

## **Artificial intelligence in Healthcare – from prevention to personalized treatment**

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### **Abstract**

In the rapidly evolving healthcare landscape, Artificial Intelligence (AI) is emerging as a transformative force, not only revolutionizing disease prevention, diagnostic accuracy, prognosis, and personalized treatment but also enhancing our ability to live healthier lives. This presentation will explore AI's capacity to analyze multimodal data, providing actionable insights that set new standards in diagnostics and health management while ensuring trustworthiness, accuracy, privacy, and security. We will delve into how AI's ability to integrate lifestyle factors, disease status, genetic, and progression data enables the creation of highly individualized treatment plans, aimed at both curing disease and promoting overall well-being.

By examining practical applications, we will highlight the significant benefits AI offers to both patients and healthcare professionals, and its pivotal role in reshaping the future of healthcare with a focus on enhancing quality of life. Additionally, the discussion will cover the ethical considerations surrounding AI in medicine, ensuring that the technology is developed and implemented responsibly.

Furthermore, we will address the collaborative development and validation of AI solutions, exploring the challenges and successes in integrating these technologies into clinical practice. This talk aims to provide a comprehensive overview of AI's impact on healthcare, from theoretical innovation to practical application, emphasizing the collaborative efforts required to bridge the gap between the two while upholding the highest standards of ethics, equity and care, ultimately leading to healthier, longer lives.

### **Bio**

Stavroula Mougiakakou is an Associate Professor affiliated with the Faculty of Medicine, University of Bern and holds a Ph.D. degree in electrical and computer engineering from the National Technical University of Athens. She is currently leading the AI in Health and Nutrition laboratory at the ARTORG Center for Biomedical Engineering Research Bern, Switzerland. Her research interests include artificial intelligence, machine learning, computer vision and their application in prevention, diagnosis, prognosis, and treatment personalisation of acute and chronic diseases. Over the last years she successfully involved herself and her research group in many competitive national, European, and internationally funded R&D projects, resulting in numerous publications, a number of patents, and several technology transfer activities.