Call for Contributions

Submission:
1. Inform the Chair: with the Title of your Contribution
2. Submission URL:
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Please select Track Preference as **S&P-WBAN**

Special track

S&P-WBAN:
Security and Privacy in Wireless Body Area Networks for Healthcare Applications

Chair and Coordinator

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along with
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The Second International Conference on Informatics and Assistive Technologies for Health-Care, Medical Support and Wellbeing
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In a digital society, electronic healthcare (e-health) is one of the services that will contribute in improving the life quality of citizens. The use of wireless sensor networks (WSN) in healthcare applications is increasing rapidly. Recently, the fast development of wireless communication and intelligent medical sensors, which can be implanted or worn
on human body, has made the wireless body area networks (WBANs) a promising method that will revolutionize practices of healthcare. WBANs provide a continuously monitoring of health and give real time feedback to the patient or medical personnel. The advancement of WSNs in e-heath applications has created a more feasible monitoring process for patients. Recently, a number of research projects regarding healthcare applications using WSNs have been developed or are in developing stage.

These projects are supported and funded by private organizations or governments. They are focused on power consumptions, cost effectiveness and reliability of their prototypes, and even that most of them are aware and addressed security and privacy concerns (e.g., MobiCare, CodeBlue, STAIRE), only few of them really implemented any security (e.g., MEDiSN, ALARM-NET). We must emphasize that this is not enough for this sensitive data related applications. So, privacy and security have not been covered extensively; therefore, there exist still challenges that need to be addressed by real-time wireless healthcare systems.

The position of WBAN in e-health is becoming more and more perceptible. As this technology is being widespread, it will be exposed to various security concerns. Up to now research on WBANs devices is concentrated on home area network architecture in which the WBANs' sensors can transmit to one or more servers or gateways patient related data, which can be accessed by doctors via the Internet. As WBANs increase in number and incorporate better functionalities, they will broadly be able to communicate with the cloud. Principally this can shape the concept of Internet of Things for WBANs (IoT4WBANs), where small WBANs with constrained resource can connect straight with the cloud using web technologies. This means that these devices are going to be more and more mobile and will be capable of connecting to the cloud by using various Internet Access Points. From one side this will be beneficial for patients by helping them with the mobility and constant monitoring, but from the other side it would result in increased threats for the patients regarding

security, privacy and safety. For this reason, it is of highest significance to address these cyber threats in order to enlarge the implementation of WBANs and their improved communication characteristics.

Another concern that absolutely will become more essential in the next future is absence of consistent policy sets to safeguard the privacy of a patient. As medical devices become ubiquitous, there will be more actors involved in the system, such as insurance companies and pharmacies. Consequently, more parties will access patient related data, resulting in more attacks on patient's privacy. Privacy occurrences make people distrustful toward medical devices, and will offer big obstacles to development and growth of this healthcare technology. Without taking into considerations current and future privacy concerns, WSN healthcare applications will not be acknowledged by the public. Robust set of policies and regulations should be ratified and implemented. In these policies and regulations sets, it should be involved all possible future actors and privacy threats related to them, in which all involved actors have it difficult to abuse with patient related data.

Submissions are encouraged from all areas of practice relevant to HEALTHINFO 2017.

Topics include, but not limited to:

- Security challenges and solutions for WSNs for healthcare applications
- Energy-efficient secure routing protocols for WSNs for healthcare applications
- Lightweight cryptography algorithms and protocols for WBANs/WSNs for healthcare applications
- Symmetric/asymmetric cryptography security for WSNs for healthcare applications
- Threat and vulnerability analysis for WSNs for healthcare applications
- Low-cost elliptic curve cryptography for WSNs for healthcare applications
- Secure architectures WSNs for healthcare applications
- Security, reliability and privacy for WSNs for healthcare applications
- Intrusion detection systems for WSNs for healthcare applications
- Middleware challenges for WSNs for healthcare applications
- Implantable Medical Devices Security
- Security and Privacy for WBANs
- Game theory for WBANs
- Security in IoT for WBANs
- Cybersecurity Policy and Standards
- Trust and security issue in cloud infrastructure for body area network for healthcare
- Biometric-based security schemes
- Authentication mechanisms

Important Datelines

- Inform the Chair: As soon as you decided to contribute
- Submission: August 31
- Notification: September 7
- Registration: September 14
- Camera ready: September 14

Note: *These deadlines are somewhat flexible, providing arrangements are made ahead of time with the chair.*

Contribution Types

- Regular papers [in the proceedings, digital library]
- Short papers (work in progress) [in the proceedings, digital library]
- Posters: two pages [in the proceedings, digital library]
- Posters: slide only [slide-deck posted on www.iaria.org]
- Presentations: slide only [slide-deck posted on www.iaria.org]

- Demos: two pages [posted on www.iaria.org]

Paper Format
- See: http://www.iaria.org/format.html
- Before submission, please check and comply with the editorial rules: http://www.iaria.org/editorialrules.html

Publications
- Extended versions of selected papers will be published in IARIA Journals: http://www.iariajournals.org
- Print proceedings will be available via Curran Associates, Inc.: http://www.proceedings.com/9769.html
- Articles will be archived in the free access ThinkMind Digital Library: http://www.thinkmind.org

Paper Submission
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Registration
- Each accepted paper needs at least one full registration, before the camera-ready manuscript can be included in the proceedings.
- Registration fees are available at http://www.iaria.org/registration.html

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