Editorial

This supplement issue of Applied Medical Informatics is dedicated to the 37th Conference of the Romanian Society of Medical Informatics (SRIM – Societatea Română de Informatică Medicală) organized in association with the West University of Timişoara, Politehnica University of Timişoara and "Victor Babeş" University of Medicine and Pharmacy. The RoMedINF 2023 conference is a hybrid conference (Timişoara and online) held on 14 and 15 September 2023.

The RoMedINF 2023 conference covers various topics, including but not limited to healthcare ecosystems; telemedicine, tele-assistance, and telemonitoring; mHealth; eHealth; virtual reality; digital/virtual twins; computational models; statistical modeling; artificial intelligence; virtual clinical trials; decision support systems; nursing health informatics; medical engineering; healthcare monitoring; algorithms evaluation; wearables; sensors; medical devices; data security; data sharing; ethics; medical informatics training; continuing education etc.

Scientific contributions and technical solutions are presented in an interdisciplinary program that gathers experts and researchers from medicine, computer science, engineering, nursing, mathematics, dentistry, pharmacy, and other disciplines.

"Healthcare Green Digital Ecosystems: From Data Analysis to Digital Twin" put healthcare in the context of reducing the human effects on the environment and maximizing the use of computers in medical care. Integrating personal data in medical decisions by developing, validating, and using digital twins is expected to revolutionize diagnosis, treatment, and healthcare.

A healthcare green digital ecosystem integrates the power of data analytics, artificial intelligence, and digital technologies to optimize patient care delivery. Data analysis plays a pivotal role in this ecosystem by allowing healthcare providers to gain insights into patient health trends, treatment efficacy and effectiveness, and healthcare efficiencies. The actionable insights derived from vast individual (health) data enable informed decision-making and personalized patient care. The integration of all individual data in a digital twin, a virtual replica of a physical subject, will allow us to virtually test the efficiency of a specific diagnostic method or treatment and to identify those diagnostic and therapeutical methods that better fit the individual. Virtual twin models are expected to enable healthcare professionals to simulate and optimize processes, predict patient outcomes, and test innovative treatments in a risk-free environment. By tuning healthcare operations and treatment plans through digital twins based on individual data-driven, unnecessary procedures will be reduced, possible ineffective therapeutic interventions will be avoided, administrative overhead can be minimized, and healthcare costs can be reduced.

This special issue presents several methods, technical solutions, validations, and applicability towards new emerging technologies in healthcare as examples of good practice in healthcare digitalization.

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