

7<sup>th</sup> WORLD CONGRESS OF

DIGITAL  
OLFACTION  
SOCIETY

A circular inset image showing a night view of the Tokyo skyline. The Tokyo Skytree tower is the central focus, illuminated with blue and white lights. The city lights below are a mix of blue and white, creating a vibrant urban scene.

TOKYO,  
JAPAN  
& ONLINE

NOVEMBER  
29 & 30  
2022

## Welcome to the 7<sup>th</sup> Digital Olfaction Society Annual Meeting

Dear Colleagues,

After the success of the four **DOS World Congresses** (Berlin, 2013 and Tokyo, 2014-2016-2018) and the two congresses on Olfaction & Issues (Paris, 2010 and Milano, 2016), the scientific committee is pleased to announce the 7<sup>th</sup> Digital Olfaction Society Annual Meeting which will be held on November 29-30, 2022, as a hybrid meeting: in Tokyo, Japan, & Online.

Our aim is to accelerate the digital olfaction innovations in many fields. We will link and connect all actors in this particular field to achieve our goals which is the smell of digital.

### **The aim of the 7th Digital Olfaction Society World Congress 2022 is to discuss:**

- The advances of digital olfaction Research & Development
- The practical applications of digital olfaction
- The impact of these applications on our life and lifestyle

### **Digital Olfaction Society World Congress 2022 will highlight:**

- The interdisciplinary sciences related to Olfaction and Digital Olfaction.
- The way in which we can transfer the concrete breakthroughs of Research & Development towards industrial applications concerned by digital olfaction
- How to design and extend the applications of digital smell technologies to everyday life
- The impact of Digital Olfaction on COVID-19 diagnosis and treatment.

Topics of interest include but are not limited to: Scientific Advances & Perspectives of the Sense of Smell, Scents, Odors and Aromas, Health and Scents, Chemical Sensors and Digital Olfaction devices (Electronic Noses and Chemical Analysis), Scent Generation and Olfactory Displays, Data Analysis and Signal Processing and Industrial and Medical Applications.

The goal of this congress is to establish the international link related to digital olfaction among a variety of fields such as biology, medicine, computer science, electronics, chemistry, mechanical engineering, psychology, art etc. We aim to create devices which not only can capture odors, but also turn them into digital data as well as transmit them everywhere in the world and reconstitute the original odor.

We look forward to welcoming you in Tokyo for this particular event.



**Prof. Jesús Lozano Rogado**  
President of Digital Olfaction Society,  
University of Extremadura, Spain

# 7<sup>th</sup> Digital Olfaction Society Annual Meeting



November 29-30, 2022 – Tokyo, Japan

**AP Tokyo Yaesu Dori – Convention Center**

KPP Yaesu Building, 11th Floor, Chuo-ku, Kyobashi 1-10-7, 104-0031, Tokyo

AP東京八重洲通り, 〒104-0031, 東京都中央区京橋1丁目10番7号, KPP八重洲ビル11階

## Conference Agenda

### Day 1 – November 29, 2022

**8h00 Welcoming of attendees & Material Distribution**

**8h50 Welcome Note & Introductory Remarks**

*Jesus Lozano Rogado, President of DOS, University of Extremadura, Spain*

*Marvin Edeas, Founder of DOS, Institut Cochin, INSERM U1016, Université de Paris, France*

#### **Session 1: Olfaction & Issues 2022: The sense of smell in health**

*Chairpersons: Marvin Edeas and Jesus Lozano Rogado*

**9h00 The History of Scent Technologies: DigiScents' iSmell and TriSenx's Scent Dome at the Turn of the Century**

*Simon Niedenthal, Malmö University, Sweden*

*Jas Brooks, University of Chicago, USA*

**9h30 Olfactory Receptors and Microbiota: Effects on Wound Healing**

*Marvin Edeas, Founder & Chairman of the Digital Olfaction Society Committee, Institut Cochin, INSERM U1016, Université de Paris, France*

**10h00 Mixture Coding and Segmentation in the Anterior Piriform Cortex**

*Dan Rokni, Hebrew University, Israel (online talk)*

**10h30 Coffee Break & Network Session**

#### **Session 2: Digital Olfaction: Recent Advances, Research & Development and Perspectives**

*Chairpersons: Jesus Lozano Rogado and Marvin Edeas*

**11h10 40 Years of Electronic Noses: Main Improvements and Future Trends**

*Jesus Lozano Rogado, DOS President, University of Extremadura, Spain*

**11h40 How Wearable Technologies Can Support Scientific Research About the Human Reactions to Olfactory Stimuli?**

*Alessandro Tonacci, The Institute of Clinical Physiology, National Research Council of Italy, Italy (online talk)*

- 12h10 Canine Medical Scent Detection of Samples of SARS-CoV-2 Infected Individuals: Current Opportunities and Pitfalls**  
*Holger Volk, University of Veterinary Medicine Hannover, Germany (online talk)*

#### **12h40 Coffee Break & Network Session**

*Chairperson: Daniel Martín Vertedor*

- 14h00 E-nose Analysis of Exhaled Breath for Improving Diagnosis in Patients with Respiratory Failure**  
*Laura Capelli, Politecnico di Milano, Italy*
- 14h30 Gas Sensors and Electronic Noses: Recent Developments at Spanish National Research Council**  
*José Pedro Santos, Instituto de Tecnologías y de la Información ITEFI-CSIC, Spain*
- 15h00 Novel Gas-Phase Biosensors and Imaging Systems for Human Volatiles**  
*Kohji Mitsubayashi, Tokyo Medical and Dental University, Japan*

#### **15h30 Coffee Break & Network Session**

*Chairperson: Laura Capelli*

- 16h10 New Horizons in Application of Digital Olfaction for Table Olive Industry**  
*Daniel Martín Vertedor, Scientific and Technological Research Center of Extremadura (CICYTEX-INTAEX), Spain*
- 16h40 Electronic Noses and Tongues for Food Processing**  
*Maria Luz Rodriguez-Mendez, Universidad de Valladolid, Spain (online talk)*
- 17h10 Internet of Things (IoT)-based Olfaction in Agriculture**  
*Mahdi Ghasemi, Shahrekord University, Shahrekord, Iran (online talk)*
- 17h40 Short Oral Presentations**
- An Insight into Insular Cortex and Limbic Networks Activation during Olfactory Stimulation as a Support Treatment for Chronic Pain: A Pilot Study**  
*Mariaconsiglia Santantonio, Università Cattolica del Sacro Cuore, Italy (online talk)*
- 17h50 End of the first day**
- 19h30 Speakers Dinner (for ticket holders only)**  
*Contact us if you wish to register.*

## Day 2 – November 30, 2022

8h50 Opening of the second day

### Session 2: Digital Olfaction: Recent Advances, Research & Development and Perspectives (Continued)

Chairperson: Simon Niedenthal

9h00 **Disposable Sensors for On-Site COVID-19 Testing**  
*Can Dincer, University of Freiburg, Germany (online talk)*

9h30 **Opportunities and Challenges for Biosensors and Nanoscale Analytical Tools for Pandemics**  
*Nikhil Bhalla, Nanotechnology and Integrated Bioengineering Centre, Ulster University, The United Kingdom (online talk)*

10h00 **In Search of Covid-19: The Ability of Biodetection Canines to Detect Covid-19 Odors from Clinical Samples**  
*Marthe Charles, University of British Columbia, Canada*

#### 10h30 Coffee Break & Network Session

#### 11h10 Short Oral & Posters Presentations

**Graphene-based Electronic Olfaction Sniffing Out Smell with Superb Olfactory Performance**  
*Gianaurelio Cuniberti, TU Dresden, Germany (online talk)*

**Chemiresistive Sensors With Meta-Learning Ability: A New Possibility for Odor Sensing**  
*Chuanjun Liu, Research Laboratory of U.S.E. Co., Ltd, Japan*

**Orthogonal Array Composed By Optical and Resistive Sensors for Digital Olfaction Devices**  
*Jesus Lozano Rogado, University of Extremadura, Spain*

**Detection of TCA in the Cork Stopper Industry Using Digital Olfaction Technology**  
*Jesus Lozano Rogado, University of Extremadura, Spain*

### Session 3: DOS 2022 Demonstrations

#### 11h25 General Presentation of Demonstrations

Before the practical demonstration, we invite each team to present orally their technology and the process of demonstration (5-10 minutes by team). During Demonstrations Session, each team will have a dedicated space to show, demonstrate, explain and discuss about his project.

The presentations will be recorded and showcased immediately after the meeting.

*Katsuya Ujimoto, Ricoh Company, Ltd., Japan*

**Brand New Olfactive Age: Olfactive Technologies for Olfactory Measurement and Testing**  
*Shuji Fujita, Sony Corporation, Japan*

*Chuanjun Liu, U.S.E. Co., Ltd, Japan*

*Jesus Lozano Rogado, University of Extremadura, Spain*

*Daniel Martín Vertedor, Scientific and Technological Research Center of Extremadura, Spain*

### 12h30 Coffee Break & Network Session

### 14h00 – DOS Displaying & Demonstrations

**Introducing Miniature Device for Digital Olfaction: Sniffing Smartwatch**  
*Jesus Lozano Rogado, President of DOS, University of Extremadura, Spain*

**Takimono (薫物) with Real Time Spectrometry by Ricoh**  
*Katsuya Ujimoto, Ricoh, Japan*

**Presentation of Sony new product “next-gen olfactometry system NOS-DX1000”**  
*Shuji Fujita, Sony Corporation, Japan*

**Demonstration of Aroma Oil Recognition by Deepsniffer**  
*Chuanjun Liu, U.S.E. Co., Ltd., Japan*

**Demo of Sensory Panel for Table Olives using Digital Olfaction Technology**  
*Daniel Martín Vertedor, Scientific and Technological Research Center of Extremadura, Spain*

17h00 **Discussion with the scientific committee: Digital Olfaction Society: What's Next?**

17h30 **Digital Olfaction Awards 2022**

17h40 **End of the 7<sup>th</sup> DOS Annual Meeting 2022**

**RICOH**  
imagine. change.

**SONY**