ISOEN2026

Chongqing, China

May 17-20, 2026

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International Symposium on Olfaction and Electronic Nose

SPECIAL SESSION 05

Biomimetic Sensor Systems for Analysis of Taste

Biomimetic sensor systems inspired by the human gustatory system have emerged as powerful analytical tools for characterizing complex liquid samples. By integrating chemical sensing materials, multisensor array designs, and advanced data-driven algorithms, these systems can capture multidimensional taste information that cannot be obtained by traditional single-parameter analytical techniques. Recent developments in electronic tongues, biosensors, and bio-inspired transduction strategies have significantly expanded their applications in food science, environmental monitoring and biomedical diagnostics. As multimodal and machine learning based sensing rapidly advances, biomimetic sensors are becoming essential for objective, rapid, and non-destructive characterization of chemical compositions for various applications.

This Special Session will focus on researches related to the design, modeling, and application of biomimetic sensors and systems, including but not limited to:

1. Bio-inspired chemical sensing materials and transducers
2. Electronic tongue systems and multi-sensor platforms
3. Signal processing, pattern recognition, and machine learning methods for taste interpretation
4. Novel biosensing approaches using optical, electrochemical, and mass-sensitive techniques
5. Biomedical and clinical applications, including liquid biopsy, metabolic screening, and disease markers
6. Novel microfluidic, flexible, or wearable biosensing technologies

Special Session Organizers

Dmitry Kirsanov

St. Petersburg State University, Russia

Hao Wan

Zhejiang University, China

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*The accepted papers after proper registration and presentation will be included in the conference proceedings, which will be published in **IEEE Xplore**. The proceedings will be submitted to be indexed by **EI Compendex** and **Scopus**.

* Paper Submission Closes: **19 January 2026**

Conference Sponsors

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