

HORIZON 2020



HEALTH,
DEMOGRAPHIC CHANGE
AND WELLBEING

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HEALTH PARTNERING DAY 2019

#H2020PartnerHealth

Flash Presentations Session

Cardiovascular Research Projects

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San Donato Milanese, Milan, Italy

Laboratory of Complex Systems Modeling



I.R.C.C.S. Policlinico
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Organization



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IRCCS Policlinico San Donato (PSD) is an **Italian private research and university hospital** recognized by the Italian Ministry of Health as Institute for Research, Hospitalization and Health Care (*Istituto di Ricovero e Cura a Carattere Scientifico – IRCCS*) for the **study and treatment of cardiac and great vessels diseases**.

- Beneficiary of the EU-China Research and Innovation Partnership funded in 2014 (Contract No. ICI+/2014/348-006)
- Partner of the MultipleMS project funded in 2017 (GA No. 733161)
- Future subcontractors of the MyPeBS project funded in 2018 (GA No. 755394)
- Participated in other several H2020 and ERANET calls.
- the Director of the PSD Molecular Cardiology Laboratory is member of the CardioRNA COST Action project (CA17129) Management Committee funded in 2017.

Laboratory of Complex Systems Modeling is a bioengineering laboratory of PSD with expertise in biomedical signal processing, data analysis and statistics.

Its activities are related but not limited to:

- Development of **advanced multivariate methods** to characterize cardiovascular control
- **Improving cardiovascular risk stratification** through the assessment of the link between cardiovascular and cerebrovascular control markers and the development of adverse clinical outcomes
- **Acquisition and analysis** of biomedical signals related to cardiovascular and cerebrovascular districts (i.e. EKG, blood pressure, respiration, transcranial Doppler...)

Our project idea / expertise

Predicting adverse cardiovascular events via the assessment of cardiovascular control indices

- Impaired cardiovascular (CV) control can be linked to the development of adverse cardiovascular outcomes.
- CV control markers, as derived from signal processing, can be used to predict the occurrence of CV adverse events.
- Indices could be computed within advanced monitoring systems or in portable devices to increase patients' awareness about their cardiovascular risk and improving risk stratification.



H2020 Topics:

BETTER HEALTH AND CARE

- *Personalised medicine: Digital diagnostics – Clinical decisions tools – Data*
- *Innovative health: High-risk medical devices - Methodological approaches*
- *Innovative health: Methodology research – Clinical trials*
- *Contribution to the Call on Digital transformation: Innovative digital solutions for people*

DIGITAL TRANSFORMATION

- *Personalised risk prediction – ICT solutions –Data integration – AI*
- *Digital health and care solutions*

Partners sought:

- Clinical partners – research hospital with expertise in cardiovascular diseases to recruit patients
- Technical partners - Universities: computational modeling of different CV parameters, machine learning
- SME: implementation of new devices
- **Partner seeks consortium/coordinator**

Our project idea / expertise



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A **CALL** for **WOMEN** – **CALL ME** – Project

From the Women Research Group of IRCCS Policlinico San Donato

Cardiovascular diseases continue to be the leading cause of death in **women**. Although increasing awareness of **sex and gender differences**, there are still open issues as:

- Lack of recognition of potential novel risk factors
- Need for a personalized path of prevention and care
- Inadequate inclusion of women in trials and of women-specific research

Aim: to examine **temporal trends in risk profile and identify unknown risk factors** by means of data collection (clinical history and parameters, diagnostic tool as EKG, ultrasound, cardiac baroreflex and autonomic profile assessment, hemodynamic parameters) in a large cohort of women grouped by decades of age (age min: 20; age max: 70).

H2020 Topics:

BETTER HEALTH AND CARE

- *Personalised medicine: Actions in support of the International Consortium for Personalised Medicine*
- *Innovative health: Multimorbidity management – Patient-centred care*
- *Innovative health: Methodology research – Clinical trials*
- *Contribution to the Call on Digital transformation: Real World Data in complex chronic conditions*

DIGITAL TRANSFORMATION

- *Personalised risk prediction – ICT solutions –Data integration – AI*
- *Innovation for active and healthy ageing*

Partners sought:

- Clinical partners – research hospital with expertise in cardiovascular diseases and gender medicine
- Partners helping to increase the cohort of recruited women
- **Partner seeks consortium/coordinator**

Contact details



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