

IEEE JOURNAL OF BIOMEDICAL AND HEALTH INFORMATICS

J-BHI Special Issue on “Pervasive Computing for Healthcare”

Pervasive computing has revolutionized how we collect data and interact with information. Research interest in pervasive computing has been growing exponentially over the years, demonstrating enormous potential in biomedical applications ranging from a research-fertile field to clinical translation and healthcare delivery. The sophisticated capabilities of smartphones integrating diverse sensors along with wearable and non-wearable sensors provide the opportunity to collect longitudinal, multimodal data streams and facilitate near real-time monitoring. Moreover, these devices are becoming increasingly affordable and have already been embraced by many people, thus enabling large scale investigations and clinical trials. The collected data streams from these ubiquitous devices, coupled with emerging advances in data science and machine learning which enable fast and advanced processing of the collected datasets, lead to unprecedented opportunities for transforming healthcare. Along with these opportunities, there are new practical and social challenges, including data privacy, empowering individuals make decisions about their health trajectories, considerations regarding widening the gap with health inequalities, implementations at scale, and liability for the application and monitoring of data insights and outputs that can be extracted.

This Special Issue will focus on pervasive computing for healthcare to provide a state of the art forum to report on technical, social and educational developments and implications, following the organization of 2022 Pervasive Computing Technologies for Healthcare conference (<https://pervasivehealth.eai-conferences.org/2022/>). We invite extensions of some of the best works presented at the conference (authors need to ensure there is at least 70% new content compared to the conference paper), along with papers submitted within the open call taking also into account the target audience of the JBHI journal. Prospective authors are encouraged to contact the Guest Editors in advance.

Topics of interest include, but are not limited to, the following:

- Sensing/Actuating Technologies and Pervasive Computing
- Sensor-based Decision Support Systems
- Intelligent Digital Health Systems and Interventions
- Human-Computer Interaction (HCI) and Computer Supported Cooperative Work (CSCW)
- Barriers and Enablers to Adoption of New Technologies and Care Models
- Digital Interventions and Health Behavior Change
- Autonomous Systems to Support Independent Living
- Chronic Disease and Health Risk Management Applications, Health/Wellbeing Disease Prevention
- Data privacy concerns as a result of pervasive computing
- Clinical Applications, Validation and Evaluation Studies, Telemedicine and mHealth Solutions/Telemonitoring

Guest Editors

Dr Athanasios Tsanas, BEng, MSc, DPhil (Oxon), SMIEE, FHEA, FRSM, University of Edinburgh, UK, and Alan Turing Institute, UK. atsanas@ed.ac.uk

Dr Andreas Triantafyllidis, BSc, MSc, PhD, Information Technologies Institute, Centre for Research and Technology – Hellas. atriand@iti.gr

Prof. Manolis Tsiknakis, Hellenic Mediterranean University, Greece and Foundation for Research and Technology - Hellas (FORTH). tsiknaki@ics.forth.gr

Key Dates

Deadline for Submission: 1 June, 2023
First Reviews Due: 15 July, 2023
Revised Manuscript Due: 15 August, 2023
Final Decision: 30 September, 2023