



COMFOCUS

Community on Food Consumer Science



D2.6 Report on the summer schools



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Executive Summary

The goal of Work Package 2 is to establish a clear communication, dissemination and exploitation strategy to guarantee that COMFOCUS creates a strong awareness and solid linkages and uptake between Food Consumer Science (FCS) actors and stakeholders. It also promotes the use of project results and the organic growth of FCS community during and beyond project duration. The communication, dissemination and exploitation strategy includes the best way to engage the stakeholders and the most suitable channels and tools to target each one.

As part of WP2 activities, we also aimed to establish annual co-learning initiatives that will support summer schools and workshops. These events will showcase and disseminate harmonized measurements, protocols, datasets, while also exploring best practices in the field of FCS.

This deliverable (D2.6) focuses on describing all activities related to the COMFOCUS summer schools. It also summarizes the key insights shared with the FCS community and the outcomes we aimed to achieve through the annual co-learning process. These activities were held within 3rd and 4th year of the project and included online and offline trainings with the established community of fellows and also lecturers from the COMFOCUS consortium, but also with stakeholders and International Advisory Board (IAB) members. Throughout this journey, we organized one online training session and three face-to-face workshops in different European cities.

This report is structured into six sections, covering the four Academic Trainings and their impact. It begins with an introduction, followed by dedicated sections on the online training, the in-person sessions in Ljubljana and Bologna, and the final training in Wageningen. The report concludes by reflecting on key learnings and the long-term significance of the COMFOCUS Academic Training programme. Its primary contribution is to document the content of the four training programs, including the learnings shared with the fellows and the broader FCS community.

The training programmes covered topics such as harmonizing psycho-social and psychophysiological measures, individual differences, methodological advances in immersive technology. Additionally, ethical considerations, FAIR data processing, and the role of ontologies in community building were explored. Presenters also highlighted emerging technologies, open science practices, and the development of a “new way of working” in FCS.

Introduction

COMFOCUS brings together, integrates across Europe, and opens up key national and regional research infrastructures in the interdisciplinary field of Food Consumer Science (FCS). By making their resources accessible to all European researchers, from both academia and industry, COMFOCUS ensures their optimal use and joint development. Its mission is to advance the food FCS beyond its current level of fragmentation that is preventing it from being the data-rich science area contributing to the societal problem of (un-)healthy food choices.

The project's main goal to advance the FCS field beyond its current fragmentation and our aim to make the "new way of working" developed within COMFOCUS a model for the field, incorporating three levels of integration:

- **Institutional Collaboration** – Promoting access to facilities and facilitating staff exchanges to optimize resource utilization and advance the field.
- **Social Integration** – Building a network of FCS researchers that is more inclusive, offering equal opportunities to early-career researchers, regardless of their location.
- **Data Infrastructure** – Adopting FAIR data and RRI principles to ensure that data are harmonized for interoperability and reusability.

As part of this, COMFOCUS developed a series of networking and learning activities to facilitate the demonstration and dissemination of harmonized measurements, protocols, datasets, and best practices in the field of FCS. To achieve this, summer school training courses were established to provide learning opportunities for both the COMFOCUS Open Calls fellows and the broader food FCS.

To better align with the objectives of the COMFOCUS project, the task was restructured and renamed "Academic Training." This restructured program aimed to equip early-career researchers in the field of FCS with the tools and perspectives necessary to conduct consumer research that is both methodologically sound and socially responsible. It was decided to offer the first introductory training online, followed by several face-to-face events at different partner institutions.

As a result, several events were organized within the scope of the Task 2.8 – "Providing Practical Training to Potential Users" both online and across various European countries. The objective of this report is to present the results and outcomes of these events, specifically addressing all Academic Training activities of COMFOCUS, and to provide an overview of the learnings and insights shared with the COMFOCUS fellows and other researchers in FCS during the training sessions.

1. Academic Training online

After several consultations and discussions, the project management team decided to initiate the Academic Trainings, starting with the first online session. During these discussions, potential topics and opportunities for the future agenda were identified and confirmed. The goal was to familiarize participants with the opportunities this journey offers and the key learnings they can gain.

In the preparation phase, the project team reviewed and finalized the list of instructors and the key learning objectives for the event, ensuring a well-structured and impactful experience.

The first online Academic Training was held on November 20, 2023, with the goal of introducing the COMFOCUS approach and providing participants with valuable insights from the FCS field. Thirty-five participants attended, including COMFOCUS Open Call 2 fellows, stakeholders, and members of the International Advisory Board (IAB). Lecturers from five COMFOCUS institutions—Aarhus University, University of Trento, University of Bologna, University of Turku, and Wageningen University & Research delivered presentations on various aspects of FCS, including an introduction to the COMFOCUS way of thinking. The training also covered the following topics: harmonized psycho-social and psychophysiological measures, explicit and implicit measures, cross-sectional and longitudinal studies in FCS, and individual differences in consumer sensory perception.

Table 1 Online Academic Training - Programme

14.00 - 14.05	Virtual walk-in	
14.05 – 14.20	Introduction to COMFOCUS	Dr. Hans van Trijp
14.20 – 14.35	Insights into harmonizing psycho-social measures	Dr. Liisa Lahteenmaki
14.35 – 14.50	Food Consumer Science with (harmonized) psychophysiological measures	Dr. Austėja Kazemekaityte
14.50 – 15.05	Break	
15.05 – 15.20	Cross-sectional vs longitudinal studies in FCS	Dr. Beatrice Biondi
15.20 – 15.35	Individual differences in consumer sensory perception	Dr. Mari Sandell
15.35 – 15.50	Q&A session	
15.50 – 16.00	Wrap-up & closure	

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The training was initiated with the challenges faced by FCS and emphasizing the importance of understanding consumers and influencing their behavior during these turbulent times. We raised the issue of increased complexity in outcome variables, specifically consumption patterns over time. These patterns are multi-determined, influenced by a range of drivers, and exhibit significant variation.

FCS is highly fragmented and mainly consists of 'small data' (multiple, limited datasets):

- Lack of harmonization of measures & protocols;
- Lack of data integration (scattered data);
- Lack of joint and collaborative effort.

In the presentation on insights into harmonising psycho-social measures, Dr. Liisa Lahteenmaki described how COMFOCUS project has approached the self-report measures that are commonly used in FCS studies. The aim of harmonising measures for central concepts in FCS is to make the data more comparable between the studies and promote the interoperability of the different datasets.

Liisa's presentation covered the process of harmonisation, from selecting relevant concepts to choosing the best operationalisations of those concepts as COMFOCUS harmonised measures. The harmonised approach covers most common socio-demographics, various motivational and behavioural concepts, as well as food-related and wider society-related concepts. Overall, they cover a considerable part of concepts frequently used as self-report variables in food consumer study measures. The harmonised measures for the concepts will support early career researchers refine and strengthen the measurement instruments in their studies.

Another insightful workshop by Dr Austeja Kazemekaityte on FCS with (Harmonized) Psychophysiological Measures explored the application of psychophysiological measures, including heart rate (HR), heart rate variability (HRV), eye tracking (ET), electrodermal activity (EDA), and facial expression recognition (FER), to assess consumer behavior in food studies. It highlighted the advantages of combining explicit and implicit measures to gain a deeper understanding of consumer responses while also addressing the challenges associated with these technologies.

The session showcased how these measures can be applied effectively in various contexts within food research. For instance, HR and HRV can provide insights into emotional arousal, stress levels, and self-regulation abilities. Eye tracking can uncover patterns of attention, cognitive load, and emotional processing in response to food stimuli. Electrodermal activity serves as an indicator of sympathetic nervous system arousal and emotional reactions, while facial expression recognition complements explicit self-reports by capturing emotional valence. Despite these advantages, the presentation also acknowledged significant challenges, such as technological limitations, biases, and individual variability in physiological responses. These factors complicate the interpretation and application of psychophysiological data in consumer science.

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Another key theme of this presentation was the importance of harmonization and the use of psychophysiological tools that offer robust insights into consumer emotions and behaviors, inconsistencies in measurement techniques and data interpretation create barriers to their widespread adoption. The standardization of methods is essential for enabling reliable cross-study comparisons and generating actionable insights that can inform consumer research in a meaningful way.

The presentation on cross-sectional vs longitudinal studies in FCS by Dr. Beatrice Biondi highlighted key methodologies for studying changes over time in the field. It introduced two primary approaches: cross-sectional studies, which gather data at a single time point with retrospective elements, and longitudinal studies, which collect repeated data over time to monitor trends. In particular, longitudinal designs like cohort, panel, and repeated cross-sectional studies allow researchers to better capture temporal dynamics, albeit at a higher cost and effort due to issues like attrition.

Attendees explored the advantages and challenges of longitudinal studies, including their ability to reveal evolving patterns in food consumption and preferences, alongside practical concerns such as harmonizing data from diverse sources. The presentation concluded with an overview of activities for the development of the guidelines for harmonizing such as data to support robust research in FCS, based on a structured protocol.

Dr. Mari Sandell touched on individual differences in consumer sensory perception to highlight how people differ in the way they perceive, interpret, and react to sensory stimuli such as sight, sound, taste, touch, and smell. These differences play a significant role in consumer behavior, influencing how people make purchasing decisions, perceive brands, and engage with products.

In conclusion, she emphasized that individual differences in sensory perception are a critical area of study within FCS. These variations can significantly influence food choices and consumer satisfaction and understanding them can lead to more effective product development and marketing strategies.

After the training, participants were provided with a questionnaire to offer feedback on their experiences and suggest ideas for future training. This feedback helped COMFOCUS improve the organization of these training courses and select themes that participants preferred and would be eager to engage with in future sessions.

2. Academic Training in Ljubljana, Slovenia

The Academic Training in Ljubljana, Slovenia was held on February 29, 2024, and brought together 40 participants from the COMFOCUS consortium, but also twenty-two Open Call 2 fellows from different European and non-European countries: Poland, Czech Republic, India, Spain, Italy, Norway, Germany, Kosovo,

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and the Netherlands. The training aimed to demonstrate and disseminate harmonized measurements, protocols, and datasets, as well as to explore best practices in the FCS field. Topics covered included:

- Community building within and across scientific fields and the role of ontologies.
- Methodological advances in immersive technology in FCS.
- Ethics in consumer research and data use.
- A demonstration of the COMFOCUS Toolbox: Easy Questionnaire Tool (EQT).
- Emerging technologies (showcases).

The fellows each created posters outlining their research designs and any preliminary findings. These posters were displayed in the event room, with the aim of fostering discussion between the fellows and the COMFOCUS consortium members.



Figure 1

Table 2 Academic Training in Ljubljana - Programme

9.00 - 9.15	<i>Welcome, registration & poster placement</i>	
9.15 – 9.30	Introduction and brief overview of projects & fellows in Open Call 2	Jakub Bercik Jana Gálová
9.30 – 10.15	Community building within and across scientific fields and the role of ontologies	Prof. Dr. Laurette Dube Damion Dooley
10.15 – 10.40	<i>Coffee & Tea break & poster viewing</i>	
10.40 – 11.10	Methodological advances in immersive technology in food consumer science	Dr. Luis Guerrero Dr. Alejandra Bermudez
11.10 – 12.00	Processing data for optimal FAIR data use	Prof. Dr. Hans van Trijp Robbert Robbemond
12.00 – 13.15	<i>Lunch & poster viewing</i>	
13.15 – 14.00	Ethics in consumer research and data use	Dr. Javier de la Cueva
14.00 – 15.00	Emerging technology showcase: try out new tools yourself and discuss research opportunities	Dr. Luis Guerrero Dr. Clara Mehlhose Prof. Mari Sandell
15.00 – 15.15	<i>Coffee & Tea break</i>	
15.15 – 16.00	COMFOCUS Toolbox: Easy Questionnaire Tool demonstration	Houkje Adema
16.00 – 16.45	Community building mini workshop – sharing learnings so far and overcoming challenges	Susana Seabra Eduarda Rosmaninho
16.45 – 17.00	<i>Closing and instructions for dinner</i>	

The training began with an introduction and an update on Open Call 2, which provided early career researchers in the FCS field the opportunity to conduct research at one of the COMFOCUS institutions, receiving mentorship and support from project experts.

Participants were informed about the impact the Open Call programme has had on the FCS research community, highlighting its global reach—not just across Europe, but also extending beyond the continent. In total, sixty-seven positions were available at the nine COMFOCUS research institutions across Europe, offering

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diverse research topics while adhering to harmonized protocols and Findable, Accessible, Interoperable, and Reusable (FAIR) data principles.

Additionally, participants were updated on the start of research experiments at COMFOCUS institutions and the online meetings with mentors, which had already begun. These meetings aimed to help participants familiarize themselves with one another and with their mentors before their research visits.

In this training, the topic of community building within and across scientific fields was covered, with a focus on the role of ontologies. Community building across scientific fields refers to the practice of fostering collaboration, knowledge exchange, and collective advancement among researchers, practitioners, and institutions within and across scientific disciplines. The importance of community building in science has grown over recent years, as interdisciplinary approaches become more essential in addressing complex global challenges such as climate change, public health, and technological innovation.

Participants received insightful learning on ontologies, which play a crucial role in various scientific fields, particularly in organizing, representing, and sharing knowledge. An ontology is a structured framework or model that defines concepts, entities, and the relationships between them within a particular domain. In scientific research, ontologies are employed to improve data interoperability, facilitate data sharing, and enhance computational reasoning. These presentations were introduced by the members of International Advisory Board (IAB) Laurette Dube and Damion Dooley and can be found on the project website in the library section: <https://comfocus.eu/library/>.



Figure 2

The presentation of Dr. Luis Guerrero and Dr. Alejandra Bermudez on “Methodological advances in immersive technology in FCS” aimed to explain the usefulness and necessity of controlling the context in the experiments usually carried out in FCS and secondly to provide an overview of the guideline for measuring food choice behaviour in reconstructed and virtual environments. In general, the participants showed great interest in extended reality and above all in being able to experience for themselves what it feels like and how immersive this type of technology can be. Afterwards, they had the opportunity to try out virtual reality goggles, taking a virtual walk around the ISS (International Space Station) and participating in a simple game (Beat Saber) that combined action and music. We also showed them portable eye-tracking goggles so that they could see how easy they are to use and their practical utility.

The session on “Methodological Advances in Immersive Technology in FCS” complemented another engaging session that highlighted emerging technologies. This session provided participants with the opportunity to explore new tools, try virtual reality devices, and engage in discussions about potential research opportunities. Attendees were able to assume the role of equipment tuners, offering valuable insights into the effectiveness of these tools for their research.

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Overall, our impression was very positive. The participants were fully engaged in all the activities, actively testing the different equipment and asking questions about its use and possible applications. These activities are highly beneficial as they allow to bring different infrastructures closer to the different participants of the Academic Training. They offer an opportunity to see and experience different technologies firsthand, while also enabling interactions with researchers who are knowledgeable and experienced in their use.

One of the sessions was devoted to processing data for optimal FAIR use, which refers to organizing and managing data so that it is FAIR. These principles are part of a widely adopted framework for data management to ensure that data can be efficiently used, shared, and reused by others. Data integration can occur at different levels and can provide additional insights over time or between populations.

After an introduction to the FAIR data principles, participants were given a warm-up assignment to identify potential ways of synergizing their data to gather more insights. They were asked to briefly discuss in pairs possible methods for combining their data and then share the results of their discussions.

In the training, we also raised a question about research ethics in food consumer research, as a critical aspect that ensures the safety, rights, and dignity of participants while maintaining the integrity and credibility of the research process. Ethical considerations in this field focus on how data is collected, used, and communicated, as well as the potential impacts of the research on both participants and society.

Dr. Javier de la Cueva talked about ethics in the legal domain and highlighted that it refers to the principles and rules that govern the conduct of legal professionals, such as lawyers, judges, and legal staff. These ethical guidelines are designed to ensure that the legal system functions with integrity, fairness, and justice. Legal ethics serve to protect clients, maintain public trust in the legal system, and uphold the rule of law.

In summary, it was agreed upon that ethics in food consumer research revolves around ensuring the well-being of participants, maintaining transparency, and avoiding harm while conducting research. Adhering to these ethical guidelines fosters trust, improves the quality of the research, and ensures that consumer behavior studies lead to valuable and responsible insights for both the scientific community and the food industry.

During the training, a workshop on the COMFOCUS toolbox with the goal of familiarizing participants with its tools and functionalities was conducted. The session aimed to highlight the benefits of the toolbox and key aspects of working with it. Participants were provided with useful information on how to access the tools and seek support. They were also encouraged to use a manual and instructional video to familiarize themselves with the toolbox.

A demonstration of the EQT—a key feature for creating pan-European questionnaires—was also included. During this demonstration, participants learned how to create a study, search for harmonized components,

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design custom surveys, and explore available surveys for use. After the presentation, there was ample time for attendees to ask questions and address any uncertainties.

During the community building session, participants were presented with some of the results from previous discussions with consortium members regarding what COMFOCUS will leave behind after the project ends, and how we can sustain its outcomes and developments. Participants had the opportunity to work in groups, reflecting on what they gained from their cooperation with the project and how they could personally contribute to COMFOCUS moving forward. They were also able to present their scientific posters to one another and engage in discussions about their research projects.

The results of this session were crucial for the project's development, as they helped identify potential ways to sustain its outcomes in the future. The session highlighted the fellows' opinions on what aspects of the project are most relevant to them and how they could contribute to taking COMFOCUS beyond the bridges.

3. Academic Training “Italy Edition”

The Academic Training “Italy Edition” was held in Bologna on October 10th, 2024, and was hosted by the University of Bologna, Department of Agri-food Sciences and Technologies.

This training aimed to introduce the COMFOCUS heritage to the fellows, along with invited PhD and MSc students from the University of Bologna. It also sought feedback on how to ensure the ongoing use of this information, with a focus on sustaining project developments and maintaining the 'new way of working' after the project's conclusion. A total of thirty-nine participants took part, including nineteen COMFOCUS fellows and nineteen PhD and MSc students from the University of Bologna. The participants had the opportunity to learn from the COMFOCUS instructors—who are project members—as well as a member of the IAB. In the training, it was also possible for the fellows to present their studies, previously conducted at the COMFOCUS institutions under the mentorship of the project mentors.



Figure 3

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The learnings were broad and included sessions on measurements of psychophysiological signals in a harmonized way, measurements with the help of EEG, choice experiments in virtual settings, and investigating the relaxing/stimulating properties of fragrances in humans.

Table 3 Academic Training "Italy Edition" - Programme

9.00 - 9.15	Welcome, registration & poster placement	
9.15 – 9.30	Welcome and the future of COMFOCUS: COMFOCUS ambition & vision	Prof. Dr. Hans van Trijp (Wageningen University & Research)
9.30 – 10.15	Investigating the relaxing/stimulating properties of fragrances in humans	Dr. Sylvain Delplanque (Swiss Center for Affective Sciences)
10.15 – 10.40	Coffee & Tea break & poster viewing	
10.40 – 11.40	What EEG measures and what it does not measure EEG in the COMFOCUS context	Dr. Philip Dean (University of Surrey)
11.40 – 13.00	<i>Round of posters' presentations</i>	
13.00 – 14.15	Lunch & poster viewing	
14.15 – 15.00	Measuring psychophysiological signals in a harmonized way	Dr. Austėja Kazemkaitė (University of Trento)
15.00– 15.45	Choice experiments in virtual settings	Prof. Dr. Matteo Vittuari & Matteo Masotti (University of Bologna)
15.45 – 16.00	Coffee & Tea break	
16.00 – 16.45	Breakout rooms Q&A <i>Possible topics: how to maximize the data quality collected with implicit measures (Face Reader, EDA, HR, ET); how to obtain clear readings from the neuromarketing tools; others</i>	
16.45 – 17:15	COMFOCUS sustainability session	Eduarda Rosmaninho; Taisiia Bondarenko (SPI)

The training began with a presentation on the ambition, vision, and future direction of COMFOCUS. Prof. Dr. Hans van Trijp highlighted a key challenge of COMFOCUS: reinventing the FCS field to be(come) a user relevant data-rich science to support the transition towards healthy and sustainable food consumption. We talked about three levels of integration needed to advance the international field of FCS beyond its current level of fragmentation: institutional - to optimize resource utilization and advance the field; social - to enhance

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exchange, access and interaction between (early career) researchers across Europe and beyond, and data integration - to enhance FAIR and RRI principles within the FCS community.

In another session presented by Dr. Sylvain Delplanque, he explored the relaxing and stimulating properties of fragrances in humans. Investigating the relaxing or stimulating properties of fragrances in humans involves studying how different scents affect mood, physiology, and behavior. Fragrance research typically focuses on the psychological and physiological responses that particular smells can evoke, and these effects may be linked to the brain's processing of odors, as well as cultural and individual differences in scent perception. Sylvain highlighted that research in this field continues to grow, blending the fields of psychology, physiology, and neuroscience. Fragrances can have a profound impact on human well-being by influencing mood, stress levels, and alertness, and their effects can vary depending on the scent, individual preferences, and environmental context. Studying these properties helps deepen our understanding of how our senses influence our emotional and physiological states.

Dr. Philip Dean delivered a lecture titled “What EEG measures and what it does not measure | EEG in the COMFOCUS context”. His talk was split into two parts: “What can EEG Measure?” and “Guidelines for EEG in COMFOCUS context”.

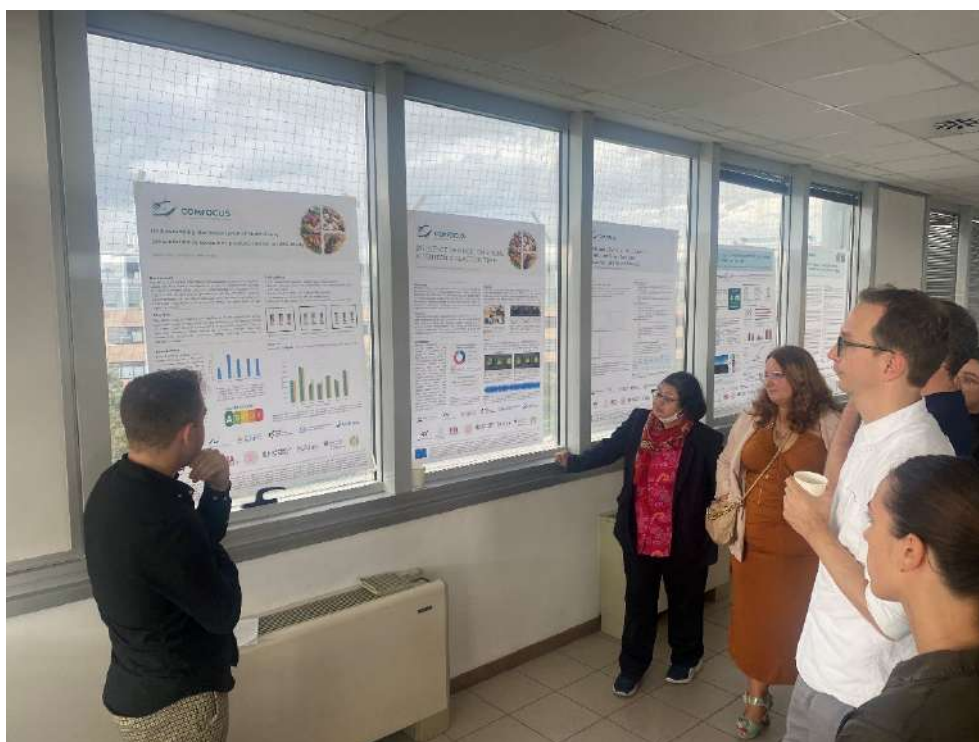


Figure 4

Philip started with the background of electroencephalography (EEG), with its history and its underlying biology. It was important to contextualise EEG in this way, as understanding what it is measuring can help us to recognize its limitations and how to interpret the data. It could also help understand the artefacts that exist

in the data such as eye movement, muscle movement, general movement, pulse artefacts, sweating, electrical interference, bad electrode contact and electromagnetic interference (mobile phones). EEG is a broad measure of electrical activity related to excitatory post-synaptic potentials (EPSPs) across a number of neurons and provides a window to the electrical activity of these networks. It has been used to study sleep, ageing, memory, perception using oscillatory activity (frequency band analysis) and event-related potentials (ERPs).

The complexity of options for EEG design, equipment, collection and analysis leads to large variation in research, and in particular to a “garden of forking paths” in analysis where multiple results can be achieved dependent on the choices made by the researcher. As there are a number of measures that can be extracted and several analysis routes, care must be taken to detail what data you are interested in and how you will analyse it. Only after this can the experiment be designed, as the design must be tailored to the specific objectives and the analysis method. We recommend to pre-register the full experimental plan once it is finalized. Sources of variability were discussed and guidelines given as per COMFOCUS guidelines. For example, different environments, tasks, equipment (cap, wireless/wired, electrode type & number), software and individual factors will impact data and their interpretation.

The presentation of Dr. Austėja Kazemekaitė was titled «Measuring Psychophysiological Signals in a Harmonized Way». This session offered a presentation of methods for capturing and analysing psychophysiological signals in a harmonized manner, with a particular focus on minimizing variability and enhancing the reproducibility of results in FCS. The presentation began with an introduction to various psychophysiological techniques and then delved into the “Guideline for Measuring Psychophysiological Responses”.

Participants were first introduced to the concept and advantages of open reporting and open science. It was emphasized that these practices benefit researchers by helping them maintain thorough records, ensure all necessary elements are prepared and included in their studies, and promote openness and inter-comparability. This also enables other researchers to replicate or compare findings more effectively. The presentation then guided participants through the guideline document, highlighting its advantages both for their own research and for FCS in general. Key elements, such as the minimum reporting checklist—both general and technology-specific—were explained, accompanied by practical examples illustrating how to document all study-related information.

Several critical issues were addressed during the session. The first was technological variability, emphasizing that different devices measuring same psychophysiological signals can differ significantly in data output, making guidelines for device selection and calibration essential. The second was challenges in data processing, where inconsistencies in data transformation techniques, handling of missing data, and reporting of stimulus characteristics can undermine reliability, underscoring the need for standardized preprocessing and analysis

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protocols. Collaborative efforts were highlighted as another area of importance, with the development of shared frameworks and training modules seen as key to harmonizing practices and reducing barriers to adopting psychophysiological methods in food studies. Ethical and practical considerations were also addressed, particularly the need to manage issues such as data privacy and participant consent.

The session concluded with a Q&A segment, where participants raised questions and concerns about reporting metadata related to their studies. A key takeaway from the discussion was the recognition that harmonizing the use of psychophysiological responses is essential for advancing cross-study comparisons and integrating implicit measures into consumer science.

Another session was focused on exploring choice experiments in virtual settings by Dr. Matteo Masotti. He stated that choice experiments are widely used in the field. By presenting individuals with hypothetical scenarios, researchers can gain insights into how people value different attributes of a product or service. While traditionally conducted through surveys, these tools are prone to different biases, mainly due to the necessity for the respondents to visualize the objects they are asked to declare a preference and to the lack on interaction with the choice environment. The integration of virtual reality (VR) tools into choice experiments can help researcher to overcome some of the biases by offering a more realistic choice experience to the participants.

The integration of VR into choice experiments offers a more realistic and immersive environment, allowing participants to interact with sensory stimuli that better reflect real-world decision-making processes. This reduces biases often present in traditional surveys and results in preferences that are more aligned with participants' true intentions.

Matteo stated that the use of VR in choice experiments is an emerging trend with growing potential. The increasing accessibility of VR hardware, coupled with advancements in software and device compatibility, makes this approach increasingly interesting for the research on consumer behaviour. While challenges remain, the strengths of virtual settings—such as increased immersion, flexibility, and data richness—highlight their potential to transform how we study decision-making processes.

Susana Seabra presented the “Sustainability and Life after COMFOCUS” session. During the session, participants were divided into three groups and each group was tasked with reflecting on the three key infrastructures – data, social, and institutional – and discussing actions previously defined by the project members to ensure the sustainability of these achievements once COMFOCUS concludes. Participants were asked to prioritize actions from the most important to the least important to see how this correlates with the project members' vision. As outcomes of this session, we received some valuable feedback from the

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participants on the actions for sustainability and how we could ensure the project results' exploitation after its end.

The results of this session helped us identify actions that are crucial for sustaining the main project's outcomes. They also highlighted significant potential for further developing and promoting the integration of COMFOCUS results at three levels: institutional, social, and data integration.

4. Final COMFOCUS Conference in Wageningen, the Netherlands

The Academic Training programme concluded with its final gathering at the Final COMFOCUS Conference, which took place in Wageningen, the Netherlands, on February 13th, 2025. The event marked participation of eighty-two people, including consortium members, stakeholders and IAB members, project fellows and other researchers in the FCS field. The project fellows represented different European countries, including Poland, Chechia, Spain, Italy, Ireland, Greece, Netherlands, Germany, Kosovo, Norway.

The event was held under the slogan 'Advancing Open Science in the FCS Field' and aimed to share the final results of the project with the audience. It concluded smoothly with a series of engaging and insightful sessions, alongside demonstrations of emerging technologies.



Figure 5

Table 4 Final COMFOCUS Conference in Wageningen - Programme

9.00 - 9.30	<i>Walk in with coffee and tea + registration</i>	
9.30 – 9.35	Welcome	Maree Bouterakos
9.35 – 10.00	COMFOCUS – starting research community in the Food Consumer Science Domain	Dr. Machiel Reinders
10.00 – 10.30	Key note 1 – Open Science	Dr. Roland Pierushka
10.30 – 11.00	<i>Coffee & Tea break</i>	
11.00 – 12.30	COMFOCUS market - Explore and share experiences of emerging technologies in the field of Food Consumer Science Quantum 1 – Noldus Hub Quantum 2 – Virtual reality Quantum 3 – Eye Tracking Quantum 4 – EEG Podium - Toolbox	
12.30 – 13.30	<i>Lunch</i>	
13.30 – 14.05	Experiences and insights from the new way of working	Dr. Ellen van Kleef
14.05– 14.20	Handbook of scales	Prof. Liisa Lähteenmäki
14.20– 15.30	Panel discussion – reflection of the new way of working from different perspectives	
15.30 – 15.40	<i>Closure</i>	Ireen Raaijmakers

The conference began with a welcome address from the project coordinator Dr. Machiel Reinders, who spoke about COMFOCUS as a pioneering research community in the field of FCS.

Machiel presented the project's achievements to the audience and reviewed its journey over the four years since its inception. We talked about the key challenge of COMFOCUS and the FCS field itself - to be(come) a user relevant data-rich science to support the transition towards healthy and sustainable food consumption. We also talked about other challenges that FCS has been experiencing, such as a strong worldwide need to

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change diets to prevent diseases, climate change and environmental harm, and increased complexity of outcome variables: consumption patterns over time, multi-determined in terms of drivers, with huge variation.

Prof. Dr. Hans van Trijp presented the results of a survey conducted among consortium members and fellows in December 2024 and January 2025. The survey had 57 participants, and the results were compared between a group of 25 fellows and 32 others. The results showed, for example, that participants had a better understanding of what a research community now entails compared to before the start of COMFOCUS. Many see the potential to improve academic research in our field, with fellows being particularly positive about this. The harmonized protocols and measures were well appreciated, and there is an intention to continue using them in the future. Fellows were very positive about the value of transnational access, as were non-fellows, although they indicated that implementation requires resources. In conclusion, Hans stated that we should focus on gaining more "believers" in this way of working in the future and deepen our efforts to develop more measures and user-friendly tools.

In the event, Open Science in the FCS field was discussed as an emerging trend that focuses on making research findings, data, methodologies, and results more accessible, transparent, and reproducible. It involves collaboration, sharing of knowledge, and open access to the scientific process. Open access to data would allow researchers to verify results, replicate studies, and build upon previous findings, which could enhance the credibility and reliability of food consumer research.

In the COMFOCUS market session, participants had the opportunity to explore and share experiences with emerging technologies in the field of FCS. Five dedicated sessions were held within the COMFOCUS market, focusing on both emerging technologies and the Toolbox. Specifically, participants were introduced to Virtual Reality, Eye Tracking, and EEG devices, with live demonstrations by Noldus Hub.

Participants were divided into groups and allowed to choose the emerging technology device they preferred to explore along with the principles behind the specific feature.

Another session about experiences and insights from the project aimed to share feedback on what we call in COMFOCUS the "new way of working", as well as innovative approaches in FCS, gathered from the community.

These insights, derived from the project's community, are believed to contribute to advancing this field.

During the event, the Handbook of Scales was introduced. This handbook was developed based on the harmonized measures collected and assessed during the COMFOCUS project. The Handbook of Scales is particularly valuable because it:

- Provides a collection of self-report scales commonly used in FCS.
- Includes 34 constructs, with recommended measures carefully selected for their relevance.

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- Aims to make these measures accessible to the broader .

The purpose of this handbook, along with the self-report measures, is to provide background information on commonly used constructs in FCS. It aims to assist in study planning by offering inspiration for selecting relevant constructs frequently used in this field, as well as supporting the interoperability and reusability of data. The handbook also guides the selection of the best measures for these constructs by providing background on how they have been operationalized and the sources of the measures.

To conclude the training day, a panel discussion was organised to gather reflections on the new way of working from various perspectives. This was an excellent opportunity for participants to share their insights on COMFOCUS's achievements and the value it brings to the field of FCS.

5. Conclusions

The Academic Training program was launched to provide researchers in FCS with the opportunity to explore the insights and knowledge shared by COMFOCUS teachers. The four Academic Trainings were launched as soon as early-career fellows became involved in the project. The first online Academic Training (November 2023) introduced the COMFOCUS approach and key insights in FCS. The in-person training in Ljubljana (February 2024) brought together fellows and consortium members to explore harmonized protocols, immersive technology, and ethics. The Bologna Training (October 2024) focused on sustaining the COMFOCUS legacy, including discussions on psychophysiological measurements and virtual choice experiments. The final training, held during the COMFOCUS Conference in Wageningen (February 2025), gathered researchers and stakeholders to share project results and showcase emerging technologies, encouraging the commitment to open science in the field.

Over hundred and ninety people participated in Academic Trainings of COMFOCUS, including consortium members, stakeholders and IAB members, but also research fellows and other researchers and interested parties in FCS.

The topics covered were diverse and included perspectives from the project partners, stakeholders, and IAB members of COMFOCUS. COMFOCUS provided trainees with an opportunity to gain essential knowledge and skills in areas such as harmonized measures and protocols, consumer behavior, FAIR data principles, emerging technologies in FCS, and the tools developed throughout the project. Academic Trainings advanced understanding of emerging needs in FCS and promoted awareness of sustainability, health, and ethical considerations in the field.

Overall, we think these education opportunities were crucial for fostering the “new way of working” and enhancing consumer science field within and outside Europe. The results of the previously conducted with fellows survey show their high level of interest in Academic Trainings and a great potential of these gatherings. They admit that learnings provided within COMFOCUS, also bring a great value to their studies (Refer to Figure 6 for the fellows' assessment of Academic Trainings).



Figure 6

COMFOCUS also received positive feedback, with participants noting that the Academic Trainings not only provided valuable insights and learnings but also offered a great opportunity for research fellows to expand their networks. Additionally, the trainings fostered a sense of community that promotes new, collaborative approaches to research, which participants see as a significant benefit.

This provided clarity on the current needs within FCS and helped promote practical solutions emerging from the project's activities and developments. Additionally, these events allowed us to extend the COMFOCUS principles and ways of working beyond their immediate boundaries, promoting them to a broader community.



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