

ICQNM 2019

Forward

The Thirteenth International Conference on Quantum, Nano/Bio, and Micro Technologies (ICQNM 2019), held between October 27, 2019 and October 31, 2019 in Nice, France, continued a series of events started in 2015 and covering research in the field of software system integration.

Quantum technologies and nano technologies have a great potential to transform communications telecommunications infrastructure and communication protocols, and computers and networking devices. Nanotechnologies and micro-technologies already made their mark on smart materials, nano-medicine, nano-devices, molecular manufacturing, biotechnology, metrology, airspace.

The advancements in material science and computer science have allowed the building, launching and deploying of space exploration systems that continually do more and more as they become smaller and lighter. As an example, carbon nano-tubes have been created that are 250 times stronger than steel, 10 times lighter, and transparent. Similar advances are occurring in glass, plastics and concrete. Spacecraft are being launched, with hulls that are composed of carbon fibers, a light weight high strength material.

Swarms is another concept of nano-robotics; swarms act in unison like bees. They theoretically will act as a flexible cloth like material, as strong as diamond. Interplanetary exploration can be foreseen as being carried on by nano-robots as well.

Electronic devices, medicine, environment, metrology, aerospace programs, clothes and materials, telecommunications, cryptography, semiconductors, manufacturing, and other domains are impacted by the progress on the areas mentioned above. Particularly, micro imaging, nano-medicine: (drug delivery; nano-particles i.e. viruses; proteins.), bio-nanostructures: (nano-tubes, nano-particles), microsystems, micro fluidics: (including nano-fluidics, modeling; fabrication and application), micro instrumentation / implantable microdevices (miniaturized bio-electronic systems etc.) and micro sensors benefits from the progress on quantum, nano and micro technologies.

We take here the opportunity to warmly thank all the members of the ICQNM 2019 technical program committee, as well as all the reviewers. The creation of such a high quality conference program would not have been possible without their involvement. We also kindly thank all the authors who dedicated much of their time and effort to contribute to ICQNM 2019. We truly believe that, thanks to all these efforts, the final conference program consisted of top quality contributions.

We also thank the members of the ICQNM 2019 organizing committee for their help in handling the logistics and for their work that made this professional meeting a success.

We hope that ICQNM 2019 was a successful international forum for the exchange of ideas and results between academia and industry and to promote further progress in the area of quantum, nano/bio, and micro technologies. We also hope that Nice, France provided a pleasant environment during the conference and everyone saved some time to enjoy the charm of the city.

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