of nanostructures and devices; nanofabrication, packaging, and nanomanufacturing; and nanomaterials.

Dates and Format: This call is for forums to be held before 30 September 2023.

A subsequent call will be made for the rest of 2023. Proposed Forums may take the form of a Webinar or as part of a special session of the IEEE-NANO 2023 (2-5 July 2023, Jeju Island, Korea).

Funding: Due to time constraints, this current round of forums will not be funded, but virtual forums will be supported using IEEE videoconferencing resources and physical meeting space could be made available as part of IEEE-NANO 2023.

Benefits to Participants: The goals of these Forums are to promote and sustain robust industry engagement across the NTC and, more generally, to increase the interaction between academia and industry.

You are encouraged to submit a proposal to hold a 2023 IEEE NTC Industry Forum. If the proposal is approved, the IEEE Nanotechnology Council will provide upon request teleconferencing support and/or physical facilities and web promotion to support the initiative.

In writing your proposal, please address the following aspects:

- Aim and theme.
- Lectures and lecturers. Indicate if lecturers have agreed to participate.
- Tentative program and schedule.

Important Dates:

- Eligible period: May to September, 2023
- Deadline for submitting the proposal: 1 April 2023
- Notification of the outcome of the review process: 1 May 2023

Please submit your proposal to the Industrial Advisory Committee Chair, Dr. Daniel Gopman at daniel.gopman@nist.gov. Potential proposal champions are encouraged to contact the committee to express their interest, and to work with the committee to strengthen their proposals.

2023 Fellows Evaluation Committee

Chair:

Gwo-Bin (Vincent) Lee, National Tsing Hua University, Taiwan

Members:

Ali Javey, UC Berkeley, USA

Xiaoning Jiang, NCSU, USA

Andras Kis, EPFL-STI-LANES, Switzerland

Qiangfei Xia, UMass Amherst, USA

EVENTS

IEEE NANOTECHNOLOGY COUNCIL – Motivational Series

Pioneer Award

Webinar for IEEE Region 8 NTC YPs

Date: **8th March 2023**

Time: **12:00 PM (GMT +1)**

Panelist: **Dr. Antigone Marino**

Title: **“Inside Out the Comfort Zone”**

Free.

Abstract:

- Have you ever tried to identify the limits of your comfort zone?
- The comfort zone is a behavioral state within which a person operates in an anxiety-neutral condition, using a limited set of behaviors to deliver a steady level of performance, usually without a sense of risk.
- Often, without realizing it, we are the ones that somehow limit our professional growth.
- Entering and leaving the comfort zone is an art that can often become a game to grow professionally!

Speaker:

Dr. Antigone Marino is a researcher at the Institute of Applied Sciences and Intelligent Systems (CNR-ISASI). She received her master in Physics in 2000, and the research doctorate in New Technologies in 2004, both at the Physical Science Department of Federico II University of Naples. Her research

activities are focused on soft matter optics, ellipsometry and structured light. Thanks to her experience in science, she has set up a course for PhD students on professional development, ranging from the topics of soft skills to scientific communication, passing through social media, outreach and all the non-technical aspects necessary in scientific professions.

To register for this event, please use the [form](#) on the NTC website.

CHAPTER

Chapter's Innovation Grant 2023

The IEEE NTC Chapters & Regional Activities Committee is pleased to congratulate the following Chapters for receiving the Chapter's Innovation Grant 2023:

- Hungary/Romania Section Jt. Chapter - R8
- Houston Chapter - R1
- Louisiana Tech University - Student Chapter - R5
- IIT-Roorkee Subsection; Uttar Pradesh Section - R10
- Guangzhou Section Chapter - R10

Call for Application: NTC Chapter's Travel Support Grant 2023

The IEEE NTC Chapters & Regional Activities Committee is calling for applications from NTC Chapters (student Chapters included) for NTC Chapter's Travel Support Grant 2023. The purpose is to partially support local NTC Chapter Chair, executive members or their representatives to attend the IEEE Nano2023 (2-5 July 2023 in Jeju Island, Korea) in-person. The successful applicant is required to join the Adcom meeting which will be held in conjunction with the IEEE Nano2023 to gain good insight on the NTC operation, management and activities. Up to US\$1500 can be applied from each eligible applicant.

For detailed application information, please visit the NTC [website](#).

Region 9 Coordinator

The NTC Chapters & Regional Activities Committee would like to thank the committee member, Region 9 coordinator, Mr. Camilo Tellez for his excellent contribution and service to the committee. Mr. Tellez has recently stepped down from his role due to further study and we wish him all the best. NTC members from Region 9 who are interested in taking up the R9 coordinator role, are welcome to contact Prof. Lan Fu (lan.fu@anu.edu.au) for further information and expression of interest.

EDUCATIONAL ACTIVITIES

Distinguished Lecturers for 2023

The IEEE NTC is pleased to announce the appointments of Distinguished Lecturers for 2023.

DL Name	Topic(s)
Xiangfeng Duan	1. 2D Transistors: Promises, Problems, and Prospects
Zetian Mi	1. Nanoscale and Quantum Engineering of III-nitrides for High Efficiency UV Optoelectronics and Micro LEDs
Jiming Bao	1. Cubic Boron Arsenide (cBAs): a Promising Semiconductor for Next Generation Electronics
Xiaoying Zhuang	1. Machine Learning Based Multiscale Exploration and Characterization of 2D materials
Li Tao	1. Emerging Low dimensional Materials and Devices for Wearable IoTs and Healthcare Applications in the Post Moore Era

Zenghui Wang	1. A Vibrant New World Exploring New Physics and Materials with Nanoelectromechanical Systems (NEMS)
Antonio Di Bartolomeo*	1. Electrical transport measurements in 2D materials 2. Nanotransistors 3. 2D Materials: fabrication, properties and applications
Weida Hu*	1. Nanoscale infrared photodetectors manipulated by localized fields
Kin Fong Lei*	1. Analyses of Molecular Expression of Cancer Cells Cultured in Stacking Nanofiber Substrate 2. Impedimetric Monitoring of Cancer Cell Responses in Three-dimension Culture Environment
Aida Todri-Sanial*	1. Novel devices and circuits design methods energy efficient neuromorphic computing with oscillatory neural networks
Massimiliano Di Ventra*	1. Quantum transport in nanoscale systems 2. MemComputing: Fundamentals and Applications 3. Next-generation sequencing with nanochannels 4. Industrial research from an academic point of view
Yang Xu*	1. Graphene/Silicon Heterojunctions for Integrated Nanotechnology
Ken-Tye Yong*	1. Nanocarbons for Biology and Medicine: Sensing, Imaging, and Drug Delivery
Yong Zhu*	1. Nanomaterial-Enabled Soft Electronics 2. MEMS for Characterizing Mechanical and Coupled Properties of Nanomaterials
* Re-appointment for second year.	

For a detailed introduction of the DLs for 2023, please go to the NTC [website](#).

Request for Proposals for 2023 IEEE Summer School on Nanotechnology

Deadline 1 May 2023

Call for proposals: The IEEE Nanotechnology Council is requesting proposals for 2023 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.

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.

You are encouraged to submit a proposal to hold a 2023 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.

Important Dates:

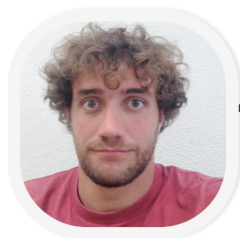
- Eligible period: September to December 2023
- Deadline for submitting the proposal: 1 May 2023
- Notification of the outcome of the review process: 1 June 2023

Please submit your proposal to the Summer School Subcommittee Chair, Prof. Lixin Dong at l.x.dong@cityu.edu.hk. Potential hosts are encouraged to contact the subcommittee to express their interest and to work with the subcommittee so as to strengthen their proposals.

For detailed information, please check the [full CFP](#).

YOUNG PROFESSIONALS

New YP Chair



Matteo Lodi

Email: matteobrunolodi@ieee.org

Matteo B. Lodi received the bachelor's degree in biomedical engineering from the University of Cagliari, Cagliari, in 2016, and the master's degree in biomedical engineering from Politecnico di Torino, Turin, Italy, in 2018. He is currently working toward the Ph.D. degree in electronic engineering and computer science at the University of Cagliari. His research activity deals with the modeling of bioelectromagnetic phenomena, especially hyperthermia treatment; the study, manufacturing, and synthesis of magnetic biomaterials for tissue engineering applications; and the use of microwaves for biotechnology and environmental applications. He was awarded as Young Scientists at the General Assembly and Scientific Symposium of URSI 2020 and 2021. He is a member of the Editorial Board of the IEEE Future Directions Technology Policy and Ethics newsletter.

Call for Young Professionals to Join IEEE NTC Technical Committees



Are you IEEE Young Professional interested in the field of Nanotechnology, and in expanding your professional horizons? Consider joining one of the **IEEE Nanotechnology Council Technical Committees**. Our mentoring program (MENED) is designed for young professionals interested in gaining new skills and experiences, participating in professional activities, and further development of their professional network.

Find your chosen technical committee and fill out our short [application form](#) so we can get to know you better.

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 2023: Call for Papers



23rd IEEE International Conference on Nanotechnology (IEEE-NANO 2023)

2-5 July 2023, Jeju Island, Korea.

Website: <https://2023.ieeenano.org/>

IEEE-NANO is the flagship conference series of the IEEE Nanotechnology Council (NTC) since 2001, focusing on the promotion of advanced research in the fields of nanoscience and nanotechnology. Recent conferences were held in Palma de Mallorca (Spain, 2022), Montreal (Canada, 2021), Virtual (2020), Macau (China, 2019), Cork (Ireland, 2018), Pittsburgh (USA, 2017), Sendai (Japan, 2016), Rome (Italy, 2015), Toronto (Canada, 2014), etc.

Key Dates:

Deadline for Paper Submissions: 15 March 2023

Notification of Acceptance: 15 April 2023

Camera-Ready Submission: 15 May 2023

Special Sessions:

Special Invited Session Proposal Deadline: 15 March 2023

Special Invited Session Abstract/Paper Submission Deadline: 30 April 2023

NOTE:

- Only full papers (4 to 6 pages) submitted by 15 March 2023 will be considered for inclusion in IEEE Xplore with their acceptance.
- Papers presented at IEEE-NANO 2023 will be selected to publish in special sections of peer-reviewed journals, including *IEEE Transactions on Nanotechnology* (IF 2.967), *IEEE Transactions on Nanobioscience* (IF 3.206) and *IEEE Open Journal of Nanotechnology* (IF expected in 2023).

IEEE-NMDC 2023: Call for Papers



18th IEEE Nanotechnology Materials and Devices Conference

22-25 October 2023, Paestum, Italy

Website: <https://ieeenmdc.org/nmdc-2023>

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

The IEEE NMDC 2023 will be held in the pleasant environment of the ancient city of Paestum, one of the most important archeological sites of south Italy, UNESCO heritage since 1997.

Important Dates:

Paper Submissions Opening: 1 February 2023

Paper Submission Deadline: 1 May 2023

Acceptance Notification: 15 May 2023

Full Paper Submissions Opening: 20 May 2023

Full Paper Submission Deadline: 15 July 2023

Early Registration Opens: 30 May 2023

IEEE-NEMS 2023 Call for Papers



18th IEEE International Conference on Nano/Micro Engineered and Molecular Systems

14-17 May 2023, Jeju Island, South Korea

Website: <https://www.ieee-nems2023.org/>

The 18th IEEE Int'l Conference on Nano/Micro Engineered & Molecular Systems (IEEE-NEMS 2023) will be held from 14-17 May 2023 at the Ramada Plaza Hotel Jeju, Jeju Island, South Korea.

IEEE-NEMS is a premier conference series sponsored by the IEEE Nanotechnology Council focusing on the promotion of advanced research areas related to MEMS, nanotechnology, and molecular technology. The IEEE-NEMS Conference typically attracts over 600 attendees with participants from more than 20 countries and Regions worldwide.

Important Dates:

10 Feb 2023: Abstract Submission Deadline (Extended)

28 Feb 2023: Acceptance Notification

31 Mar 2023: Full Paper Submission Deadline

31 Mar 2023: Early Registration Deadline

IEEE NAP 2023: Call for Papers



IEEE International Conference on Nanomaterials: Applications & Properties

10-15 September 2023, Bratislava, SLOVAKIA

Website: <https://ieeenap.org/>

The prime focus of the IEEE NAP-2023 is on nanoscale materials with emphasis on interdisciplinary research exploring and exploiting their unique physical and chemical properties 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.

Important Dates:

Abstract submission starts: 1 February 2023

Abstract submission ends: 1 May 2023

Manuscript submission ends: 1 June 2023

Acceptance/rejection notification: 1 July 2023

Early registration fees deadline: 15 July 2023

Conference Program available: 15 August 2023

3M-NANO 2023: Call for Papers



IEEE International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale

31 July – 4 August 2023, Chengdu, China

Website: <http://www.3m-nano.org/2023/>

3M-NANO is the annual International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale. It will be held on 31 July - 4 August 2023 in Chengdu, 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* and other SCI/Ei journals.

Important Dates:

Full paper submission: 1 May 2023

Proposals for special sessions (5-6 papers): 1 May 2023

Notification of acceptance: 15 June 2023

Final paper submission: 15 July 2023

Advanced registration: 15 July 2023

MARSS 2023: Call for Papers

MARSS

International Conference on Manipulation,
Automation and Robotics at Small Scales

MARSS 2023
ABU DHABI

Abu Dhabi, UAE
Oct. 09–13, 2023

6th International Conference on Manipulation, Automation and Robotics at Small Scales

9-13 October, 2023, Abu Dhabi, UAE

Website: <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. MARSS2023 will be held in-person on 9-13 October 2023, in Abu Dhabi, UAE. 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 and their applications.

Important Dates:

Full paper submission (5-6 pages): 10 July 2023

Short paper Submission (1-3 pages): 10 July 2023

Notification of full paper status: within 2 weeks after the submission

Notification of Short paper status: 2-3 days after the submission

Submission of camera-ready full papers: 10 August 2023

Registration for speakers of full papers: 10 August 2023

Special session proposals: 10 July 2023 (preliminary proposal, OPTIONAL)

Final Special Session proposal: 10 August 2023

Early Bird registration: 10 August 2023

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 22



IEEE Open Journal of Nanotechnology

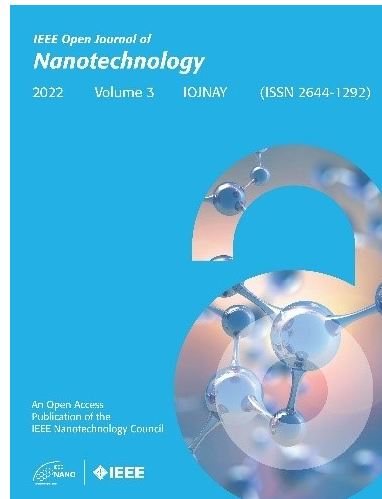
View the full current issue of IEEE OJ-NANO

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

OJNANO, VOLUME 4



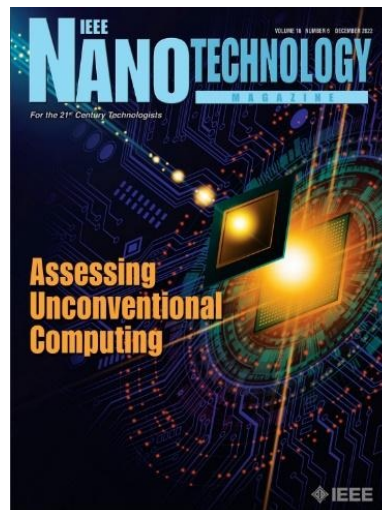
IEEE Nanotechnology Magazine

View the full current issue of IEEE INM

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

To find how to submit to INM, [click here](#).

INM, Volume 16, Number 6



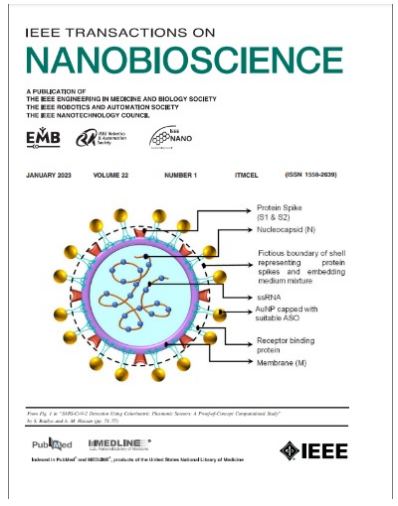
IEEE Transactions on NanoBioscience

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 22, Number 1



LIST OF NANOTECHNOLOGY COUNCIL OFFICERS (2023)

Position	Name	Position	Name
Past-President	 James Morris	President	 Fabrizio Lombardi
President-Elect	 Jin-Woo Kim	Vice President for Conferences	 Kremena Makasheva
Vice President for Educational Activities	 Lixin Dong	Vice President-Elect for Educational Activities	 Luca Pierantoni
Vice President for Finances	 Malgorzata Chrzanowska-Jeske	Vice President for Publications	 Supriyo Bandyopadhyay
Vice President-Elect for Publications	 Georgios Sirakoulis	Vice President for Technical Activities	 Xiaoning Jiang
Vice President-Elect for Technical Activities	 Weiqiang Liu	Secretary	 Edward G. Perkins

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