Securing IoTs for Remote Subject Monitoring in Clinical Trials

18 JUNE 2024 | 1PM – 3PM ET
WORKSHOP MODERATOR

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- IEEE will be essential to the global technical community and to technical professionals everywhere, and be universally recognized for the contributions of technology and of technical professionals in improving global conditions
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UPCOMING SESSION
TUESDAY, 18 JUNE 2024  |  1:00 – 3:00 PM ET

SPEAKERS

GILLES LUNZENFICHTER
CEO and Founder, Medisanté

RYAN WRIGHT
CEO, Nvicope LLC; Missouri Ambassador, Blockchain in Healthcare Today

MARIA PALOMBINI
Director, IEEE SA Healthcare & Life Sciences

FLORENCE HUDSON
Executive Director, Northeast Big Data Innovation Hub

REGISTER TODAY: ieeesa.io/tipps-workshops
This will session will be recorded in its entirety.

The first half of this session is one-way broadcast. The audience is automatically muted.

Questions for the panelists may be submitted through the Q&A feature.

There are interactive polling questions to get your perspective on the challenges in this area.

The second half of this broadcast will be a brainstorming session to build the use case requirements for this industry use case of IEEE 2933.
Audience Poll Q1

Which of the following features do you consider most critical in evaluating wearables/ IoTs/sensors for remote subject monitoring in a clinical research project?
Audience Poll Q2

Which of the following do you consider the biggest challenge in using wearables/sensors/IoT s for remote subject monitoring?
BRAINSTORMING SESSION

GUIDELINES

• Build on the ideas of others
• Stay to the topic
• No judgements
• Think big
• Think out of the box
BRAINSTORMING TO BUILD USE CASE REQUIREMENTS

ARCHITECTURE

IEEE P2933™ USE CASE:
HOSPITAL @ HOME

IEEE P2933™ Use Case 1: Hospital to the Home

IEEE P2933™ Use Case 2: Home to Hospital

PROPOSED CT USE CASE:
REMOTE PARTICIPANT MONITORING

Proposed CT Use Case: Remote Participant Monitoring

Proposed CT Use Case: Participant to Research Site

This poster demonstrates an approach to leverage the framework of IEEE P2933™. Standard for Clinical Internet of Things (IoT) Data and Device Interoperability with TIPPS – Trust, Identity, Privacy, Protection, Safety, Security, to enable DCTs as a care option using Hospital at Home and local healthcare providers for remote patient monitoring. Considering the synergies that exist between the standard healthcare system and clinical research following patient-centric approaches, the IEEE has two programs in progress for global technical standards for IoT used in Hospital at Home (IEEE P2933™) and the implementation enabled by Digital Health Technologies (DHT) (IEEE P2936.2™) that includes Technical Recommended Practices for Decentralized Clinical Trials Threat Modeling, Cybersecurity, and Data Privacy. The new standards will support trusted adoption of digital technologies that enable patients to participate in DCTs from the ecosystems where they live while having key physiological parameters monitored 24/7.

SCAN THE QR CODE TO LEARN MORE ABOUT THIS PROGRAM

POSTER AUTHORS: Dr. Mathew Rose, IEEE P2968.2™ - Co-Chair, IEEE Technology and Data Harmonization for Enabling Decentralized Clinical Trials; Dr. Isaac Rodriguez-Chavez, IEEE P2968.2™ - Co-Chair, IEEE Technology and Data Harmonization for Enabling Decentralized Clinical Trials; Florence Hudson, Chair, IEEE P2933™ - Standard for Clinical Internet of Things (IoT) Data and Device Interoperability with TIPPS – Trust, Identity, Privacy, Protection, Safety, Security; Mari Palombini, Director, Healthcare and Life Science Global Practice, IEEE SA.
NEXT STEPS

GET INVOLVED IN THE PAR STUDY GROUP FOR IEEE 2933 TIPPPS FOR CLINICAL IOTS IN REMOTE SUBJECT MONITORING

To get involved write to m.palombini@ieee.org by 31 August 2024
UPCOMING WORKSHOPS

GLOBAL CONNECTED HEALTHCARE CYBERSECURITY VIRTUAL WORKSHOP SERIES

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TIPPSS FOR PRECISION AGRICULTURE
16 JULY 2024 | 11 AM – 1 PM ET

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24 SEP 2024 | 11 AM – 1 PM ET

TIPPSS FOR TRANSACTIVE ENERGY
12 NOV 2024 | 11 AM – 1 PM ET

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TRANSFORMING THE TELEHEALTH PARADIGM: SUSTAINABLE CONNECTIVITY, ACCESSIBILITY, PRIVACY, AND SECURITY FOR ALL
This program provides a platform for the global community to openly develop technical solutions to challenges impeding trust and validation, security, interoperability, accessibility, feasibility and integration telehealth systems. [https://ieeesa.io/telehealthic](https://ieeesa.io/telehealthic)

CLINICAL TRIALS TECHNOLOGY MODERNIZATION NETWORK
Prioritize the areas DCT using DHT standards can accelerate adoption, mitigate risks, and optimize efficiencies with sponsors, regulators, sites, technologists, service providers, patient advocacy organizations, and other relevant stakeholders. [https://ieeesa.io/rct](https://ieeesa.io/rct)

ZERO TRUST CYBERSECURITY FOR HEALTH TECHNOLOGY TOOLS, SERVICES, AND DEVICES
Develop a roadmap to a suite of new zero-trust network access (ZTNA) standards that integrate commercial and open-source products to showcase robust security features of Zero Trust Architecture (ZTA) when applied to enterprise IT use cases. [https://ieeesa.io/zerotrusthealth](https://ieeesa.io/zerotrusthealth)
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• Think tank for identifying challenges and potential solutions in telehealth innovation
• Supporting start-ups with industry knowledge, tools and resources
• Creating an environment to form partnerships and knowledge sharing

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THANK YOU

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APPENDIX
INCUBATOR PROGRAMS – HEALTHCARE & LIFE SCIENCES

• Clinical Trials Technology Modernization Network
• Transforming the Telehealth Paradigm
• Neuro Tech for Brain-Machine Interfacing
• Ethical Assurance of Data-Driven Technologies for Mental Healthcare
• Zero Trust for Cybersecurity of Healthcare Devices and Technologies (NEW)
• Global Initiative on Blockchain-based Omnidirectional Pandemic
• The IEEE Global Artificial Intelligence Systems (AIS) Well-being Initiative
• Synthetic Data
• Digital Inclusion, Identity Trust and Agency (DIITA)
• Surveillance AI Systems for Governance for Cities
• Enabling A Smart And Equitable Agriculture Ecosystem

https://standards.ieee.org/industry-connections/activities.html
IEEE STANDARDS PROJECTS RELATIVE TO TOPIC

- P1528.7 - Guide to Assess the Electromagnetic Fields (EMF) Exposure of Internet of Things (IoT) Technologies/Solutions
- P2802 - Standard for the Performance and Safety Evaluation of Artificial Intelligence Based Medical Device: Terminology
- P2418.6 - Standard for the Framework of Distributed Ledger Technology (DLT) Use in Healthcare and the Life and Social Sciences
- IEEE 2791-2020 - IEEE Standard for Bioinformatics Analyses Generated by High-Throughput Sequencing (HTS) to Facilitate Communication
- **P2968.1 - Trial Use Recommended Practice For Decentralized Clinical Trials Patient Safety**
- **P2968.2 - Trial Use Recommended Practice for Decentralized Clinical Trials Threat Modeling, Cybersecurity, and Data Privacy**
- IEEE P3493.1 Standard Framework for Secure, Compliant, Coordinated, and Inclusive Healthcare Data Recycling: Cancer Care

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IEEE STANDARDS PROJECTS RELATIVE TO TOPIC

- IEEE 11073 Suite – Health Informatics - Personal Health Device Communication - Device Specialization
- **IEEE 1752.1-2021** - IEEE Standard for Open Mobile Health Data—Representation of Metadata, Sleep, and Physical Activity Measures
- **P1752.2 – Standard for Mobile Health Data for Cardiovascular Activity**
- P2550 - Standard for Remote Monitoring of a Neonate and the Mother Post-Partum in a Non-Clinical Healthcare Setting
- P2650 - Standard For Enabling Mobile Device Platforms To Be Used As Pre-Screening Audiometric Systems
- P2673 - Standard for Patient Digital Biomedical Data Files with 3D Topological Mapping of Macroanatomy and Microanatomy for Use in Big Data and Augmented Intelligence Systems

**P2418.1 - Standard for the Framework of Blockchain Use in Internet of Things (IoT)**

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