Newsletter | February 2025

Editor's Note

Welcome to the February 2025 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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PRESIDENT'S MESSAGE

Greetings from IEEE NTC President Jin-Woo Kim

As I enter my second year as the President of the IEEE Nanotechnology Council (NTC), I am honored to reflect on the meaningful progress we have made together and to share my vision for the year ahead. It has been an extraordinary journey working alongside a dedicated team of volunteers, researchers, and professionals who continue to elevate NTC as a global leader in nanotechnology.

The past year has seen steady progress in NTC's activities. We have strengthened our technical activities, expanded our global outreach, and continued to enhance the impact of our conferences and publications. The growth in participation across various NTC-sponsored initiatives has reaffirmed our commitment to fostering a thriving and inclusive nanotechnology community.

Key milestones from the past year include:

- Continued success of NTC's technical conferences including our flagship events – IEEE-NANO and IEEE-NMDC.
- Strengthened collaborations with IEEE Societies, Councils, and external organizations to drive interdisciplinary advancements.
- Increased visibility of NTC's publications, ensuring high-impact research continues to reach a broader audience.
- Ongoing efforts to support young professionals and students through various initiatives, encouraging the next generation of nanotechnology leaders.

These accomplishments have been possible due to the unwavering dedication of our volunteers and contributors, and I extend my deepest gratitude to each of you! However, this past year has not been without challenges. A significant change in IEEE's budgetary procedures has introduced new complexities in financial planning and resource allocation. This shift has required us to adapt swiftly to ensure that our programs and initiatives continue without disruption. While we have successfully navigated these changes so far, we must remain diligent in managing our financial health while sustaining our high level of activity.

Building on our progress, we will focus on the following priorities in the coming year:

- **Expanding technical and professional opportunities.** We aim to continue enhancing the scope of our conferences, technical programs, and educational programs to provide even greater opportunities for networking, collaboration, and knowledge exchange.
- **Strengthening strategic partnerships.** We will continue to foster meaningful connections with IEEE entities, industry leaders, and global research institutions. These partnerships will drive innovation and create new opportunities for our participants.
- **Enhancing diversity and global inclusion.** Encouraging broader participation and representation across different regions remains a key goal. We will focus on increasing outreach efforts to underrepresented areas and ensuring that NTC is a truly global platform for nanotechnology professionals.
- **Elevating NTC's publications and technical Excellence.** We will continue to uphold the highest standards of technical excellence across our journals and publications while promoting emerging areas of nanotechnology research.
- **Empowering the next generation of leaders.** Through mentorship programs and outreach efforts, we aim to empower the next generation of nanotechnology professionals, cultivating the future of nanotechnology leadership.
- **Navigating financial challenges and ensuring sustainability.** With the changes in IEEE's budgetary procedures, we must find innovative ways to sustain our initiatives while adapting to the new financial landscape. Careful financial planning and efficient resource utilization will be essential for maintaining the quality and impact of our activities.

NTC thrives because of its passionate volunteers and contributors! I encourage each of you to take an active role in shaping the future of our Council. Whether through technical committees, publications, conferences, or outreach programs, your involvement makes a difference – Your involvement is invaluable to our continued growth!

We recognize that the upcoming year presents both opportunities and challenges, but I am confident that, through collaboration and dedication, we will continue to make significant strides in advancing nanotechnology and strengthening our community.

I invite you to stay engaged, share your ideas, and help us propel NTC toward new heights of success. Please feel free to reach out to me at jwkim@uark.edu with your thoughts and suggestions.

Together, let's continue to make a lasting impact in the field of nanotechnology!

With appreciation and enthusiasm,
Jin-Woo Kim
President, IEEE Nanotechnology Council

BREAKING NEWS

NTC 2025 IEEE Fellows and Fellow Evaluation Committee Announced

Congratulations to the 2025 newly elevated fellows effective as of 1 Jan 2025:

- L. Jay Guo – The University of Michigan – "for contributions to nanoimprint, scalable nanopatterning"
- Xinran Wang – Nanjing University, China – "for contributions to the fabrication and device application of low-dimensional semiconductors"

2025 Fellow Evaluation Committee

Chair: Tommy Tzeng, National Cheng Kung University, Taiwan
Evaluator: Ning Xi, University of Hong Kong, Hong Kong
Members:
Andrea Alu, City University of New York, USA
Fil Bartoli, Lehigh University, USA
Barbara De Salvo, CEA-Leti, France
L. Jay Guo, The University of Michigan, USA
Xiuling Li, University of Texas, USA
Larry Nagahara, John Hopkins, USA
Zhigang Pan, University of Texas, USA
Robert Shull, NIST, USA
Yu Sun, University of Toronto, Canada
Xinran Wang, Nanjing University, China

AWARDS

CALL FOR NOMINATIONS for: IEEE Nanotechnology Council Best PhD Thesis Award in Nanotechnology (established in 2022)

All nomination materials must reach the Education Awards Committee by 1 March each year.

Download nomination form

Description: This annual award recognizes a PhD thesis in nanotechnology with remarkable technology innovation or excellence which should have led to publications in NTC venues including journals and conferences. Any member with no conflict of interest (i.e. advisor-advisee relationship) with any member of the NTC ExCom, NTC Education Committee, or NTC Technical Committees can submit a nomination to the Award Committee for this award. Self-nominations are not allowed. The awardee will be selected by a committee composed of the Chair and 3 members. The Chair is appointed by the NTC President with a recommendation from the VP of Educational Activities. The Chair appoints the committee members with approval by the NTC President.

For more information, please check the website.

CALL FOR NOMINATIONS for: NTC Publication Awards

All nomination materials must reach the Publication Awards Committee by 1 March each year.

A. *T-NANO* Best Paper Award

Download nomination form

Description: An annual best paper award to recognize a paper published in the *IEEE Transactions on Nanotechnology (T-NANO)* that is remarkable by its novelty, scientific merit, and potential impact. This award will encourage the submission of excellent papers to the journal, and reward outstanding submissions. **Note: Nominations by current members of the T-NANO Editorial Board ONLY.**

B. *IEEE Nanotechnology Magazine* Best-Paper Award

Download nomination form

Description: This annual award recognizes a highly influential and impactful article of the highest quality published in the *IEEE Nanotechnology Magazine (INM)* in the preceding 2 calendar years. (For example, the 2023 award recognizes a paper published in 2021 or 2022.) **Note: Nominations accepted from any current or past member of the INM Editorial Board within the last 3 years ONLY.** No self-nominations. Requires three reference letters.

C. Test-of-Time Publication Award

Download nomination form

Description: This annual award recognizes a highly influential, widely visible, and impactful article of the highest quality which appeared in any Nanotechnology Council managed journal, magazine, or financially sponsored conference proceedings between 10 years and 25 years ago. **Note: Nominations from any Editorial Board member of any NTC publication within the last 25 years ONLY.** No self-nominations. Requires three reference letters.

TECHNICAL ACTIVITIES

2025 IEEE NTC TC10 Modeling and Simulation March Webinar

Date: Thursday, 6 March 2025
Time: 17:00 Central European Time
Speaker: Dr. Nicolas Onofrio, Software for Chemistry and Materials (SCM)
Organizer: TC10 mentee member, Luiz Felipe Aguinsky
Title: Exploring Advanced Materials Modeling with the Amsterdam Modeling Suite

Please click the link for registration.

Abstract:
In this talk Dr. Nicolas Onofrio will present the Amsterdam Modeling Suite (AMS), a powerful software package for atomistic simulations across diverse levels of theory. AMS offers seamless integration with computational engines such as Density Functional Theory, Tight Binding, and Force Fields, making it an invaluable platform for exploring potential energy surfaces (PES) in molecules and periodic systems. Its innovative features include ParAMS, a module to tune atomistic model parameters as well as an active learning workflow for efficient PES exploration. These capabilities enable rapid predictions of material properties and reaction mechanisms, driving advancements in batteries, semiconductors, polymers, and OLEDs. With an intuitive Python interface, AMS empowers researchers to automate workflows, screen materials, and optimize critical properties, providing a comprehensive toolkit for accelerating innovation in chemistry and materials science.

Bio:
Dr. Nicolas Onofrio is a Technical Sales Representative at Software for Chemistry & Materials (SCM), where he leverages his expertise in computational materials science, theoretical chemistry, and machine learning to support researchers and industries in utilizing the Amsterdam Modeling Suite (AMS). Dr. Onofrio earned his PhD from Grenoble Alpes University in 2011 followed by a postdoctoral stay at Purdue University, where he also served as a Visiting Assistant Professor from 2012 to 2016. From 2016, Dr. Onofrio was an Assistant Professor at the Hong Kong Polytechnic University, where his research spanned atomistic simulations, material property optimization, and innovative computational techniques.

NTC WIN

NTC Women in Nanotechnology Panel Session held at IEEE NANOMED 2024 Conference

IEEE NanoMed 2024 Women in Nanotechnology (WIN) panel session was held on December 5, 2024. The panel was organized by Olga Boric-Lubecke from University of Hawaii at Manoa, with the panelists Kremena Makasheva from CNRS and University of Toulouse, France, Shue Wang from University of New Haven, and Sara Mahshid and Maryam Tabrizian from McGill University, Canada. The event goals were to increase the visibility of distinguished women researchers, raise awareness of diversity importance, and inspire young female students. In addition to promoting this event through IEEE Nanomed 2024 publicity, it was also publicized by the IEEE WIN Committee chair, Noushin Nasiri, from Maquarie University in Australia. The panel was well attended, with about 50 participants, more than 50% male, at various career stages, from students to senior professionals, such as department chairs and IEEE elected officials from the Nanotechnology Council, namely the IEEE NTC President Jin-Woo Kim.

The focus of the panel was importance of gender balance, and broader diversity, equity and inclusion (DEI) in engineering. Olga Boric-Lubecke opened the panel by asking the audience to take a gender-science implicit bias test offered online by Project Implicit, then shared a presentation on DEI importance and challenges, followed by the panel discussion. Kremena Makasheva, Vice-President for Conferences of IEEE Nanotechnology Council opened the discussion with a topic of leadership, with the goal of inclusion of women in organizing committees, in the organization decision bodies, and in volunteer work to improve representation. Shue Wang discussed the key challenges women face in academia regarding gender biases and workplace climate, and raised the question of how can institutions foster an inclusive environment that supports equitable career advancement. Sara Mahshid invited the audience to reflect on and discuss the biases women faculty face during promotion and tenure and what actions can we, as individuals and institutions, take to address and mitigate these challenges. Maryam Tabrizian shared her insights on how she chooses her trainees and manages the cultural diversity in her research group. The panel continued with an engaged Q&A session with the audience, where diverse audience members shared their experiences and voiced their support for DEI.

YOUNG PROFESSIONALS

NTC YP Ambassadors Program

Introducing the New NTC Young Professionals Ambassadors Program!
The IEEE Nanotechnology Council (NTC) is proud to launch the NTC Young Professionals (YPs) Ambassadors Program, a new initiative designed to foster knowledge-sharing, professional development, and global collaboration in the field of nanotechnology. This program brings together a group of exceptional young professionals who will serve as NTC YPs Ambassadors, offering technical and non-technical talks to the NTC community.

Meet the 2024 NTC YPs Ambassadors:

- Huamin Li (University at Buffalo, Region 1)
- Maria Salvador Fernandez (University of Oviedo, Region 8)
- Galih R. Suwito (Quantum Solutions, UCL, Region 8)
- Marta Wala (Silesian University of Technology, Region 8)
- Lei Jin (Southern University of Science and Technology, Region 10)
- Santhosh Sivasubramani (IIT Hyderabad, Region 10)

Each of our distinguished Ambassadors offers unique expertise in nanotechnology and related fields, delivering on-demand virtual talks requested by NTC Chapters and Student Branches worldwide. These talks cover a wide range of topics, including cutting-edge research, career development, and emerging trends in nanotechnology.

Request a Talk! Are you an NTC Chapter or Student Branch looking to engage with top-tier experts in nanotechnology? The NTC YPs Ambassadors are here to share their insights and experiences! To request a talk, simply reach out to NTC YPs Chair Dr. Matteo Bruno Lodi at matteobrunolodi@ieee.org.

Join us in making the nanotechnology community stronger, more connected, and better equipped for the future. We look forward to your participation!

Stay Connected! Follow the IEEE NTC Young Professionals on LinkedIn for updates, upcoming events, and more opportunities to engage with our ambassadors.

Contact NTC Young Professionals

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 2025: Call for Papers

Website URL: https://2025.ieeenano.org/
Date: 13 – 16 July
Venue: Washington DC, USA

Join us in shaping the future of nanotechnology! Explore cutting-edge research, connect with global experts, and discover ground-breaking innovations at IEEE Nano 2025. Visit our website for all the details about the conference, including key topics, speakers, workshops, and networking opportunities. Don't miss your chance to be part of this transformative event in the world of nanotechnology!

Important Dates:
4-page Papers
15 Jan – 1 March 2025
Decision by 5 Apr 2025

1-page Abstracts
15 Jan – 1 April 2025
Decision by 15 Apr 2025

IEEE-NANOMED 2025

Website URL: http://ieee-nanomed.org/2025/
Date: 1 – 4 December
Venue: Hong Kong, China

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.

Important Dates:
Two-Page Abstract Deadline: 11 July 2025
Notification of Acceptance: 12 September 2025
Full Paper Deadline: 12 July 2025 (for best paper competition)
3 October 2025 (for inclusion in IEEE *Xplore*)
Early Bird Registration: 30 September 2025

IEEE-NSENS 2025: Call for Papers

Website URL: https://ieee-nsens.org/2025/
Date: 23 to 26 March 2025
Venue: Bangkok, Thailand

The 4rd IEEE International Conference on Micro/Nano Sensors for AI, Healthcare, and Robotics (IEEE-NSENS 2025) will be held on 23-26 March 2025 at Thailand.
IEEE-NSENS 2025 is one of the most important conferences that bring our members together from around the world to share professional experiences, expand professional networks, and receive updates on the latest advances in the fields of sensors, nanotechnology, artificial intelligence, healthcare monitoring and robotics.

Topics (The areas of interest include but are not limited to the following topics):

- Micro/Nano Electro – soft electronics
- Micro/Nano Electro – medical diagnostics
- Micro/Nano Electro – artificial intelligence
- Micro/Nano Electro – human-robot interaction
- Micro/Nano Electro – bioelectronics
- Micro/Nano Electro – machine learning
- Micro/Nano Electro – sensors
- Micro/Nano Electro – deep learning
- Micro/Nano Electro – power electronics
- Micro/Nano Electro – humanoid robots
- Micro/Nano Electro – nanobiotechnology
- Micro/Nano Electro – flexible sensors
- Micro/Nano Electro – healthcare electronics

Important Dates:
Final Submission Deadline: 20 February 2025

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 24

TNANO
IEEE TRANSACTIONS ON
NANOTECHNOLOGY

IEEE Open Journal of Nanotechnology

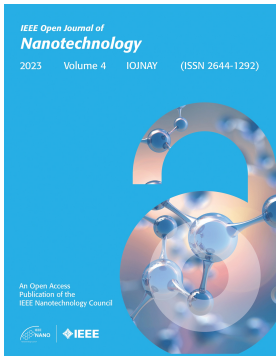
View the full current issue of IEEE OJ-NANO.

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.

OJ-NANO, VOLUME 6



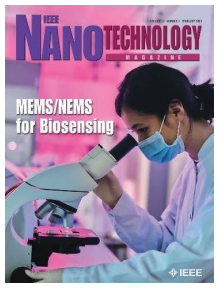
IEEE Nanotechnology Magazine

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 19, NO. 1



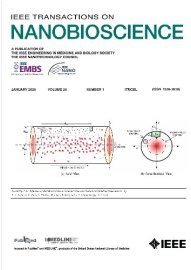
IEEE Transactions on NanoBioscience

View the full current issue of IEEE T-NB.

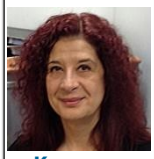
For additional information, visit the IEEE *Xplore* website.

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

T-NB, VOLUME 24, NO. 1



LIST OF NANOTECHNOLOGY COUNCIL OFFICERS (2024)

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

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