SENSTARA

Sensor and Standards Development for Research Activities.

Working Group

EAAP European Federation of Animal Science

SENSTARA: Advancing Sensor-Based Indicators and Modeling of Animal Resilience, Health, and Welfare in Precision Livestock Farming'

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The SENSTARA Working Group aims to establish communications on methodologies, Standard Operating Procedures (SOPs), and activities for research data standards with PLF sensors, models, and applications. Established under the European Federation of Animal Science (EAAP), we bridge the gap between PLF technologies, ethology, and welfare science.

What is SENSTARA?

An international Working Group within the EAAP PLF Study Commission that brings together researchers across disciplines, technologists, and stakeholders to advance and promote Sensor and Algorithmic standards (4-year mandate), through:

COMMUNICATION

Publications, webinars, sessions, and working groups to share knowledge and best practices

PROMOTION

Translational/ documentation of welfare definitions across-species, and relevant tools for accurate and repeatable insights

DEVELOPMENT

Foster a species-agnostic approach to PLF tool and methodologies, and develop SOPs

CONNECTION

Discuss, convene, invite experts, and establish long-term capacity for new data systems, models, techniques, and tools

Why It Matters?

Getting researchers thinking about the transition from animal to sensor and handling data to communicate and convene on standards for meaningful and biologically relevant insight from animals

Background and rationale

- Livestock systems are facing challenges: climate change, intensification, and growing societal demands for animal welfare, environmental sustainability, and transparency.
- Sensor-based technologies and PLF tools provide unprecedented opportunities to continuously monitor animals, enabling early detection of stress, health disorders, and resilience responses.
- Translation of sensor data into robust, biologically meaningful, and actionable indicators remains a major challenge.
- Communicating data, architectures, modeling, algorithms, methodologies, and applications.

Fig 2: How SENSTARA sits in the EAAP ecosystem and the scope of the 4-year mandate.

Technological & Scientific Scope

Sensor Data
Monitor activity, physiology, location, environment Etc..

Data Architecture
How that data is stored and structured.

Compute
Processing and computational requirements for data.

Cleaning, Filtering, Visualization
Preparing, handling and prechecking data

AI, ML, and Analytical Tools
Tools to derive new and faster insights

Data Standards and Interoperability
Data analytics, modeling, and AI-based approaches with open source and standards

Welfare, Behavior & Physiological Indicators
Develop scalable and actionable indicators

Team

From Top left: Daniel Foy (Chair), Borbala Foris (Co-Chair), Jean-Marc Gautier (Co-Chair), Xabier Díaz de Otálora (Secretary), Members: Claire Morgan-Davies, Laura Dale, Per Peetz Nielsen, Guilherme Amorim Franchi

Join the SENSTARA Community

- Researchers and PhD students
- Technology developers and industry partners
- Stakeholders involved in animal production, welfare, and sustainability
- EAAP members interested in sensor-based livestock monitoring and PLF
- Regional research project and groups

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