

Special Issue on **Improving Aging Related Disorders by Dietary Interventions: The Role of Polyphenols and Their Metabolites**

CALL FOR PAPERS

Chronic disorders like diabetes mellitus, cancer, obesity, and cardiovascular diseases have a key phenomenon in common oxidative stress. Oxidative stress is an imbalance between the production of reactive oxygen species (ROS) and cellular antioxidant defense. A diet rich in polyphenols is thought to have preventive effects, and therefore there has been a major focus on the beneficial properties of natural products. Through the study of the absorption and metabolism of these ingested compounds, new evidences have shown that they and their metabolites are able to modulate a great variety of cellular responses with possibly therapeutic consequences. In addition, the different ways to metabolize polyphenols, due to genetic or personal exposome, can also affect the end point effect and explain the often funded variability in supplementation studies.

Even though the consumption of a healthy and balance diet has been suggested for diseases prevention, the use of nutritive supplements is now very common. Depending on the environment, these nutritive molecules can be electron donors or act as prooxidants (electron acceptors). There is the possibility that high doses of supplementation can give unwanted and unexpected harmful results such as increasing the rate of oxidation processes at the cellular level also due to the different metabolites that can be derived from overload consumption.

Within this context, we invite investigators to contribute original research articles as well as review articles that will stimulate continuing efforts to leverage the biochemical effects of nutritional molecules with particular emphasis also on their metabolites with the aim not only to improve accuracy of the nutritional molecules for preventive and therapeutic effects but also to discover the molecular targets that are modulated by nutritional interventions.

Potential topics include but are not limited to the following:

- ▶ The analysis of the bioavailability and absorption of polyphenols from dietary matrices
- ▶ The latest technologies for evaluating the effects of dietary polyphenols at clinical and pharmacological level and measuring outcomes with biomarkers
- ▶ Recent development in revealing the antioxidant/prooxidant activity of polyphenols
- ▶ Advanced research in proteomics, transcriptomics, and metabolomics in correlations with antioxidant/prooxidant effects
- ▶ Evidences of beneficial nutritional intervention *in vitro* and *in vivo* and human studies for elderly related disease and for aging and aging related diseases
- ▶ Evaluating and comparing the roles of polyphenols metabolites
- ▶ Topical application for cutaneous disease prevention or cure

Authors can submit their manuscripts through the Manuscript Tracking System at <https://mts.hindawi.com/submit/journals/omcl/iard/>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

Lead Guest Editor

Veronica S. Chedea, National Research-Development Institute for Biology and Animal Nutrition, Ilfov, Romania
chedea.veronica@ibna.ro

Guest Editors

Giuseppe Valacchi, University of Ferrara, Ferrara, Italy
giuseppe.valacchi@unife.it

Debora Esposito, North Carolina State University, Raleigh, USA
daesposi@ncsu.edu

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