Tentative Outline

Special Thematic Issue for the journal *Current Vascular Pharmacology*

Title of the Thematic Issue: Cardiovascular Disease Risk Prediction: from theory to clinical practice, under a regional perspective

Guest Editor: Prof Demosthenes Panagiotakos

- **Scope of the Thematic Issue:**

The mathematical prediction of future cardiovascular disease events has received increased attention in recent years. The main purpose of these models is to estimate individuals' risk for a cardiac event to facilitate preventive efforts. Based on these models, risk charts have been developed and incorporated, into guidelines for the prevention of cardiovascular disease. Since the first presentation of the Framingham Heart Study risk sheets many physicians and public health policy makers have used them in clinical practice and research. In 1994 the European recommendations on coronary heart disease prevention adopted the 10-year Framingham heart study equations. However, some investigators advocate that the effort of risk prediction has so far not been very successful, although the set of risk factors associated with CVD is consistent between studies. A potential explanation was attributed to several geographical, cultural, social, behavioral and genetic peculiarities between the investigated populations. Moreover, it has also suggested that the inaccuracy of risk prediction models could be attributed to the differences in the incidence of cardiovascular disease between populations. In particular, the link between hazard ratios derived from risk models and estimation of absolute risk is dependent on some form of "reference" level of risk, and if this average survival varies between populations, then the prediction of absolute risk will also vary.

Thus, the aim of this *Thematic Issue* is to provide a forum for discussion on cardiovascular disease risk prediction, considering, not only the commonly used risk factors, but also other geographical, cultural, social, behavioral, and genetic characteristics of the individuals.

Keywords: Mathematical, cardiovascular disease, Framingham Heart Study, peculiarities, investigated, behavioral

Sub-topics:

- Theoretical Background of Risk Prediction modeling
- Novel aspects of Cardiovascular Disease Risk prediction; the role of regional variation
- New biological and behavioral markers for atherosclerosis and their incremental value in risk prediction
- Social inequalities and Cardiovascular Disease Risk prediction

Tentative titles of the articles:

- Systematic Coronary Risk Evaluation (ESC SCORE)
- Effects of Foods and Nutrients in Cardiovascular Risk Estimation
- Genetic factors in cardiovascular disease risk modelling
- Novel biomarkers in the prediction of cardiovascular disease risk
- Psychological factors in Cardiovascular Disease risk prediction
- A Bayesian Approach in Cardiovascular Disease Risk modelling

Schedule:

- Thematic issue submission deadline: January 3rd, 2023 – December 20th, 2023

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