



## Role of Olfaction in Food Intake, Metabolism, Energy Balance and Obesity

Guest Editors:

**Prof. Dr. Roberto Massimo Crnjar**

Department of Biomedical Sciences, University of Cagliari, Cagliari, Italy

**Dr. Giorgia Sollai**

Department of Biomedical Sciences, University of Cagliari, Cagliari, Italy

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### Message from the Guest Editors

Dear Colleagues,

Olfaction is a major sensory modality involved in the perception of the composition of the external environment, playing an important role in eating behavior and food choices, social relationships, and identification of environmental dangers. The olfactory system shows the ability to gather and process information simultaneously from the external and internal environment; in fact, olfactory receptors are also present in organs outside the nasal cavity where they bind to molecules such as nutrients and metabolites from the animal's internal environment to elicit physiological responses, such as regulation of appetite. There is a direct action of metabolic peptides on the olfactory network: orexigenic peptides increase olfactory sensitivity, while anorexigenic hormones decrease it. The olfactory system regulates food intake, food choices and energy balance, by participating in the cephalic phase responses and interacting with central nervous circuitries.

### Keywords

- olfaction
- eating behavior
- food choices
- metabolism
- energy balance
- body mass index





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(IUIBS), University of Las Palmas  
de Gran Canaria, 35001 Las  
Palmas, Spain  
3. Preventive Medicine Service,  
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Canarian Health Service, 35016  
Las Palmas, Spain

### **Prof. Dr. Maria Luz Fernandez**

Department of Nutritional  
Sciences, University of  
Connecticut, Storrs, CT 06269,  
USA

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*Nutrients* Editorial Office  
MDPI, St. Alban-Anlage 66  
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