

## ALBERTINO BIGIANI - Curriculum Vitae

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### **Current position**

Professor of Physiology  
Università di Modena e Reggio Emilia (Italy)

### **Work coordinates**

Address: Dipartimento di Scienze Biomediche, Metaboliche e Neuroscienze  
Sezione di Fisiologia e Neuroscienze  
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### **CAREER SUMMARY**

- Albertino Bigiani has expertise in the field of cell physiology.
- He received training in membrane electrophysiology; he masters advanced techniques, such as patch-clamp recording.
- Over the years 1991-1995, he worked in the laboratory of Prof. Stephen D. Roper at Colorado State University, where he specialized in the physiology of taste receptor cells.
- Starting 1994, he set-up his own electrophysiology laboratory at the University of Modena and Reggio Emilia.
- He is now Professor of Physiology and has a tenured position at the University of Modena and Reggio Emilia (Italy).

### **CURRENT RESEARCH**

#### ***Salt detection mechanisms in mammalian taste receptor cells***

Taste perception of food and beverages is a fundamental sensory activity for proper nutrition. Specific cells in the oral cavity, the taste receptor cells, recognize chemicals dissolved in the saliva and signal relevant information to the brain. Albertino Bigiani is interested in the mechanisms used by these cells to detect sodium ions ( $\text{Na}^+$ ), which are responsible for the taste of table salt (salty). The significance of this research is related to the impact of sodium intake on the development of hypertension.

## EDUCATION

1984 **Degree in Biological Sciences** Summa cum Laude  
University of Modena, Modena, Italy

1985 **Qualification as Biologist**  
University of Modena, Modena, Italy

1991 **Ph.D. in Neuroscience**  
University of Pisa, Pisa, Italy

## POST-DOCTORAL TRAINING

1991-1993 **Postdoctoral fellow with Prof. Stephen D. Roper**  
Department of Anatomy and Neurobiology, Colorado State University, Fort Collins, Colorado, USA

## ACADEMIC APPOINTMENTS

1992-2001 **Assistant Professor of General Physiology**  
University of Modena and Reggio Emilia, Modena, Italy

1993-1995 **Visiting Assistant Professor**  
Colorado State University, Department of Anatomy and Neurobiology, Fort Collins, Colorado, USA

1997 **Visiting Professor**  
University of Miami School of Medicine, Department of Physiology and Biophysics, Miami, Florida, USA

2001-2005 **Associate Professor of Physiology**  
University of Modena and Reggio Emilia, Modena, Italy

2005-present **Professor of Physiology**  
University of Modena and Reggio Emilia, Modena, Italy

## ADMINISTRATIVE EXPERIENCES

2008-2011 **Deputy Director**, Department of Biomedical Sciences  
University of Modena and Reggio Emilia, Modena, Italy

2009-2012 **Dean**, Faculty of Pharmacy  
University of Modena and Reggio Emilia, Modena, Italy

2008-present **Coordinator** of the Physiology Section, Department of Biomedical Sciences  
University of Modena and Reggio Emilia, Modena, Italy

## PROFESSIONAL SOCIETY MEMBERSHIP

American Physiological Society (USA)  
European Chemoreception Research Organization (ECRO)  
Società Italiana di Fisiologia (Italian Society of Physiology)  
Società Italiana di Neuroscienze (Italian Society of Neurosciences)  
Society for Neuroscience (USA)

## WEB SITES

ResearchGate: [https://www.researchgate.net/profile/Albertino\\_Bigiani](https://www.researchgate.net/profile/Albertino_Bigiani)

## SELECTED PUBLICATIONS

Bigiani A, Rhyu M (2023) Effect of kokumi taste-active  $\gamma$ -glutamyl peptides on amiloride-sensitive epithelial Na<sup>+</sup> channels in rat fungiform taste cells.

*Biochemistry and Biophysics Reports*, 33: 101400. doi: 10.1016/j.bbrep.2022.101400.

Bigiani A, Tirindelli R, Bigiani L, Mapelli J (2022)

Changes of the biophysical properties of voltage-gated Na<sup>+</sup> currents during maturation of the sodium-taste cells in rat fungiform papillae.

*Journal of Physiology*, 600: 5119-5144. doi: 10.1113/JP283636

Bigiani A (2021)

The origin of saltiness: oral detection of NaCl.

*Current Opinion in Physiology* 19: 156-161. doi: 10.1016/j.cophys.2020.11.006

Bigiani A (2020)

Salt Taste.

In: Fritsch, B. (Ed.) and Meyerhof, W. (Volume Editor), *The Senses: A Comprehensive Reference*, vol. 3. Elsevier, Academic Press, pp. 247–263. doi: 10.1016/B978-0-12-809324-5.23910-2

Bigiani A (2020)

Does ENaC work as sodium taste receptor in humans?

*Nutrients* 12: 1195. doi: 10.3390/nu12041195