

CALL FOR PAPERS
IEEE Transactions on Nanobioscience
Thematic Issue:
“Engineering Sciences in Biology and Medicine ESBM’2017”

The IEEE Transactions on Nanobioscience will devote a themed issue “Engineering Sciences in Biology and Medicine ESBM’2017” to a collection of papers highlighting research and technology development responding to the biomedical grand challenges facing our society and the world that can be addressed by interfacing biology and medicine with micro and nanoscale technologies, which include, but not limited to,

- ❖ Nanobiotechnology and Nanomedicine
- ❖ Systems Biology and Forensics
- ❖ Health data & models
- ❖ Health Data processing
- ❖ Devices, Infrastructure & Communication
- ❖ e-Health Services and Applications

IEEE EMBS-Tunisian chapter is sponsoring the second biennial Conference on Engineering Sciences (physics, chemistry, computer sciences and mathematics) in Biology and Medicine to foster interaction between scientists, engineers, and medical researchers in the context of real-world biomedical applications and issues.

Submissions are solicited from the ESBM’2017 conference participants and other researchers in the field for a review paper or a research paper for this themed issue. In this issue, IEEE Transactions on Nanobioscience will highlight and explore the diverse approaches and their biomedical applications.

Follow the guideline (<http://tnb.embs.org/for-authors/>), and submit your paper to Manuscript Central at <https://mc.manuscriptcentral.com/tnb-embs>, indicating in the cover letter that you wish the paper to be considered for the Special Issue “Engineering Sciences in Biology and Medicine ESBM’2017”. The use of IEEE Article Templates is strongly encouraged for the submission.

Submission deadline: **April 4, 2017**

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❖ **Nanobiotechnology and Nanomedicine**

- Medical physics, Medical Imaging, Cancer Therapy, Dosimetry, Biomedical signal and Image processing
- Nanomaterials, Nanotoxicity, DNA nanotechnology, Nanotechnology in Drug Discovery & Development
- Novel Drug Delivery Systems
- Biosensors
- Forensic sciences
- Biomechanics
- Microfluidics

❖ **Systems Biology and Forensics**

- Computational Systems biology
- Designing and modeling of biological systems
- Statistical methods for biological and genomics data analysis
- Individual identification based on DNA technologies
- Genomics populations diversity

❖ **Health data & models**

- Healthcare Data Architecture and Terminology Standards
- Clinical Data Visualisation Standards
- Electronic medical records (EMR) and electronic prescription
- Federated Electronic Health Records
- Healthcare Information systems
- Data quality assessment and improvement
- Interoperability issues
- Evolutionary and longitudinal patient and disease models

❖ **Health Data processing**

- Data preprocessing, cleansing, management and mining
- Computer-aided detection, hypothesis generation and diagnosis
- Big data analysis, prediction and prevention
- Smart health and Mobile computing
- Medical Image/video processing and computer vision
- Cognitive algorithms for healthcare handling dynamic context management
- Augmented reality, Motion detection and activity recognition
- Security, confidentiality & privacy issues

❖ **Devices, Infrastructure & Communication**

- Wearable & connected devices
- In/on/around-body sensors and actuators
- Biosensors at the micro/nano-scale
- RFID and localization techniques
- Computing/storage infrastructures for e-Health
- Communication infrastructures, architectures and protocols for e-Health
- Body area networking and cloud-integrated networking
- Cognitive communication for medical bands
- IoT devices & architectures for Smart Healthcare

❖ **e-Health Services and Applications**

- E-Health services/applications for chronic & serious diseases
- E-Health services/applications for elderly people
- E-Health services/applications for public health
- E-Health services/applications for rural areas
- Security, privacy and trust for e-Health services/applications