



IEEE Nanotechnology Council Newsletter | April 2021



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KEEP UP WITH US



EDITOR'S NOTE

Welcome to the April 2021 issue of the Nanotechnology Council newsletter. This issue brings you the latest updates and activities in the IEEE-NTC community. I hope you enjoy it and do let us know if there is any topic you'd like to see covered in the future.

BREAKING NEWS

16th IEEE Nanotechnology Materials and Devices Conference (IEEE NMDC 2021)

Abstract Submission Deadline Extended – 15-MAY-2021

October 17th to 20th, 2021, Vancouver, BC, Canada

Website: <https://ieeenmdc.org/nmdc-2021/>

For further information, please refer to the [Conference](#) section.

Call for 2021 Nominations IEEE Nanotechnology Council

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

- (1) Election: **VP for Educational Activities** (2022-2023)
- (2) Election: **VP for Publications** (2022-2023) [incumbent is eligible]

(3) Election: **VP for Technical Activities** (2022-2023)

Unless otherwise noted, all positions are two-year terms and start Jan. 1, 2022.

The deadline for nominations is **May 24, 2021**.

A position description and nomination form are in the NTC Nomination Package, which can be downloaded [here](#). Duties for the positions are described in the [Constitution](#) and the [Bylaws](#).

Eligibility: 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**. Review the AdCom roster [here](#). **Nominations may be made only by AdCom members.**

For more information, please refer to the [Council News](#) section.

Request for proposals for 2021 IEEE Summer School on Nanotechnology

[Download RFP](#) (PDF)

For full details and instructions on how to submit a proposal, see <https://ieeenano.org/2021/request-for-proposals-for-2021-ieee-summer-school-on-nanotechnology>. Proposals should be received by 20-May.

For more information, please refer to the [Education](#) section.

Call for Proposals for Future Sites for IEEE-NANO 2024 and IEEE NMDC 2024

Initial Proposal Deadline: 30 June 2021

For complete RFP, see posting on website:

<https://ieeenano.org/2021/call-for-proposals-for-2024-conferences-ieee-nano-and-ieee-nmdc>

A. Call for proposals for a future sites for IEEE-NANO 2024

The IEEE Nanotechnology Conference (IEEE-NANO) is the flagship IEEE Nanotechnology conference. The conference scope covers a wide range in nanoscience and technology. In particular, it covers nanofabrication, nanomanufacturing, nanomaterials, nanobiomedicine, nanoenergy, nanoplasmonics, nanoelectronics, nanosensors and nanoactuators, characterization and modelling of nano structures and devices. NANO 2021 will be held virtually due to the COVID-19 pandemic, but NANO 2022 in Balearic Islands, Spain and NANO 2023 in Jeju Island, Korea. Recent conferences were in Macau (2019), Cork (2018), Pittsburgh (2017), Sendai (2016), Rome (2015), and Toronto (2014). NANO 2020 was held virtually due to the pandemic. NANO typically runs between mid- to late-July.

We are now seeking proposals for IEEE-NANO 2024 which is expected to run in **IEEE Region 8 (Europe, Africa and Middle East)**.

For conference history, visit <https://ieeenano.org/ieee-nano-conferences/>.

Initial Proposal deadline: 30 June 2021

Early indication of an intention to submit a proposal is strongly recommended. Candidates for NANO 2024 will be expected to present a 5-10 minute “Proposal in Preparation” based on the initial proposal at the online NTC Excom and AdCom meetings in July 2021.

B. Call for proposals for a future site for IEEE-NMDC 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 2021 will be held in Vancouver, Canada, NMDC 2022 in Nanjing, China and NMDC 2023 in Paestum, Italy. Past locations of the NMDC have been in Asia (Korea, Japan, Taiwan, Singapore), USA (California, Michigan, Hawaii, Alaska, Portland), 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 2024 which is expected to run in IEEE Region 1-7 (North America) or 9 (South & Central America).

For conference history, visit <https://ieeenano.org/nmdc>.

Early indication of an intention to submit a proposal is strongly recommended. Candidates for NMDC 2024 will be expected to present a 5-10 minute “Proposal in Preparation” based on the initial proposal at the online NTC Excom and AdCom meetings in July 2021.

Formal proposals must be e-mailed prior to the appropriate deadline to: NTC Vice-President for Conferences Jin-Woo Kim, (jwkim@uark.edu) with copies to Ed Perkins, NTC Secretary (e.perkins@ieee.org).

Contact Jin-Woo Kim, (jwkim@uark.edu) with any questions.

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COUNCIL NEWS

Call for 2021 Nominations IEEE Nanotechnology Council

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

(1) Election: **VP for Educational Activities** (2022-2023)

(2) Election: **VP for Publications** (2022-2023) [incumbent is eligible]

(3) Election: **VP for Technical Activities** (2022-2023)

Unless otherwise noted, all positions are two-year terms and start Jan. 1, 2022.

Nominations should include a statement from the candidate and a bio in IEEE format.

The deadline for nominations is **May 24, 2021**.

A position description and nomination form are in the NTC Nomination Package, which can be downloaded [here](#). Duties for the positions are described in the [Constitution](#) and the [Bylaws](#).

Eligibility: 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**. Review the AdCom roster [here](#).

NOTE: Nominations may be made only by AdCom members. An individual may not serve concurrently as both a Council officer and a Council Member Society representative.

Please email the nominations to **Tommy Tzeng** NTC Nominations Committee Chair at tzengyo@gmail.com by midnight (HK Time) **24 May 2021**.

The election will be held at the virtual NTC AdCom expected on or about July 28, 2021.

GreEnergy: setting a new paradigm for solar energy harvesting

A new project funded by the European Commission through the Horizon 2020 Programme aims at developing optical nano-antennas as cost-effective solar energy harvester for a greener future.

Most energy sources we use today have low efficiency, rely on non-renewable resources and cause severe damage to our planet by contributing to global warming. GreEnergy envisions the use of the cleanest energy source available: the sun. The sun is the world's most powerful and abundant energy resource, and offers a nearly unlimited supply of energy to our planet. However, according to [the Joint Research Centre](#) (JRC), current solar photovoltaics (PV) produce roughly 4% of the world's electricity, due to their low efficiency and relatively high costs.

GreEnergy's ambition is to define a new paradigm in the field of solar energy harvesting, by prototyping a self-powering system based on optical nano-antennas which can harvest solar energy, rectify the AC signal and use it to charge a micro-supercapacitor. The targeted overall efficiency of the demonstrators is around 20-40%, which is competitive with respect to the state of the art.

Coordinated by Chalmers University of Technology, GreEnergy is a four-year interdisciplinary project that builds on the expertise of four top-level universities, one research centre and three specialized SMEs coming from 6 different countries, including

Chalmers University of Technology (Sweden), Aalto University (Finland), AMO GmbH and IHP – Innovations For High Performance Microelectronics (Germany), NOGAH PHOTONICS Ltd (Israel), SCIPROM Sàrl (Switzerland), Università Politecnica delle Marche and Università di Udine (Italy).

For more info on GreEnergy: visit the GreEnergy website at <https://www.greenenergy-project.eu>

COVID-19 Hub: Your IEEE Resources



Check out the IEEE COVID-19 Hub for regular updates about IEEE members developing technologies to fight the virus, resources available across the IEEE, coping strategies from engineers around the world, and opportunities to get involved in the fight. [Read More.](#)

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EDUCATION

Request for proposals for 2021 IEEE Summer School on Nanotechnology

The IEEE Nanotechnology Council is requesting proposals for 2021 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 nanofabrication; nanomanufacturing; nanomaterials; nanobiomedicine; nanoenergy; nanoplasmonics; nanoelectronics; nanosensors and nanoactuators; nanorobotics; and characterization and modeling of nanostructures and devices.

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.

For full details and instructions on how to submit a proposal, see <https://ieeenano.org/2021/request-for-proposals-for-2021-ieee-summer-school-on-nanotechnology>. Proposals should be received by 1 May.

[View the RFP \(PDF\)](#)

TryNano.org Resource Site



TryNano.org offers broad and updated resources for those interested in exploring or participating in the fields of nanoscience and nanotechnology. The IEEE Nanotechnology Council (NTC) supports this initiative and maintains these resources to encourage professionals, students, and others to be informed about the latest research, trends, and educational opportunities.

We are working continuously in making the TryNano website an important tool in our community. Now that Phase 1 of the website redesign has been deployed, we are working diligently on Phase 2. Feel free to send us your feedback by contacting the TryNano Editor-in-Chief, **James Spicer**.

IEEE NTC Distinguished Lecturers for 2021

The IEEE Nanotechnology Council (NTC) has appointed its Distinguished Lecturers for 2021. Talks by NTC Distinguished Lecturers can be requested by IEEE student branches; NTC or member Society Chapters; NTC and member Society Conferences; conferences of other IEEE Societies not members of the NTC for major plenary/keynote (based on availability of funding). Please contact the presenter directly to arrange for a presentation. The 2021 DLs can be found here (<https://ieeenano.org/dl-program/distinguished-lecturers-2021>)

Click [**here**](#) to learn how to request a DL presentation.

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STANDARDS

Join the IEEE NTC Standards Committee and Make Your Mark

contributed by Tyler Jaynes, NTC Standards Committee Chair

Whether you are new to the nanotechnology field, or are a professional considering a change and want to find out more about nanotechnology, we invite you to join the IEEE Standards Association **IEEE NTC Standards Committee** in making a meaningful impact on your industry and organization.

The scope of the Nanotechnology Council Standards Committee (NTC/SC) is to provide a focal point for cooperative activities, both internally and externally, including the promotion, consolidation, and coordination of nanotechnology activities among IEEE entities in the theory, design, and development of nanotechnology and its scientific, engineering and industrial applications.

Our goal is to have the IEEE NTC Standards Committee provide a platform for our members to push for innovation in nanotechnology globally, access industry-driven guidance to governance bodies, and eventually shape a more unified culture of nanoscale production for years to come.

- Join [**IEEE-NANO**](#), the annual IEEE International Conference on Nanotechnology, to be held virtually from 28-31 July 2021. The conference will cover key topics in nanoscience and nanotechnology, including:
 - Developing new nanomaterials or controlling matter at the nanometer-length scale
 - Studying the fundamental physical, chemical, or biological properties of nanomaterials and nanostructures
 - Manipulating and optimizing nanomaterials and nanostructures to create new nanosensors, nanoactuators, and nanoelectronic/nanophotonic devices
- Become a member: As a member, you will have the unique opportunity to help develop standards, collaborate with various IEEE entities on nanotechnology activities, and network and grow your career.
 - If you are interested in participating in the committee, please contact me as the Nanotechnology Council Standards Committee Chair at [**tyler.l.jaynes@ieee.org**](mailto:tyler.l.jaynes@ieee.org), or the IEEE SA Program Manager, Vanessa Lalitte, at [**v.lalitte@ieee.org**](mailto:v.lalitte@ieee.org).

This is an exciting time to be involved in the development of nanotechnology standards, and the IEEE NTC Standards Committee welcomes you to join and grow with our community of innovators.

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YOUNG PROFESSIONALS

NTC Young Professionals Update

contributed by Rafal Sliz, NTC YP Representative



Since its establishment one year ago, the NTC Young Professionals (NTC YP) Committee expanded from one person to five highly motivated and active individuals. The committee members support their respective IEEE Regions: R7 (Canada), R8 (Europe, Middle East, Africa), R9 (Central and South Americas), R10 (Asia).

Four 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. The following conferences have committed to work with the NTC YP team:

Up to date, NTC YP have organized five nanotechnology webinars that gathered more than 300 participants. Another three webinars are scheduled. In March, during the first NTC YP Committee meeting, the plans and strategy for the activities and expansion have been discussed and are currently implemented. In addition to online presence, webinars, and conferences, the committee focuses on expansion to the USA IEEE Regions (1-6) and cooperation with NTC Chapters and YP Affinity Groups worldwide.

[NTC YP LinkedIn
Region 7](#)

[NTC YP LinkedIn
Region 8](#)

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Region 9](#)

[NTC YP LinkedIn
Region 10](#)

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TECHNICAL COMMITTEES

Technical Committee Update

The NTC is forming two new Technical Committees:

TC16 - Quantum technologies

TC16 will be an interdisciplinary guide for scientists working in quantum, neuromorphic and unconventional computing envisioning how nanotechnology will impact their development. A challenge will be bringing researchers of the three different communities to create a common language, with the aim to transfer solutions and exchange idea among the communities. Planned activities are: creation of a robust TC membership; organization of conference sessions; organization of special issues; articles on perspectives. For information contact the TC chair Giovanni Finocchio, gfinocchio@unime.it.

TC 17 - Plasmas and plasma-based technologies in quantum

To fabricate high performance nanodevices and nano-systems, atomic layer and damage-free plasma nanomanufacturing technologies are indispensable. For this purpose, it is essential to develop methods for generating and transporting charged particles, UV photons, and reactive species on the surface to suppress damages and to control atomic layer surface chemical reactions in plasma processing. Achieving control of atomic layer surface chemical reactions requires diagnostics and sensors for both the plasma and resultant surface states but also models (phenomenological to the first principles) that can predict process results. Therefore, our final target is the development and implementation of intelligent plasma nanomanufacturing technologies in accordance with Industry 4.0 and 5.0 standards. For information contact the TC chair Prof. Dr. Seiji Samukawa, seiji.samukawa.e2@tohoku.ac.jp.

CHAPTERS

New Chapters and Regional Coordinators

The IEEE NTC is expanding worldwide through the addition of new chapters. The Council has begun a three-year initiative to increase significantly the number of NTC Chapters worldwide. The NTC is pleased to announce the formations of these new Section and Student chapters. If you are located in the area, the local contact is listed. The complete list of NTC chapters and contacts is on the [website](#):

New Section Chapters

- Nanjing Section and Zhejiang Subsection Joint Section – NTC Hangzhou Chapter
- Bombay Section NTC Chapter
- Kolkata Section and Patna Subsection and Patna Subsection Joint Section Chapter
- United Kingdom and Ireland Section Chapter

New Student Chapters

- Indian Institute of Technology-Indore – Student Branch Chapter, Bombay Section.
- IEEE Indian Institute of Technology – Jodhpur . Student Branch Chapter, IEEE Dehli Section

If you are interested in starting an NTC Chapter, contact the Chapters Chair, [Lan Fu](#) . She can help you with the petition process and chapter startup activities. Support is also available to train new chapter officers on the use of IEEE resources such as vTools to facilitate activities.

More areas in the world are becoming involved in nanotechnology-related science, engineering and study and interested organizers are welcomed to file petitions to form chapters [here](#). Or contact one of the Regional coordinators below.

Regional Activities & Chapters Committee Chair

Lan Fu, Australian National University

Regional Chapter Coordinators:

- USA R1-R7: [Vasuda Bhatia](#), San Jose State University
- Europe/Mid-east/Africa R8: [Attila Bonyar](#), Budapesti Műszaki és Gazdaságtudományi Egyetem
- Central/South Americas R9: [Camilo Tellez Villamizar](#), Universidad Catolica de Colombia
- Asia R10 (India): [Brajesh Kumar Kaushik](#), IIT-Roorkee
- Asia R10 (other): [Zhiming Wang](#), UESTC, Chengdu

PUBLICATIONS

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IEEE Transactions on Nanotechnology

View the full current issue of IEEE T-NANO

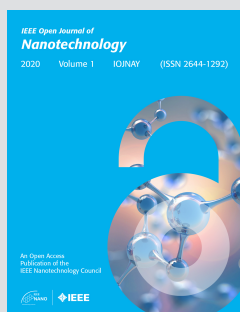
[T-NANO, Volume 20](#)

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

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



IEEE Open Journal of Nanotechnology



[OJNANO, Volume 2](#)

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

To submit to OJ-NANO, click **[here](#)**.

IEEE Nanotechnology Magazine

View the full current issue of IEEE INM

[INM, Volume 15, Number 2](#)

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



IEEE Transactions on NanoBioscience



View the full current issue of IEEE T-NB

[T-NB, Volume 20, Number 2](#)

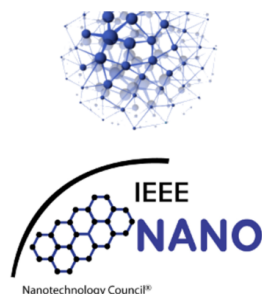
For additional information, visit the **[IEEE Xplore website](#)**.

To submit to T-NB, click **[here](#)**.

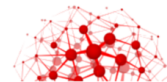
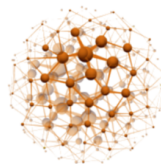
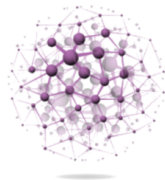
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CONFERENCES

IEEE NANO 2021



International conference on nanotechnology 21st edition of IEEE NANO July 28th to 31st



Flagship Conference

July 28-31, 2021 | VIRTUAL

Full Paper Submission Deadline: May 1, 2021

[Website](#)

Important Dates:

Submission of paper for proceedings: **May 1, 2021**

Short notice proceedings for exceptional findings: **June 1, 2021**

Notification of short notice proceedings acceptance-revision-rejection: **June 15, 2021**

Register for IEEE NANO 2021

IEEE NAP 2021



October 17-2, 2021 | Vancouver, British Columbia

Abstract Submission Deadline: May 15, 2021

[Website](#)

The IEEE International Conference on “**Nanomaterials: Applications & Properties**” (NAP-2021) will be held as a “physical” meeting on Sept. 5-11, 2021 in hotel **GAGARINN**, Odesa, Ukraine. For last four years NAP conference was co-organized by **Sumy State University** and the **IEEE Nanotechnology Council**. The #NAP2021 is endorsed and supported by the **International Union for Pure and Applied Physics**, and the **IEEE Magnetics Society**. This is an annual conference, and 200+ international attendees are expected.

First Call for Abstracts/Papers:

We are pleased to announce the commencement of the submission of abstracts for Oral and Poster presentations at the IEEE NAP-2021 Conference. The [Call for Papers](#) is now available. **The abstract submission deadline is May 17, 2021.** Register on our website and submit yours today!

To find more about the IEEE NAP-2021 Conference, please visit the conference [website](#) and follow us on [Facebook](#) and [LinkedIn](#). Have questions? Write to us: info@nap.sumdu.edu.ua.

[View the Call for Papers](#)

IEEE NMDC 2021



October 17-2, 2021 | Vancouver, British Columbia

Abstract Submission Deadline: May 15, 2021

[Website](#)

The 16th IEEE Nanotechnology Materials and Devices Conference (IEEE NMDC 2021) will be held in Vancouver, BC, Canada from October 17th to 20th, 2021. IEEE NMDC 2021 will be co-located with the IEEE Conference on Electrical Insulation and Dielectric Phenomena ([IEEE CEIDP](#)). The two conferences will hold joint sessions to highlight important work being pursued at the nexus of their respective disciplines.

The technical program for NMDC 2021 will feature innovative research results on a wide variety of topics that emphasize the role of nanoscale phenomena, materials and devices in established and emerging technological areas. Before submitting abstracts, researchers are encouraged to examine the Technical Program Areas to identify the ones that most closely reflect the emphasis of their work.

For info on submission see <https://ieeenmdc.org/nmdc-2021/call-for-papers/authors-info/>

Important dates

Last date for Short Abstract (text only) submission: **May 15, 2021**

Last date for Regular, Special Session and Invited papers submission: **May 31, 2021**

Paper acceptance notification: **25-Jul-21**

Late Breaking News Extended Abstract Submission: **August 10, 2021**

IEEE 3M-NANO 2021



August 2-6, 2021 | Xi'an, China

[Website](#)

Full Paper Submission Deadline: May 1, 2021 ([Call for Papers](#))

IEEE DTS 2021



June 7-10, 2021 | Sfax, Tunisia

The IEEE international conference on Design & Test of integrated micro & nano-Systems represents a scientific and technological event dedicated to integrated electronic systems which reach the nanoscale era. The interests of the conference cover all the aspects from the design to the test of micro and nano systems.

[Website](#)

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List of Nanotechnology Council Officers (2021)

President, Jim Morris
President-Elect, Fabrizio Lombardi
Past-President, Yonhua (Tommy) Tzeng
VP Conferences, Jin-Woo Kim
VP Publications, Supriyo Bandyopadhyay
VP Finances, Malgorzata Chrzanowska-Jeske
VP Educational Activities, John Yeow
VP Technical Activities, Kremena Makasheva
Secretary, Edward Perkins

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