



## Newsletter | April 2022

### In this Issue:

*PRESIDENT'S MESSAGE*

*BREAKING NEWS*

*DISTINGUISHED LECTURERS 2022*

*EDUCATION*

*YOUNG PROFESSIONALS*

*NTC WOMEN IN NANOTECHNOLOGY*

*CONFERENCES*

*PUBLICATIONS*

### Editor's Note

Welcome to the April 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](#).



**Yijun Cui**

Nanjing University of  
Aeronautics and  
Astronautics



**Ke Chen**

Nanjing University of  
Aeronautics and  
Astronautics

## PRESIDENT'S MESSAGE

I am welcoming you as the 2022 President of the IEEE Nanotechnology Council (NTC)! The Council is a multi-disciplinary group supporting the theory, design, and development of nanotechnology and its scientific, engineering, and industrial applications.

The NTC provides you with opportunities to keep technically up to date through our publications and conferences, network with like-minded colleagues, and take advantage of our educational materials.

The Council sponsors five publications and eleven well-recognized conferences, in addition to the Bimonthly newsletter. For a full list of NTC's sponsored publications and conferences, please visit the [IEEE Nanotechnology Council website](#).



Fabrizio Lombardi

## BREAKING NEWS

### **Congratulations to TC-06 on Nanoelectronics, 2022 TC Award Winner!**

The IEEE Nanotechnology Council Technical Committee Award is a recognition for the work accomplished by one of the IEEE NTC TCs during 2 year period. The NTC TCs serve as focal points for research in specific areas of Nanotechnology. The technical activities developed by the NTC TCs are highly appreciated because of their impact in the scientific, literary and educational events coordinated by IEEE NTC.

It is our pleasure to announce that the 2022 NTC TC Award is accorded to NTC TC-06 Nanoelectronics chaired by Malgorzata Chrzanowska-Jeske. Without any doubt we can say that the nanoelectronics technologies have made great impacts on human activities through every sector of the modern industry.

[More information about TC-06](#)

[More information about the TC Award](#)

---

### **NTC 2022 Individual Awards**

The NTC Pioneer Award recognizes individuals who have had a significant impact on the field of nanotechnology by virtue of initiating new areas of research, development or engineering.

The 2022 Pioneer Award goes to Professor Xiuling Li, Temple Foundation Endowed Professor in the Department of Electrical and Computer Engineering and Microelectronics Research Center at The University of Texas at Austin.

The NTC Early Career Award recognizes individuals who have made contributions with a major impact on the field of nanotechnology.

The 2022 Early Career Award goes to Deblina Sarkar, Assistant Professor, Massachusetts Institute of Technology and AT&T Career Development Chair Professor at MIT Media Lab.

Congratulations to the awardees. The awards will be presented at IEEE NANO 2022 in Mallorca, Spain.

Nominations for the NTC 2023 individual awards can be [submitted here](#) until 1 October.

### Individual Awards Nominations

---

## Call for 2022 Nominations IEEE Nanotechnology Council

The IEEE Nanotechnology Council (NTC) is seeking 2022 nominations for the following elected positions.

- (1) Election: **President-elect** (one year term, 2023)
- (2) Election: **VP for Conferences** (2023-2024)
- (3) Election: **VP for Finances** (2023-2024) [incumbent is eligible]

NEW positions as of 2021 Constitution and Bylaws Update:

- (4) Election: **VP-elect for Educational Activities** (3-years: elect 2023; VP 2024-2025)
- (5) Election: **VP-elect for Publications** (3-years: elect 2023; VP 2024-2025)
- (6) Election: **VP-elect for Technical Activities** (3-years: elect 2023; VP 2024-2025)
- (7) Election: **Member-at-Large** (MAL) (up to 3) (2023-2024)

**Note the 2021 Governing documents update altered the election procedures for VPs by adding VP-elects and Members-at Large which we are phasing in starting this year.**

Unless otherwise noted, all positions are two-year terms and start Jan. 1, 2023.

Nominations should include a statement from the candidate and a bio in IEEE format. **Officer** candidates are nominated from current AdCom members or from those past members who have served as Member Society-appointed or ex-officio AdCom members **within the previous five years**. **MAL** candidates are NOT required to be members of Member Societies.

The deadline for nominations is **5 May 2022**.

See the [Call for 2022 Nominations](#) announcement.

---

## Request for proposals for 2022 IEEE Summer School on Nanotechnology

### Deadline 1-May-22

Call for proposals: The IEEE Nanotechnology Council is requesting proposals for 2022 Summer School. Proposals 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 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.

#### **Important Dates:**

- Deadline for submitting the proposal: 1 May 2022
- Notification of the outcome of the review process: 1 June 2022
- Eligible period: September to December 2022

For more detailed information about the proposal, please check the [NTC website](#).

Links to the proposals approved in [2021 IEEE Summer School on Nanotechnology](#).

---

## Requests for Proposals for Hosting IEEE NANO and IEEE NMDC for 2025

The IEEE Nanotechnology Council (NTC) is calling for proposals for future sites for IEEE-NANO 2025 and IEEE NMDC 2025. **Initial Proposal deadline is 30 May 2022.**

The IEEE Nanotechnology Conference (IEEE-NANO) is the flagship IEEE Nanotechnology conference. The conference scope covers a wide range in nanoscience and technology. We are now seeking proposals for IEEE-NANO 2025 which is expected to run in **IEEE Region 1-7 (North America) or 9 (South & Central America)**.

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. We are now seeking proposals for IEEE-NMDC 2025 which is expected to run in **IEEE Region 8 (Asia and Pacific)**.

Early indication of an intention to submit a proposal is strongly recommended.

**Candidates for NANO and 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 2022 held at IEEE-NANO 2022 in Mallorca, Spain.** Final proposals are due in October for presentation at the Fall NTC Excom meeting.

Read the complete Call for Proposals posted on the NTC website.

(<https://ieeenano.org/2022/call-for-proposals-for-future-sites-for-ieee-nano-2025-and-ieee-nmdc-2025>)

---

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

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. Authors who were attendees are requested to significantly expand the previous conference version to contain substantial new technical material, as per TNANO and IEEE restrictions on duplicated publications and the competitive acceptance process.

### Guest Editors

**Prof. Malgorzata Chrzanowska-Jeske**

Portland State University, Portland, Oregon, USA

E-mail: [jeske@ece.pdx.edu](mailto:jeske@ece.pdx.edu)

**Prof. Antonio Di Bartolomeo**

University of Salerno, Salerno, Italy

E-mail: [adibartolomeo@unisa.it](mailto:adibartolomeo@unisa.it)

**Responsible T-NANO Senior Editor: Dr. Sorin Cotofana**

### Important Dates

- Submission deadline: **15 April 2022**
- First decision (accept/reject/revise): **31 May 2022**
- Revised papers submission: **20 June 2022**
- Final decision: **30 July 2022**

For more information about scope, important dates and submission requirements, please check the [NTC website](#).

---

## Special Section on Nanoscale Architectures (NANOARCH 2021)

Following the successful IEEE/ACM International Symposium on Nanoscale Architecture (NANOARCH 2021), we have decided to put together a dedicated special section of TNANO, whose goal is to continue NANOARCH's mission to promote cross-disciplinary research work and to seek inspiration to address the challenges of integrated nanoscale electronic systems. The section scope incorporates several exciting areas on emerging computing paradigms (e.g., approximate, stochastic, quantum, neuromorphic, molecular, spintronic), novel nanoscale computing architectures, 2D material-based (e.g., graphene) nanoelectronics and computing architectures, beyond charge-based computing, emerging memory devices and in-memory computing, and nanoelectronics for biomedical systems.

Manuscripts for the TNANO Special Section must be submitted on-line using the IEEE TNANO manuscript template. Follow the guidelines (<https://tnano.org/>), and submit your paper to ScholarOne Manuscripts at <http://mc.manuscriptcentral.com/tnano>, indicating in the cover letter that you wish the paper to be considered for "IEEE Transactions on Nanotechnology (TNANO) Special Section on the **Nanoscale Architectures Symposium (NANOARCH 2021)**". Please note that the type of submissions is Regular Manuscripts, i.e., 4 to 6 pages in the two-column IEEE format, which includes figures, tables, and references. On

submission to T-NANO, authors should select the "Special Issue" manuscript type instead of "Regular Paper."

#### Guest Editors

##### Prof. Vincent Gaudet

Department of Electrical and Computer Engineering, University of Waterloo,  
Ontario, Canada

**E-mail:** [vcgaudet@uwaterloo.ca](mailto:vcgaudet@uwaterloo.ca)

##### Prof. Naoya Onizawa

Research Institute of Electrical Communication, Tohoku University, Japan

**E-mail:** [naoya.onizawa.a7@tohoku.ac.jp](mailto:naoya.onizawa.a7@tohoku.ac.jp)

##### Prof. Jianlei Yang

School of Computer Science and Engineering, Beihang University, Beijing, China

**E-mail:** [jianlei@buaa.edu.cn](mailto:jianlei@buaa.edu.cn)

**Responsible T-NANO Senior Editor: Prof. Sorin Cotofana**

#### Important Dates

- **Submission deadline:** 30 April 2022
- **First decision (accept/reject/revise):** 15 June 2022
- **Revised papers submission:** 31 July 2022
- **Final decision:** 31 August 2022

For more information about scope, important dates and submission requirements, please check the [T-NANO website](#).

## DISTINGUISHED LECTURERS 2022

The IEEE NTC is pleased to announce the appointments of Distinguished Lecturers for 2022.

For detail introduction of the Distinguished Lecturers' information, please visit the [NTC website](#).



#### Antonio Di Bartolomeo

##### Topic(s)

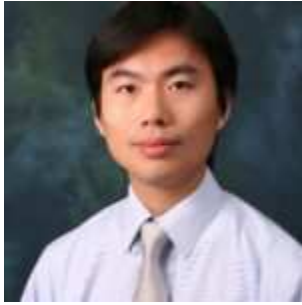
- Electrical transport measurements in 2D materials
- Nanotransistors
- 2D Materials: fabrication, properties and applications



#### Weida Hu

##### Topic(s)

- Nanoscale infrared photodetectors manipulated by localized fields



### **Dr. Kin Fong Lei**

#### Topic(s)

- Analyses of Molecular Expression of Cancer Cells Cultured in Stacking Nanofiber Substrate
  - Impedimetric Monitoring of Cancer Cell Responses in Three-dimension Culture Environment
- 



### **Dr. Elena A. Rozhkova**

#### Topic(s)

- Merging Nanotechnology & Synthetic Biology toward Directed Evolution of Energy Materials
  - Magnetic Nanostructures for Future Medicine: from Cell Actuation to Ultrasensitive Detection
  - Nano for BRAIN technologies
- 



### **Aida Todri-Sanial**

#### Topic(s)

- Novel devices and circuits design methods energy efficient neuromorphic computing with oscillatory neural networks
- 



### **Massimiliano Di Ventra**

#### Topic(s)

- Quantum transport in nanoscale systems
  - MemComputing: Fundamentals and Applications
  - Next-generation sequencing with nanochannels
  - Industrial research from an academic point of view
- 



### **Yang Xu**

#### Topic(s)

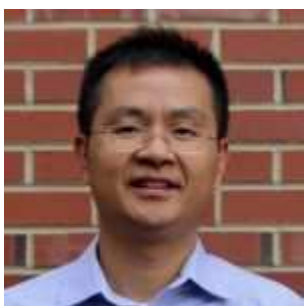
- Graphene/Silicon Heterojunctions for Integrated Nanotechnology
-



### **Ken-Tye Yong**

Topic(s)

- Nanocarbons for Biology and Medicine: Sensing, Imaging, and Drug Delivery



### **Yong Zhu**

Topic(s)

- Nanomaterial-Enabled Soft Electronics
- MEMS for Characterizing Mechanical and Coupled Properties of Nanomaterials

## **EDUCATION**

### **Nanodesafios2021**

Solutions for sustainability

"Nanodesafios" (nano-challenges in Spanish) called on students from different Mexican universities to propose nanotechnology-based solutions to the question: how to make the transition to renewable energies? Throughout a period of ten weeks, students developed their proposals and listened to national and international companies and researchers. Finally, 4 expert referees qualified the proposals in terms of technical feasibility, scientific rationale, sustainable impact, and economic viability.

Feynman Followers, the winning team of this first edition, consists of 5 students from the Autonomous University of Baja California: Abril Adriana Castro León, Laura Danely Cortés Valadez, Daniel Ormart Cepeda, Cecilia Gabriela Sedano Pereyra, and Martín Antonio Verdugo Parra. The team won with the work "Stranded-cables of Carbon Nanotubes for improved electrical transmission towards renewable energies". It is possible to watch the complete event on the [official YouTube channel](#).

Information and updates on this and future events are shared on social networks ([Facebook](#) and [Instagram](#)).

Nanodesafios is the result of a collaboration between IEEE Nanotechnology Council Region 9 and SE-Nano.





News edited by: David Castellanos PhD (c)  
Msc. Camilo Téllez Villamizar  
Dr. German Álvarez Botero

## YOUNG PROFESSIONALS

### NYC Young Professionals Region 2 to Host a Webinar



**APRIL 22ND**  
**2 PM (UTC-4)**



On 22 April at Noon (UTC-6), join this free [Webinar] "Quantum Dots: Applications and Advances." Different specialists will talk about the challenges, recent developments, and applications for Quantum Dots. The event is free and open to all upon registration.

Register to attend this free event: <https://events.vtools.ieee.org/m/308835>

Speakers:

Dr. Ellie Bennett (Postdoc, Columbia University),

Dr. Eric Kennehan (Co-founder & CEO/CTO, Magnitude Instruments), and

Dr. Armin Fischer (COO, QD Solar Inc.)

Moderator:

Eng. Tory Welsch (Graduate student at Dr. Doty's group, University of Delaware)

This event is co-hosted by the IEEE Nanotechnology Young Professionals Canada and Eastern US and supported by the IEEE Nanotechnology Council.

More info at <https://www.linkedin.com/company/ieee-ntc-yp-canada>

---

## 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 \(Asia and Pacific\)](#)

## NTC Women in Nanotechnology Webinar

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

Join the IEEE Nanotechnology Council Women in Nanotechnology (WIN) for this important Virtual round table discussion on DEI prospects and challenges.

#### IEEE Diversity Statement:

IEEE's mission to foster technological innovation and excellence to benefit humanity requires the talents and perspectives of people with different personal, cultural, and disciplinary backgrounds. IEEE is committed to advancing diversity in the technical profession, and to promoting an inclusive and equitable culture that welcomes, engages, and rewards all who contribute to the field, without regard to race, religion, gender, disability, age, national origin, sexual orientation, gender identity, or gender expression. For further information visit the [IEEE diversity website](#).

**DATE:** 20 April 2022

**TIME:** 11AM EST ~12.30PM EST

**Register** [here](#)

**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

For full details and to register, see the NTC website (<https://ieeenano.org/2022/ieee-ntc-win-virtual-round-table-dei-prospects-and-challenges>)

---

## **Second Meeting of the NTC Technical Committee on Emerging Plasma Nanotechnologies**

The **second** meeting (**online workshop**) of the newborn Technical Committee on Emerging Plasma Nanotechnologies will be at 6 pm CST May 10, 1 am (next day, May 11) CET and 8 am (next day, May 11) JST. It will be virtual with a very exciting program with speakers either from academia and industry. It is free but registration is necessary.

The list of the speakers is the following:

- Prof. Kenji Ishikawa, Nagoya University  
Nanoscale etching technologies for nitrides and carbides
- Prof. and Dean Masaharu Shiratani, Kyushu University  
Identification of key plasma process parameters using support vector machine
- Dr. Prem Panneerchelvam, KLA  
Etch profile simulations to address challenges in plasma based nanofabrication

[Click here](#) for further details and to sign up for the web link.

[Learn More & Sign Up](#)

## **CONFERENCES**

**IEEE-NMDC 2022: Call for Papers**



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:**

Abstract Submission Deadline: 30 April 2022

Full Paper Submission Deadline: 30 May 2022

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: Call for Papers**



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.

Full paper submission: 1 May 2022

Proposals for special sessions (5-6 papers): 1 May 2022

Notification of acceptance: 15 June 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 5<sup>th</sup> 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:**

Full paper submission (5-6 pages): 15 May 2022

Notification of full paper status: 5 June 2022

Submission of final full papers: 20 June 2022

Registration for the full papers: 20 June 2022

Short paper submission (1-3 pages): 15 June 2022

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

Special session proposals: 15 May 2022 (preliminary proposal)  
20 June 2022 (final proposal)

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

---

## IEEE NAP 2022: Call for Papers



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 Magnetism 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 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 site opens: 1 February 2022  
Abstracts submission deadline: 25 April 2022  
Papers submission deadline: 20 May 2022  
Acceptance notification: 30 June 2022  
Early registration fees deadline: 15 July 2022

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

---

## EIPBN



The International EIPBN Conference is the premier gathering of scientists and engineers who are dedicated to electron, ion and photon lithography, imaging, and analysis; atomically precise fabrication; nanofabrication process technologies; related emerging technologies, and their applications in a broad spectrum of fields. This is the 65th meeting of the EIPBN, where top researchers from academia, government laboratories, and industry from around the world meet to present and discuss recent trends and future directions in these technologies.

The online attendee registration deadline is Sunday, 15 May 2022

The online booth registration deadline is Sunday, 15 May 15, 2022

The registration is open. [Click here for detailed information.](#)

## 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 21**

---

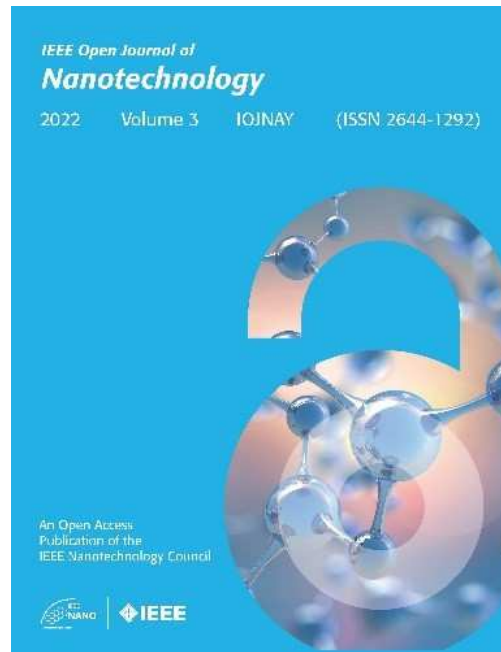
# IEEE Open Journal of Nanotechnology

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](#).

**OJNANO, VOLUME 3**



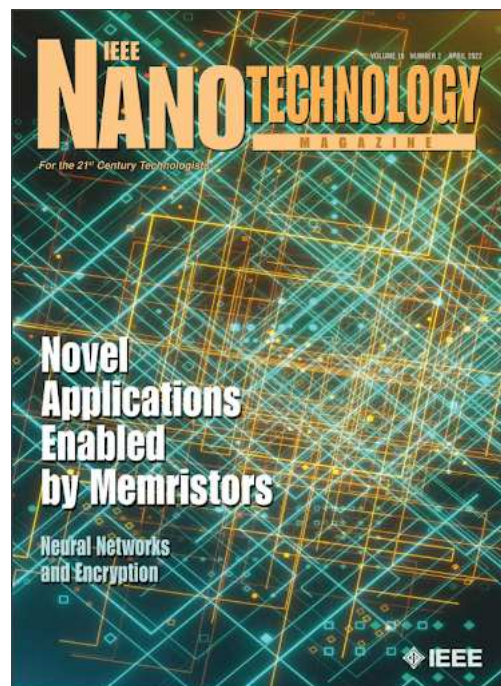
# IEEE Nanotechnology Magazine

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 2**





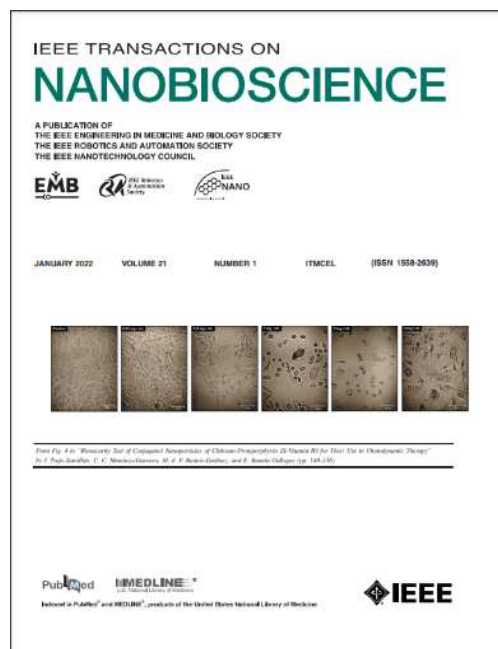
# IEEE Transactions on NanoBioscience

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 21, Number 1**



## LIST OF NANOTECHNOLOGY COUNCIL OFFICERS (2022)

President, Fabrizio Lombardi  
Past-President, Jim Morris  
VP Conferences, Jin-Woo Kim  
VP Publications, Supriyo Bandyopadhyay  
VP Finances, Malgorzata Chrzanowska-Jeske  
VP Educational Activities, Lixin Dong  
VP Technical Activities, Xiaoning Jiang  
Secretary, Edward Perkins

If you have an IEEE Account, manage your IEEE communications preferences [here](#). Users without an IEEE Account can access the [Privacy Portal](#) to view selected preferences and policies.

**TAP. CONNECT. NETWORK. SHARE.**  
with the **IEEE App**



[Website](#) | [Privacy Policy](#) | [Contact](#)

© 2022 IEEE— All rights reserved.