

## Special Issue

# Gene–Diet Interactions in Chronic Disease: Advances in Nutrigenomics and Nutritional Interventions

### Message from the Guest Editors

Chronic non-communicable diseases, such as cardiovascular disease, obesity, type 2 diabetes, and some cancers, result from complex interactions between genetics and environmental factors—diet being central. Nutrigenomics explores how nutrients affect gene expression, offering promise for personalized dietary strategies in disease prevention and management. Evidence shows that genetic variants, epigenetic changes, microbiome composition, and sex differences shape individual responses to nutrition. This Special Issue invites high-quality contributions on the interplay between genetic makeup and diet in chronic disease. Relevant topics include gene–diet interactions and disease risk, sex-specific nutritional responses, diet-induced epigenetic modifications, microbiome-mediated gene–nutrient interactions, the use of omics in personalized nutrition, nutrigenetics and precision medicine, genotype-based nutritional intervention trials, and biomarkers for personalized diets. We welcome original research, clinical studies, reviews, and comparative works—especially those connecting molecular mechanisms to practical applications.

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### Guest Editors

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### Deadline for manuscript submissions

20 December 2025



## Applied Sciences

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## About the Journal

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As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

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### Editor-in-Chief

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