



Request for proposals for the 2019 IEEE Summer School on Nanotechnology

History: The IEEE Nanotechnology Council (<http://ieeenano.org/about>) sponsored its first Summer School Program on “Regenerative Nano-Medicine: From Advanced Delivery Systems to Electronic-Based Devices” at Tel-Aviv University, Israel, in June 2016. In the next years, Summer / Fall schools have focused on “N3: Nanomaterials, Nanotools, and Nanodevices” [Montreal, Canada], “Nanoelectronic technologies and devices: From basic principles to highly reliable applications” [Toulouse, France], “Nanotechnology: From Science to Systems and Beyond” [Bangalore, India], and “Nanotechnology for Energy” [Portland, USA]. These schools have been highly successful in educating and training a multinational audience of students, post-docs, and other early career researchers in their chosen topical area. Through this current announcement, the council seeks to continue this important initiative into its fourth year.

Call for proposals and its thematic areas: The IEEE Nanotechnology Council (NTC), in partnership with member societies of NTC, the Electron Devices and the Circuits and Systems societies (EDS and CAS), is requesting proposals for its Sixth Summer School. The school is expected to maintain an educational focus on nanotechnology, which may range from fundamentals in nanomaterials, nanofabrication and nano-characterization to diverse application areas such as nanosensors, nanoactuators, nanobiology and nanomedicine, nano-optics, nanorobotics, nanobiology, nanoelectronics, nanophotonics, DNA nanotechnology, nanomanufacturing, nanopackaging, nanofluidics, nanomagnetism, nano/molecular heat transfer & energy conversion, nanoscale communication and networks, nano/molecular sensors, actuators, and systems, and spintronics.

The Summer School may address the needs of a diverse target audience involving senior undergraduates, graduate students, post-docs, researchers and practitioners at the early stages of their careers, who are eager to broaden and/or deepen their skills in nanoscience and nanotechnology. Based on the success of the Summer School initiatives over the preceding years, it is expected that the attendance at the school will be around 50 participants.

The schools are expected to deliver **highly differentiated programs** in their chosen topical area with content delivered by **global leaders and thinkers** from academia, industry, and / or research laboratories. The schools may design a program that either:

- (i) introduces a broad field to a target audience that is new to the topic and has no prior background, or
- (ii) offer an in-depth training on a specialized topic such as nano-energy or graphene electronics to a target audience with some prior introduction to the chosen area.

While proposals are encouraged to design programs in either aspect, the **primary goal** in both cases must be to educate, train and raise awareness among next generation researchers / academicians to technological advances, societal impacts, and career avenues in these rapidly evolving fields, and to foster participation in the adventure of research that will lead to the next generation of nanopioneers.

Dates and Length: The **sixth IEEE Summer School on Nanotechnology will be held in the summer of 2019**. We expect the summer school to be offered every year thereafter, subject to continued availability of funding. The summer school is anticipated to involve a **5-day program**, although slightly longer or shorter durations may be acceptable in certain cases.

Summer School Format: A successful summer school will consist of a synergistic combination of tutorial-style lectures (2-3 hour duration), research seminars (40-60 minutes), panel discussions, and/or visits to local academic laboratories and industrial organizations. The **lectures and content will be delivered by international scholars** working in the areas of nanoscience and nanotechnology, and will focus on a central theme that lies within the topical areas covered during the annual IEEE-NANO conference. Inclusion of additional components such as an introduction to potential career paths and avenues for research funding, which are particularly beneficial for early career researchers / students and are relevant to the thematic area chosen by the school, is highly encouraged. The longer-format, tutorial-style lectures are also encouraged to be made available for video archiving at the TryNano.org website.

Funding: The funding for the summer school is anticipated to be \$15K, including the participation of the Electron Devices and Circuits and Systems societies. This funding may be used for such expenses as travel contributions to participants and lecturers. In addition, other sources of income such as funding from local organizers, participant registration (tuition) fees and / or industrial sponsorships may also be leveraged to meet the expenses involved with the organization of the summer school. The IEEE funding is considered to be a grant with no responsibility for any loss incurred and no expectation to share in any surplus.

Benefits to Participants: In addition to acquiring an organized view of an important area of nanotechnology, the summer school participants will be able to meet peer researchers and international scholars (especially young scientists) to discuss hot topics and on-going research, and will have opportunities to experience the local industry and culture.

Proposal Format, Review and Selection

The proposals are to be submitted in electronic format and are to be documented in 8.5x11-inch sized paper with single-spaced, 12-point, Times New Roman font. The **proposal shall not exceed 12 single-sided pages** in length, and is required to address the following aspects:

1. Goals, theme, and target audience.
2. Tentative list of lectures and lecturers. For each lecture, indicate the lecture type (i.e., a longer-format, tutorial-style or a shorter-format, seminar-style) and if lecturers have agreed to participate.
3. Tentative program and schedule.
4. Local organizer(s), including brief bios of the School director and its leadership.
5. Registration, accommodation, tuition and venue.

6. Budget and financial sponsor(s). Expected number of participants.
7. Letters of support (optional and not included in the page limit)

The IEEE Summer School Subcommittee will review received proposals based on the following criteria:

1. The quality of the proposed technical program and its ability to deliver the stated educational content to its target audience
2. The soundness of the budget
3. The length of the school
4. The desirability of the venue
5. The geographical balance of all funded summer schools (for future schools)

If a proposal is approved, the IEEE Nanotechnology Council and the participating partner societies 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. We recall that organizers can take advantage of other initiatives, e.g., the IEEE Nano Distinguished Lecture Program to further support the school (related regulations apply).

IEEE Summer School on Nanotechnology Subcommittee

The IEEE Summer School on Nanotechnology Subcommittee, a subcommittee involving representation from the Nanotechnology Council and the participating partner societies, is responsible for operating issues such as evaluating proposals, coordinating with the local host, selecting participants, and determining the topic of each summer school. In particular, but not limited to the following, the Summer School Subcommittee members perform the following activities:

1. Advertise the summer school by distributing calls for summer school proposals to interested local hosts and call for participants to senior undergraduate, graduate students, post-doc and young researchers and practitioners.
2. Solicit potential local host and financial support.
3. Evaluate summer school proposals and coordinate with the local host to select a suitable topic, place, date.
4. Propose lecturers for the summer school based on the topic or theme.
5. Coordinate discussions and other activities during the summer school.

Important Dates:

- Eligible period: **May to September, 2019**
- Deadline for submitting the proposal: **30 November 2018**
- Notification of the outcome of the review process: **31 December 2018**

Please submit proposals to the **Summer School Subcommittee Chair**, Prof. Arunkumar Subramanian at sarun@uic.edu. Potential hosts are encouraged to contact the subcommittee to express their interest, and to work with the subcommittee so as to strengthen their proposals.