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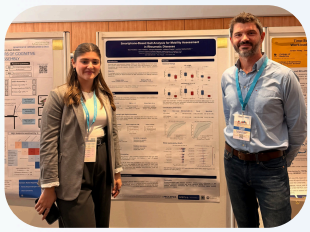
iPROLEPSIS

Horizon Europe-funded project developing a novel personalised digital care ecosystem for people with PsA

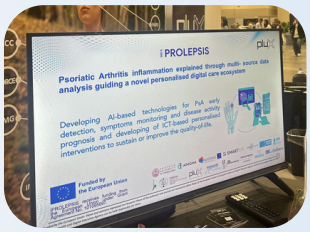
iPROLEPSIS project newsletter

Issue No. 13

November 2026







Inside this issue

Advancing Digital Biomarkers for Psoriatic Arthritis

World Psoriasis Day | **HPOS Study** | **IDBV Study** | **Learning Hub**

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Funded by the European Union

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Project Highlights

World Psoriasis Day 2026: Look Beyond My Skin

Your Psoriasis Could Help Us Understand Who Develops Psoriatic Arthritis

Adults with psoriasis across Europe are invited to take part in an online study aiming to identify who is at risk of developing psoriatic arthritis.

To mark World Psoriasis Day on 29 October, iPROLEPSIS is raising awareness of the HIPPOCRATES Prospective Observational Study (HPOS).

Psoriasis may be most visible on the skin, but its impact can go much further. Up to one in three people with psoriasis may develop psoriatic arthritis (PsA), an inflammatory disease affecting the joints and tendons. Yet it is still difficult to predict who will develop PsA – and who will not.

The **HIPPOCRATES Prospective Observational Study (HPOS)** is working to change that by following people with psoriasis over several years and looking for early signs linked to the development of PsA. Conducted entirely online, with no hospital visits required, the study enables people in participating countries across Europe to contribute their experiences from home to help researchers better understand who may be at risk.

This World Psoriasis Day focuses on young people living with psoriasis under the campaign slogan **"Look Beyond My Skin".** By investigating what happens before PsA develops, HPOS aims to improve our understanding of the disease and, ultimately, the outlook for future generations.



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Project Highlights

Taking part in HPOS?

You may also be eligible for the iPROLEPSIS IDBV Study

HPOS participants who meet the eligibility criteria may also be eligible to take part in the iPROLEPSIS Inflammation Digital Biomarkers Validation (IDBV) Study.

The **iPROLEPSIS IDBV Study** is exploring whether information from a smartphone could help researchers detect early changes linked to psoriatic arthritis.

Researchers want to understand whether changes in movement, activity and symptoms can be detected earlier using digital information collected through the study app.

Participants who join the IDBV Study use the **miPROLEPSIS Lite app** on their smartphone for up to 12 months. Designed to fit into real life, the app collects most of the information needed for the study automatically, so there is very little for participants to do.

Learn more about the iPROLEPSIS IDBV Study

Help us understand early signs of psoriatic arthritis

IDBV Study

miPROLEPSIS Lite App
The app is intended for enrolled study participants only

View on Google Play

miPROLEPSIS Lite

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Project Highlights

World Psoriasis Day 2026: How Psoriatic Arthritis Can Affect Everyday Life

For **World Psoriasis Day** on 29 October, iPROLEPSIS is raising awareness of how psoriatic arthritis can affect daily life beyond joint symptoms, including sleep and fatigue, emotional wellbeing, work and social activities.

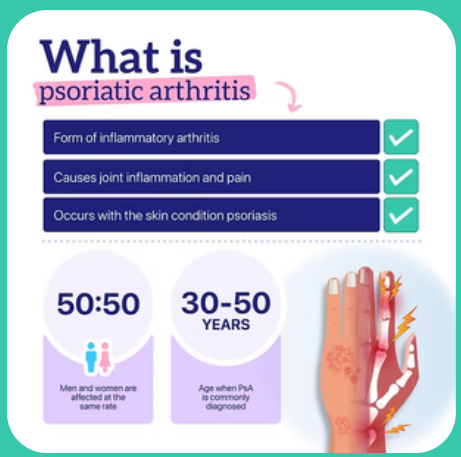
The **iPROLEPSIS Learning Hub** provides reliable information and resources to help people better understand psoriatic arthritis, including symptoms, treatment options and day-to-day management.

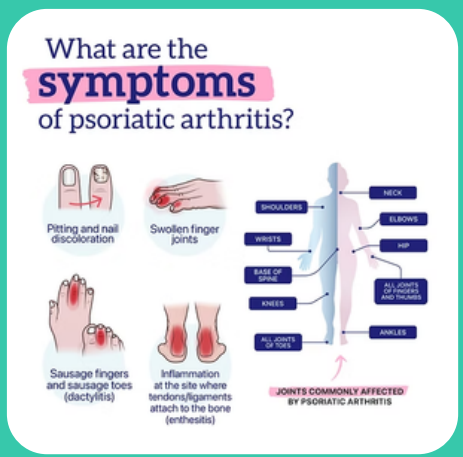
Watch the World Psoriasis Day video

Explore the iPROLEPSIS Learning Hub









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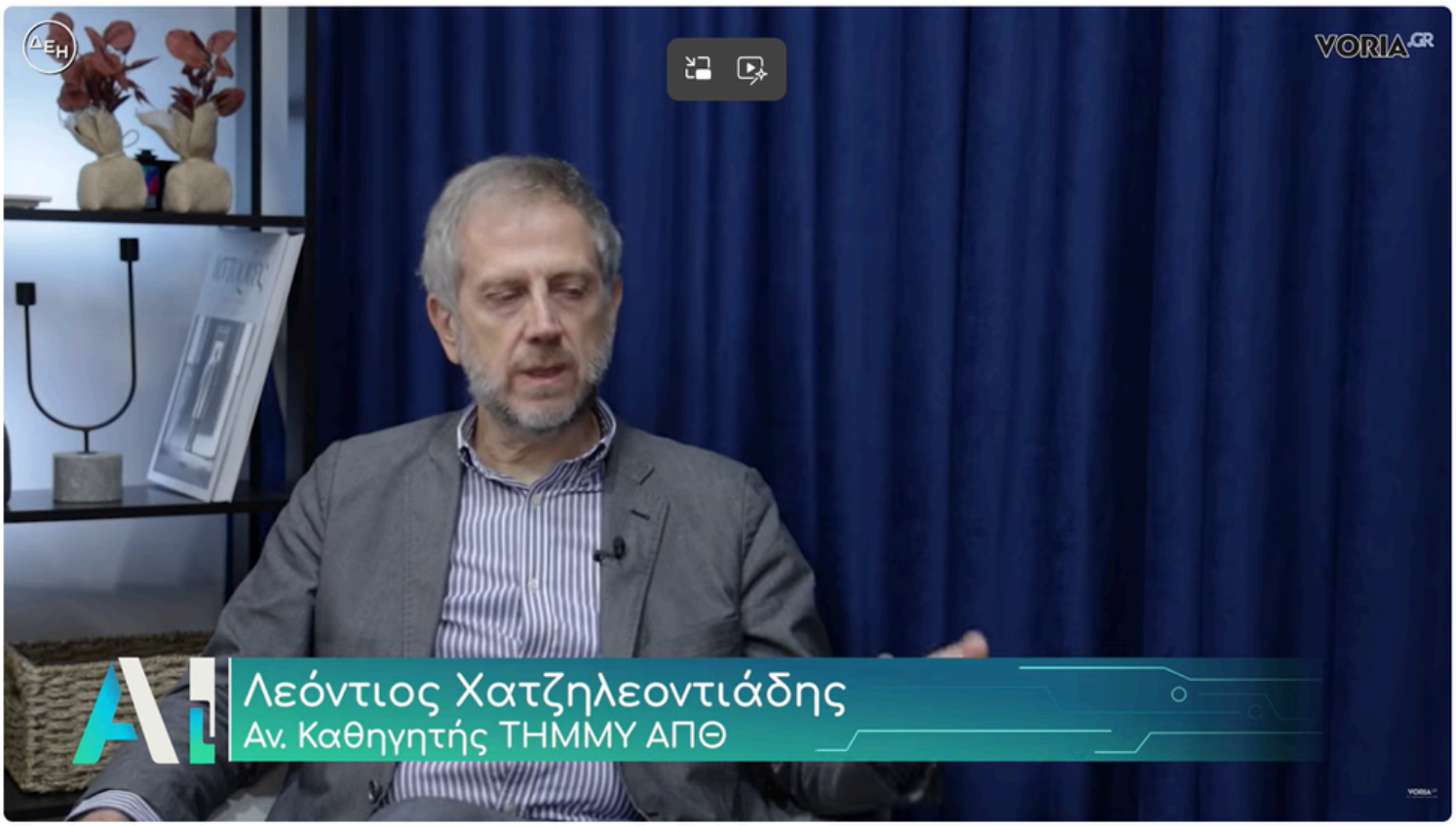
Interviews

Prof. Leontios Hadjileontiadis on Homo sAIence: AI in health research

Can smartwatch data help predict psoriatic arthritis? Can the way we type on a phone reveal signs of Parkinson's disease or depression?

Prof. Leontios Hadjileontiadis (AUTH), coordinator of iPROLEPSIS and AI-PROGNOSIS, addressed these questions in episode 54 of **Homo sAIence**, **Voria.gr video podcast on artificial intelligence**. He spoke about iPROLEPSIS, which combines phone and smartwatch data, microbiome, environment and work status to study psoriatic arthritis, and about AI-PROGNOSIS, which continues earlier work on how typing patterns on a phone differ in people with Parkinson's disease.

Watch the interview in Greek on YouTube.



Homo sAIence- Χατζηλεοντιάδης | Από τη διάγνωση Πάρκινσον στη μουσική που παράγεται από τον εγκέφαλο

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Publications

Psoriatic arthritis digital phenotyping and inflammation drivers (PDPID) study

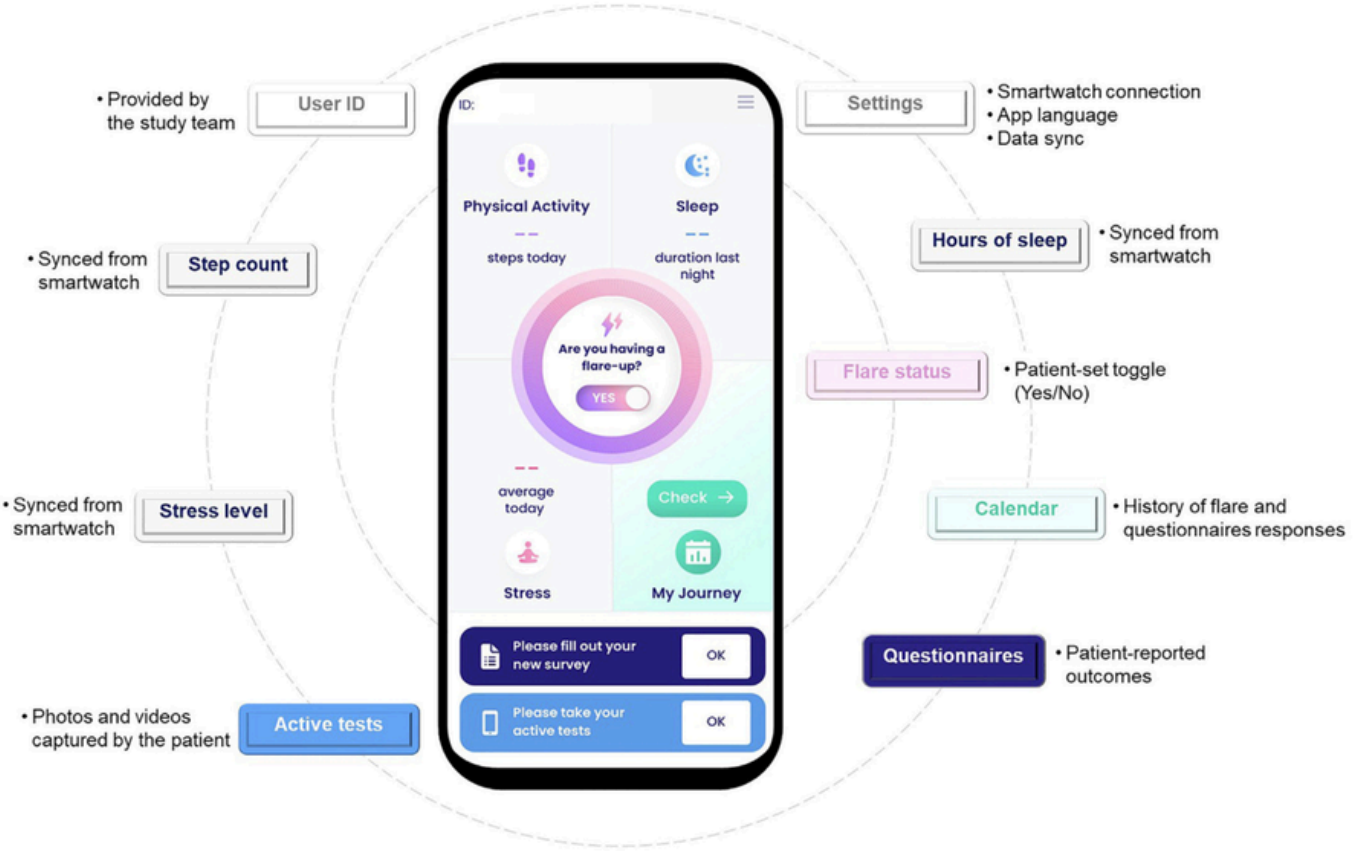
Hojeij B., et al. BMJ Open. 2026 Sep;16(9):e115903.
DOI: **10.1136/bmjopen-2025-115903**

Read the full paper

A new iPROLEPSIS publication presents the **protocol for the Psoriatic Arthritis Digital Phenotyping and Inflammation Drivers (PDPID) study**, a 12-month multicentre study investigating how digital biomarkers and other health data could help detect and predict psoriatic arthritis flares.

Participants use the miPROLEPSIS app and a smartwatch, while researchers collect clinical, biological, environmental and digital data. The study aims to develop digital biomarkers for flare detection and machine-learning models that combine these different data sources to support PsA flare prediction.

miPROLEPSIS smartphone application



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Publications

Dynamic Difficulty Adjustment in Psoriatic Arthritis Serious Games Using Learning-Driven Policies

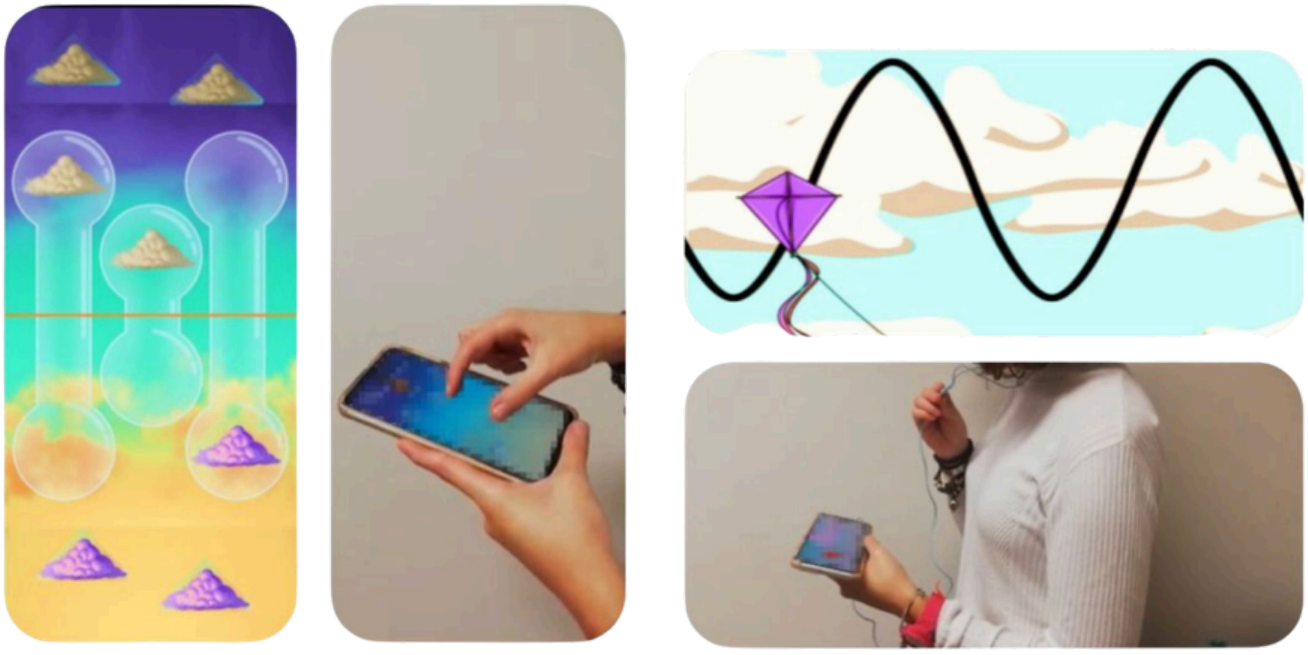
Gomes S., et al. IEEE Access. 2026 Aug 21; 14:137684–137698.
DOI: **10.1109/ACCESS.2026.3726144**

Read the full paper

A new iPROLEPSIS publication presents a machine-learning approach to personalise difficulty in two serious games for people with psoriatic arthritis (PsA): **Mr. Blue Sky,** targeting wrist mobility, and **The Kite**, focusing on breathing-based relaxation.

Using data from 32 participants, researchers trained difficulty-adjustment strategies and tested selected approaches in a pilot with six people with PsA. Automatic adjustment produced structured gameplay progressions, although participants reported lower perceived ease and relaxation than with manual difficulty selection.

Players interacting with the two iPROLEPSIS games [19]: (a) Mr. Blue Sky and (b) The Kite.



a) b)

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Publications

The Spy and Zen Forest Exergames as Sources of Digital Biomarkers for Psoriatic Arthritis: A Co-Design Paradigm

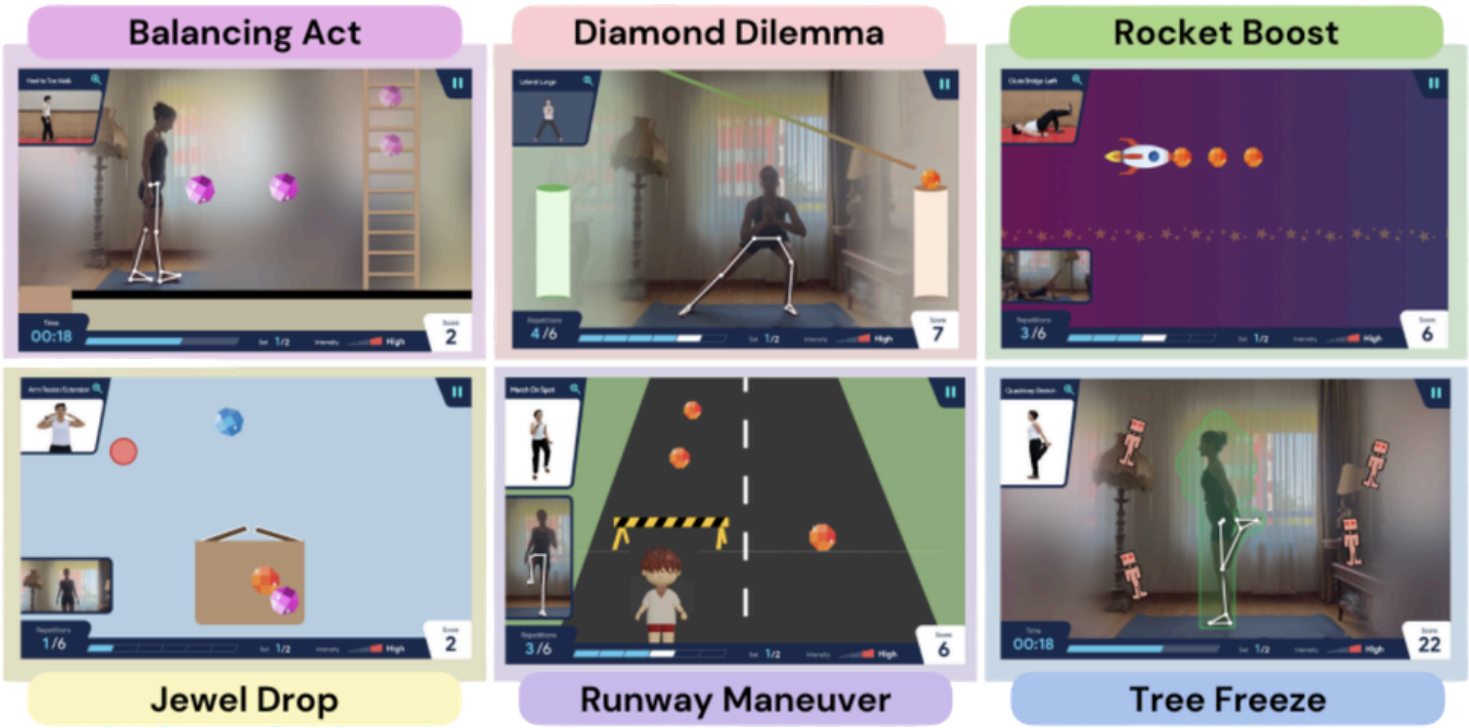
Ramalho B., et al. IEEE Journal of the Electron Devices Society. 2026 Jun 5. Early Access.
DOI: **10.1109/JEDS.2026.3700729**

Read the full paper

A new iPROLEPSIS publication presents two exergames co-designed to support therapeutic engagement in psoriatic arthritis (PsA) care.

The study introduces **The Spy** and **Zen Forest**, which integrate therapeutic movements into game mechanics to encourage physical activity and rehabilitation. The games were co-designed with **29 participants**, including people with PsA, clinicians, researchers and technical experts, helping ensure that they reflect patient needs, clinical goals and safe physical engagement. The exergames also incorporate multimodal sensing to support the extraction of candidate digital biomarkers for future monitoring and personalised rehabilitation.

Example mini-games in The Spy: Balancing Act, Diamond Dilemma, Rocket Boost, Jewel Drop, Runway Maneuver, and Tree Freeze.



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Public Deliverables

Updated report on the state-of-the-art and datasets — Read report

Updated report on user research and co-creation process — Read report

First report on PsA inflammation drivers research — Read report

First report on digital phenotyping for PsA — Read report

The iPROLEPSIS serious gaming suite (alpha version) — Read report

Midterm report on project visibility and educational material — Read report

Update on the Dissemination, Exploitation and Communication Plan — Read report

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Networking activities

Building Synergies for Multimorbidity Care: Lessons, Challenges and Opportunities Across Projects

Online webinar

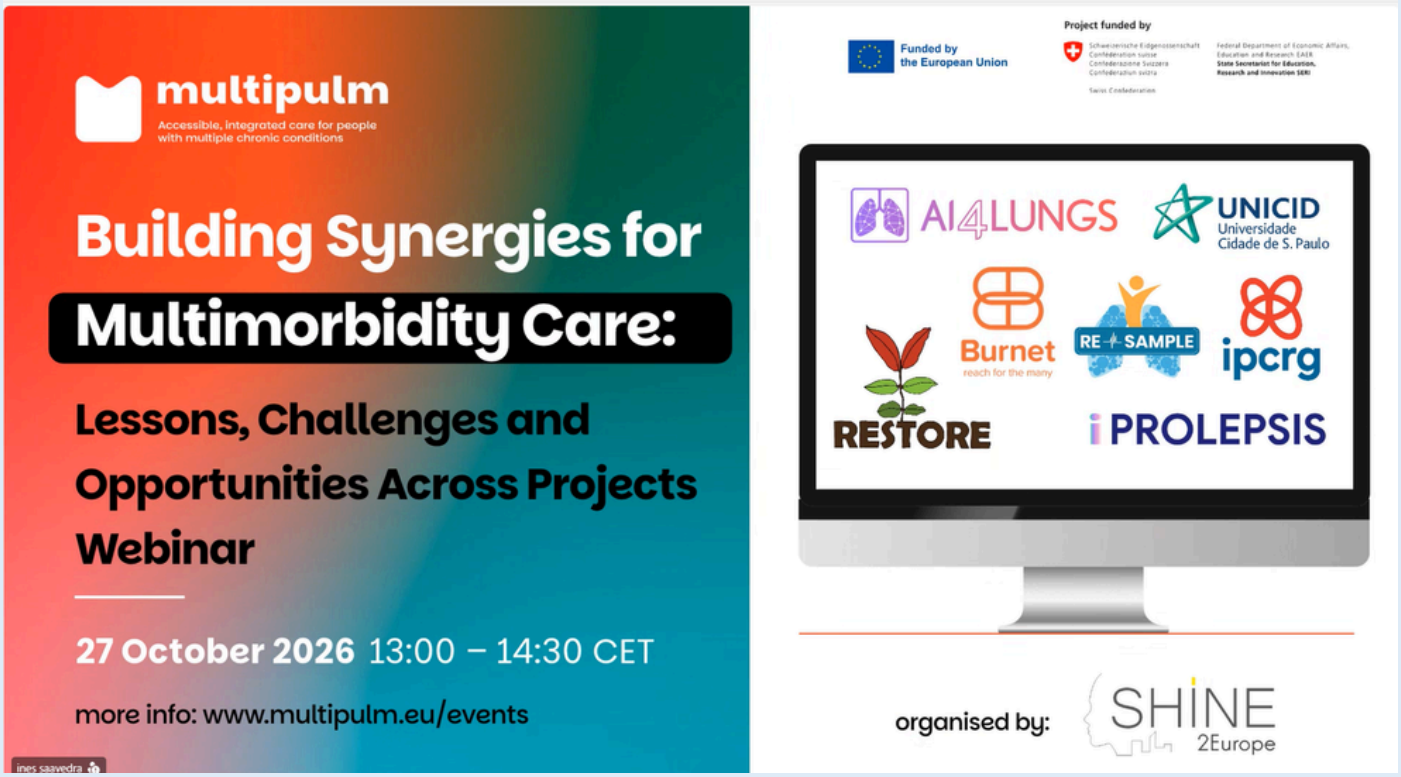
27 October 2026

iPROLEPSIS participated in the online **webinar "Building Synergies for Multimorbidity Care: Lessons, Challenges and Opportunities Across Projects"**, organised by the **MULTIPULM project** as part of its networking activities.

The webinar brought together representatives from projects and initiatives including **RESTORE, AI4LUNGS, RE-SAMPLE, iPROLEPSIS, HEAL-PNG** and **MULTIPULM**, alongside **IPCRG** and **UNICID**, to exchange experiences, discuss common challenges and explore opportunities for collaboration.

Georgios Apostolidis (Aristotle University of Thessaloniki – AUTH) represented iPROLEPSIS and presented the project concept and objectives, the iPROLEPSIS digital health ecosystem, and the project's clinical studies.

The presentations were followed by a joint discussion and Q&A, providing an opportunity to reflect on shared challenges, potential synergies and next steps for collaboration.



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Events

IEEE WF-IoT 2026

26–29 October 2026

The **12th IEEE World Forum on the Internet of Things (WF-IoT 2026)** took place in Abu Dhabi, United Arab Emirates, hosted there for the first time. The forum brought together representatives of academia, industry and government working in the Internet of Things.

- **Prof. Leontios Hadjileontiadis (AUTH),** coordinator of iPROLEPSIS, presented the iPROLEPSIS paper “Wearable-Derived Heart Rate Variability as a Digital Biomarker of Inflammation in Psoriatic Arthritis”. The study investigated whether heart rate variability (HRV) derived from smartwatch recordings is associated with inflammatory activity in psoriatic arthritis.



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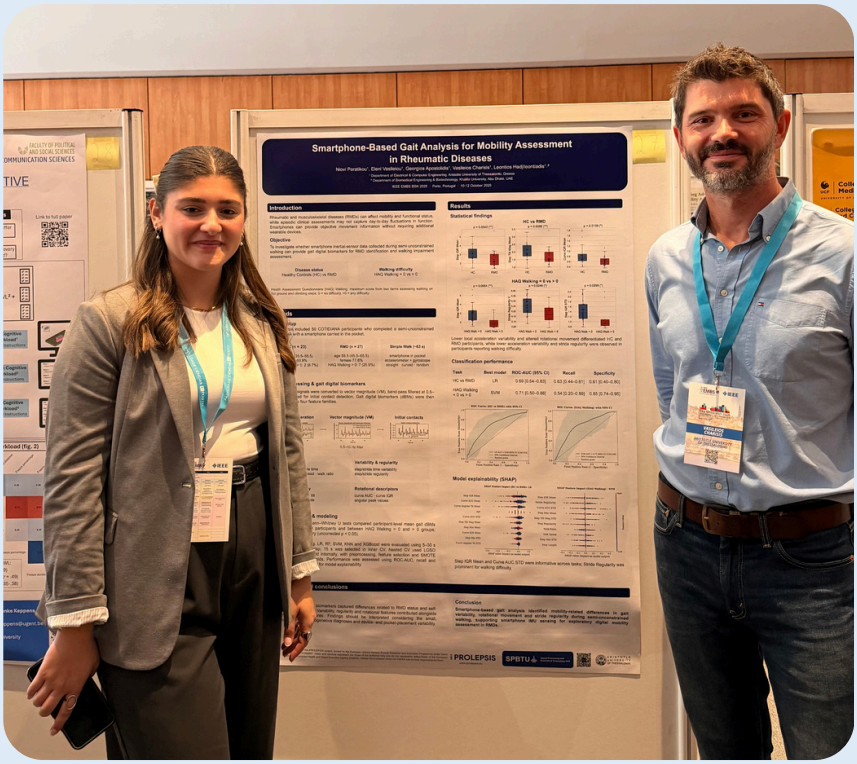
Events

IEEE EMBS BSN 2026

10–12 October 2026

iPROLEPSIS partners PLUX Biosignals and Aristotle University of Thessaloniki (AUTH) participated in the **IEEE-EMBS International Conference on Body Sensor Networks (BSN 2026)** in Porto, Portugal. The conference brought together researchers and experts working in wearable technologies, body sensors and biosignal sensing.

- **Niovi Peratikou (AUTH)** presented the poster “Smartphone-Based Gait Analysis for Mobility Assessment in Rheumatic Diseases”. The study explores smartphone-derived gait digital biomarkers and machine learning methods to identify mobility-related differences in individuals with rheumatic and musculoskeletal diseases.
- **PLUX Biosignals** presented iPROLEPSIS alongside its new line of wearable systems and biosignal acquisition hardware.





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Events

IEEE EMBC 2026

26–30 July 2026

iPROLEPSIS partner PLUX Biosignals participated in the **48th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (IEEE EMBC 2026)** in Toronto, Canada. Under the theme “Engineering Sustainable and Equitable Healthcare”, the conference brought together academics, medical professionals and industry experts working in biomedical engineering and healthcare.

PLUX Biosignals highlighted iPROLEPSIS as part of its current research initiatives and showcased its latest developments in biosignal measurement systems, wearable technology and analytical software. The event also provided opportunities to connect with specialists, exchange knowledge and gather feedback relevant to future research.



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Events

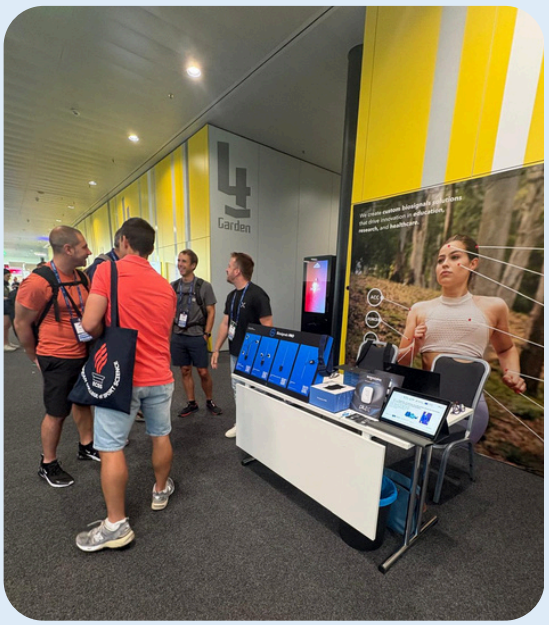
iPROLEPSIS at SportEx during ECSS 2026

7–10 July 2026

PLUX Biosignals represented iPROLEPSIS at **SportEx**, the official exhibition of the **31st Annual Congress of the European College of Sport Science (ECSS 2026)**, in Lausanne, Switzerland. The exhibition featured innovations in sport science from companies around the world, covering wearable technologies, physiological measurement systems, biomechanics and software solutions.

Through its presentation of iPROLEPSIS and its work in biosignal acquisition and wearable technologies, PLUX Biosignals helped raise the project's visibility within the wider sport science community and among stakeholders interested in digital health.







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Upcoming events





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