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IEEE Nanotechnology Council
Newsletter | November 2020



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COUNCIL NEWS

Special Election Result - VP Publications 2021

The Nanotechnology Council is pleased to announce the winner of the special election for VP Publications was Supriyo Bandyopadhyay.



Supriyo Bandyopadhyay is Commonwealth Professor at Virginia Commonwealth University where he directs the Quantum Device Laboratory. His research has been featured in multiple magazines (Business Week, EE Times), journals (Nanotechnology, Nature), internet blogs, TV (CBS), radio (NPR) and many other forums. Prof. Bandyopadhyay is the author/co-author of over 400 research publications and three text books. He was named

“Virginia’s Outstanding Scientist” by Governor Terrence McAuliffe in 2016 and won the State Council of Higher Education for Virginia Outstanding Faculty Award in 2018. He was given the “University Award of Excellence” in 2017; it is the highest award given by his university to one faculty member in a given year. Dr. Bandyopadhyay received numerous other awards and is this year’s winner of the IEEE Nanotechnology Pioneer Award. He is a Fellow of IEEE, American Physical Society, Institute of Physics, the Electrochemical Society and the American Association for the Advancement of Science.

Click [here](#) for additional information.

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2021 Presidential Appointments

At its November 6th meeting, the Nanotechnology Council ratified the following Presidential appointments:

- Standards Committee Chair:
 - Tyler L. Jaynes, Albany Medical College
- Industrial Advisory Committee Chair:
 - Valentyn Novosad, Argonne National Laboratory
- TryNano Editor-in-Chief
 - James Spicer, The Johns Hopkins University
- Regional Activities & Chapters Committee Chair:
 - Lan Fu, Australian National University
- Regional Chapter Coordinators: (joining R8: Attila Bonyar)
 - R1-R7: Vasuda Bhatia, San Jose State University
 - R9: Camilo Tellez Villamizar, Universidad Catolica de Colombia
 - R10 (India): Brajesh Kumar Kaushik, IIT-Roorkee
 - R10 (other): Zhiming Wang, UESTC, Chengdu

Special Region 9 Webinar: Introduction to Nanotechnology

The IEEE Nanotechnology Council is pleased to announce a Special Region 9 Webinar. Details below:

Date & Time:

November 19, 2020 at 2:00-4:00pm GMT

Central & South America & the Caribbean

Mexico (GMT-6): 8:00-10:00am

Bogota, Quito, Lima (GMT-5): 9:00-11:00am

La Paz (GMT-4): 10:00am-12:00pm

Buenos Aires, Santiago (GMT-3): 11:00am-1:00pm

Introduction to Nanotechnology

Juliana Jaramillo-Fernandez

Catalan Institute of Nanoscience and Nanotechnology (ICN²),
CSIC and BIST, Campus UAB, Edifici ICN², 08193 Bellaterra, Spain

The webinar is **FREE**, but registration is required. Register before November 19 by going to [this link](#).

For more information, click [here](#).



Announcing New Chair of the NTC Spintronics Technical Committee (TC5)

The NTC Technical Activities are currently developed in 15 TCs, covering almost all scientific areas of interest to the NTC. The role of each NTC TC is to serve as a focal point for research in a specific area. The actions undertaken by each NTC TC are developed by its Members under the leadership of the Chair/Co-Chairs. Each NTC TC is established for a 4-year term and can be renewed by the NTC AdCom after a progress report and evaluation. For a full list of NTC's 2020 Technical Committee, click [here](#).



It is our pleasure to announce the new Chair of the NTC TC5 Spintronics, **Pramey Upadhyaya**. On behalf of the NTC TAC, I would like to thank him for taking this responsibility and wish him a very successful leadership.

Click [here](#) for more information.

Kremena Makasheva, VP for Technical Activities

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AWARDS

Hearty congratulations to the following 2021 NTC Award Winners! Stay tuned for further details about the Awards Ceremony.



Professor Jean-Pierre Leburton

University of Illinois at Urbana-Champaign

For pioneering contribution to the theory and simulation of semiconductor nanostructures and low dimensional nanoscale devices.



Professor Max Shulaker

Massachusetts Institute of Technology

For his pioneering work in carbon nanotubes and the broad area of nano-systems, including nanofabrication technologies, nanodevices, circuits, and architectures.



Dr. Myeong-Lok Seol
NASA Ames Research Center

For innovative contributions to the development of triboelectric power generation and printed supercapacitors for space missions.



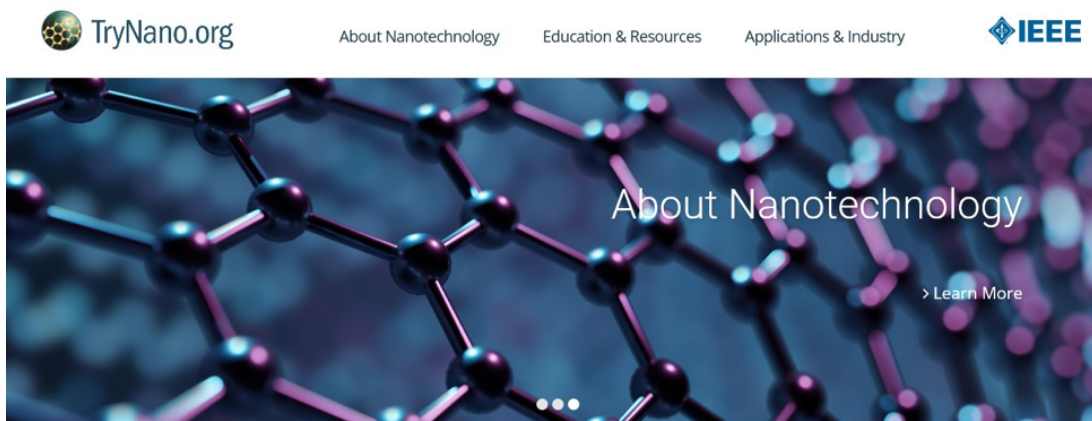
Professor John Yeow
University of Waterloo

For distinguished service, including accomplishments as an Editor-in-Chief of the IEEE Nanotechnology Magazine and other service achievements.

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EDUCATION

TryNano.org Resource Site



We are excited to announce the new and improved [TryNano website](#).

[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 VP Education, [John Yeow](#).

IEEE Nanotechnology Council 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.

DL Name: Gwo-Bin Lee

Topic(s): Micro/Nanofluidics for biological applications

DL Name: Jin-Woo Han

Topic(s): Nanomaterials in Printed and Flexible Electronics; Nanoscale Vacuum Electronics: Back to the Future

DL Name: 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

DL Name: Han Wang*

Topic(s): Novel Electronic and Photonic Devices based on Low-Dimensional Materials

DL Name: Chengkuo Lee*

Topic(s): Toward 5G based AI + IoT(AIoT) Society Enabled by NanoEnergy-NanoSystem(NENS) Technology

DL Name: Zhang Li*

Topic(s): Magnetic Nanoparticle Swarm for Active Delivery

DL Name: Qing Zhang*

Topic(s): Roles of Semiconductor Junctions in Mechanical-Electrical Power Conversion

DL Name: Oluwaseyi Balogun*

Topic(s): Nanometrology, Nanothermometry, and Imaging of Low Dimensional Materials using Plasmonic Nanofocusing Approaches

DL Name: Reuven Gordon*

Topic(s): Nanoplasmonics: Reaching out to the Single Molecule

DL Name: P M (Markondeya Pulugurtha) Raj*

Topic(s): Nanoscale Components and System Integration

**Re-appointment for second year.*

More Info

NTC VP Education, Prof. John Yeow, visits CGU

by Prof. Bing Sheu (IEEE Fellow) and Prof. Chao-Sung Lai (IEEE Senior Member)



Professor John Yeow teaches in the Department of Systems Design Engineering at University of Waterloo, Waterloo, ON, Canada. In 2020 – 2021, he serves as VP of Educational Activities at IEEE Nanotechnology Council. He was the Founding Editor-in-Chief of IEEE Nanotechnology Magazine (INM) for six years during 2014 – 2019, the longest period allowed at NTC. In Fall 2020 semester, he spends sabbatical leave in Taiwan.

On October 7, 2020, Prof. Yeow visited Chang Gung University in Taoyuan City, Taiwan. He gave a very impressive talk entitled: “Capacitive Micromachined Ultrasonic Transducers (CMUTs) for Humidity Sensing.” The seminar was well-attended. According to the abstract provided by John, his talk focuses on a highly sensitive capacitive micromachined ultrasonic transducer (CMUT) based resonant gravimetric humidity sensor using graphene oxide as the sensing material. The transducer with a diameter of 2 mm and an operating frequency of 12 MHz was fabricated by the direct wafer bonding and nitride-to-oxide techniques. To validate the design, both the laser vibrometer and the vector network analyzer were adopted to characterize the resonant properties of the fabricated devices. A graphene oxide thin film was then coated as the water vapor absorbing layer on the resonating membranes. The humidity sensing performance of the sensor was evaluated through the electrical impedance analysis over a relative humidity range of 22.5% to 93.6%. In addition, performance nonuniformity related to sensing hysteresis has been carefully tackled.

Many active researchers from IEEE Nanotechnology Council attended the seminar. A gift and Certificate of Appreciation were provided by Prof./Dean Chao-Sung Lai (Section Editor for INM) who was out of town due to governmental committee meeting. A group photo was taken. (From left) Prof. Shao-Ku Kao (Associate Editor for INM), Prof. Bing Sheu (Editor-in-Chief for INM), Prof. John Yeow, Prof. Thomas Lei (Associate Editor for IEEE Transactions on NanoBioScience). This is a very successful event for local chapter of IEEE Nanotechnology Council.

NTC Past President Tommy Tzeng visited CGU

by Prof. Bing Sheu (IEEE Fellow) and Prof. Chao-Sung Lai (IEEE Senior Member)



Professor Tommy Tzeng taught at Auburn University, Alabama for 25 years and made first retirement to join the faculty of Electrical Engineering Department at National Cheng Kung University in Tainan, Taiwan. There, he served as Vice President of Research for 2 years and then became Dean of College of Electrical Engineering and Computer Science for 6 years. He has been a long-term contributor at IEEE Nanotechnology Council (NTC), serving as VP for Publications, then as President-Elect (2017) / Council President (2018 – 2019) / Past President (2020 – 2021). He is currently a Life Fellow of IEEE.

On October 12, 2020, Prof. Tzeng visited Chang Gung University in Taoyuan City, Taiwan. He gave a very inspirational talk entitled: “There’s plenty of room at the bottom - Carbon Nanotechnology as Example.” The seminar was well-attended by faculty audience. As Past President of NTC, Prof. Tzeng spent good amount of time to highlight the key elements of NTC. The Council is sponsored by 23 member Societies and supports 5 publications: Transactions on Nanotechnology (T-Nano), Open Journal of Nanotechnology (OJ-Nano), Nanotechnology Magazine (INM), Nanotechnology Newsletters, and Transactions on NanoBioscience (T-NB). In addition, NTC includes 15 Technical Committees.

At the technology fronts, Prof. Tzeng addressed nanotechnology for lithium ion battery, nanotechnology for health, and carbon nanotechnology in detail. He inspires the audience with stimulating summary that nanotechnology is fun and an enabler. Let’s enjoy the great fun and good feelings of accomplishments by developing advanced nanotechnology for better humanity.

Many active researchers in nanotechnology field attended the seminar. A group photo was taken. (From left) Prof. Thomas Lei (Associate Editor for T-NB), Prof. Ming-Yi Tsai (Mechanical Engineering), Prof. Shao-Ku Kao (Associate Editor for INM), Prof./Dean Chao-Sung Lai (Section Editor for INM), Chair-Prof. Tommy Tzeng, Prof. Bing Sheu (Editor-in-Chief for INM), Prof. Meng-Tsan Tsai (Photonics Engineering). This is a highly productive event for local chapter of IEEE Nanotechnology Council.

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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CHAPTERS

Chapters & Regional Interest Groups

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. If you are interested in starting an NTC Chapter, contact the Chapters Chair, **Lan Fu**. She will 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.

The NTC leadership has been cooperating in this growth emphasis by locating and encouraging contacts in their networks to initiate formation petitions. 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**.

To see a list of our established Chapters or interested in forming one, click **here** for more details.

- Regional Activities & Chapters Committee Chair
 - **Lan Fu**, Australian National University
- Regional Chapter Coordinators:
 - R1-R7: **Vasuda Bhatia**, San Jose State University
 - R8: **Attila Bonyar**, Budapesti Műszaki és Gazdaságtudományi Egyetem
 - R9: **Camilo Tellez Villamizar**, Universidad Catolica de Colombia
 - R10 (India): **Brajesh Kumar Kaushik**, IIT-Roorkee
 - R10 (other): **Zhiming Wang**, UESTC, Chengdu

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PUBLICATIONS

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IEEE Transactions on Nanotechnology

View the full current issue of IEEE T-NANO

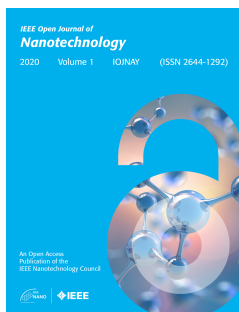
T-NANO, Volume 19

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

To submit to T-NANO, click **here**.



IEEE Open Journal of Nanotechnology



View the full current issue of IEEE OJ-NANO

[OJNANO, Volume 1, Issue 1](#)

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 14, Issue 5](#)

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



IEEE Transactions on NanoBioscience

IEEE TRANSACTIONS ON
NANOBIOSCIENCE

View the full current issue of IEEE T-NB

[T-NB, Volume 19, Number 4](#)

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

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

TNANO Special Section on the 20th IEEE NANO 2020

The IEEE Transactions on Nanotechnology (TNANO) seeks original manuscripts for a Special Section on: “20th IEEE International Conference on Nanotechnology (IEEE NANO 2020)”.

Submission deadline: January 31, 2021

The nanotechnology revolution is founded upon the understanding of phenomena occurring at the nanoscale and the ability to fabricate and manipulate nanomaterials and nanodevices for practical applications. Researchers are contributing new ideas from a wide range of disciplines, including materials science, biology, biomedicine, engineering, physics, and chemistry. To make interesting research presented at the 20th IEEE

International Conference on Nanotechnology (IEEE NANO 2020) widely available, in expanded form and in one publication, IEEE Transactions on Nanotechnology (TNANO) is extending a Call for Papers for a Special Issue reflecting the scope of the conference. Submitted manuscripts will undergo a full peer review process. Submissions are welcome, and all interested NANO 2020 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.

Click [here](#) for additional information.

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CONFERENCES

2020 Conferences

IEEE-NANOMED 2020



December 14-16, 2020 | Virtual

Abstract Deadline: November 30, 2020

Early-bird Registration Deadline: December 10, 2020

[Call for Papers](#)

[More Info](#)

2021 Conferences

IEEE NANO 2021



Flagship Conference

July 28-30, 2021 | Montreal, Canada

[More Info](#)

NMDC 2021



October 17-2, 2021 | Vancouver, British Columbia

Abstract Submission Deadline: May 15, 2021

[Call for Papers](#)

[More info](#)

IEEE-NEMS 2021



April 25-29, 2021 | Xiamen, China

Abstract/Paper Deadline: January 15, 2021

Early Bird Registration: March 15, 2021

[Call for Papers](#)

[More info](#)

IEEE 3M-NANO 2021



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

Full Paper Submission Deadline: May 1, 2021

[Call for Papers](#)

[More info](#)

IEEE DTS 2021



June 7-10, 2021 | Sfax, Tunisia

Paper Submission Deadline: January 14, 2021

[More info](#)

For further conference details, visit our [website](#).

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