



UNIVERSITÀ DI PAVIA

Dipartimento di
Ingegneria Industriale
e dell'Informazione

**Artificial Intelligence, smartphones and
3D printing for resilient medical devices
design in low-income countries.**

Prof. Leandro Pecchia

Abstract

The majority of the global population is diagnosed and treated in low-resource medical settings, which are abundant in low-income countries and in some cases are also present in remote areas or suburbs of high-income nations. However, 90% of the global medical device market is in high-income countries (e.g., USA, EU and Japan accounting for 80% of the global market).

Consequently, medical devices end up being designed to comply with needs, markets and regulations of high-resource countries, which designers take for granted. This dichotomy jeopardises the safety and effectiveness of medical devices in low-resources settings.

Artificial intelligence, 3D-printing and smartphones are offering an unprecedented and unexplored platform to: design resilient, safe and affordable medical devices for low-resources settings; rethink hospital and clinical engineering.

This presentation will give an overview of ongoing researches in the Applied Biomedical Signal Processing and Intelligence eHealth lab, directed by Dr Pecchia at the University of Warwick, UK.

About the speaker

Leandro Pecchia graduated in Biomedical Engineering in 2005 the University "Federico II" of Naples, where he also received the PhD in Biomedical Engineering in 2009. Since 2013, he joined The University of Warwick, UK, where he is Associate Professor of Biomedical Engineering. In 2014 he founded the Applied Biomedical Signal Processing and Intelligent eHealth Lab (ABSPIE), which he is directing. Dr Pecchia authored more than 150 publications, including peer-reviewed journal articles, book chapters, patent applications and conference papers in the fields of Health Technology Assessment (HTA), clinical engineering, machine learning and biomedical signal processing. Dr Pecchia researches focused on healthy ageing, chronic disease management and adverse events' prediction, medical device design, regulation, maintenance and assessment, with a particular focus to low-resource settings.

Dr Pecchia is Secretary General of the IUPESM, Treasurer of the IFMBE Clinical Engineering Division, and Elected President of the EAMBES. He also served the IFMBE Healthcare Technology Assessment Division as Chair (2015-18) and Treasurer (2012-15).

Location and time

Ven. 13/12/2019 - Ore 11.00
Aula Seminari Verde - Piano D
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Via Ferrata, 5 - Pavia