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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. 11

March 2026

Welcome to the 11th edition of the iPROLEPSIS project newsletter. In this issue, we bring you insights into how AI is enabling earlier and more personalised healthcare, knowledge base, events, and much more.

Inside this issue

How AI Is Enabling Earlier and More Personalised Healthcare Publications Knowledge base Events

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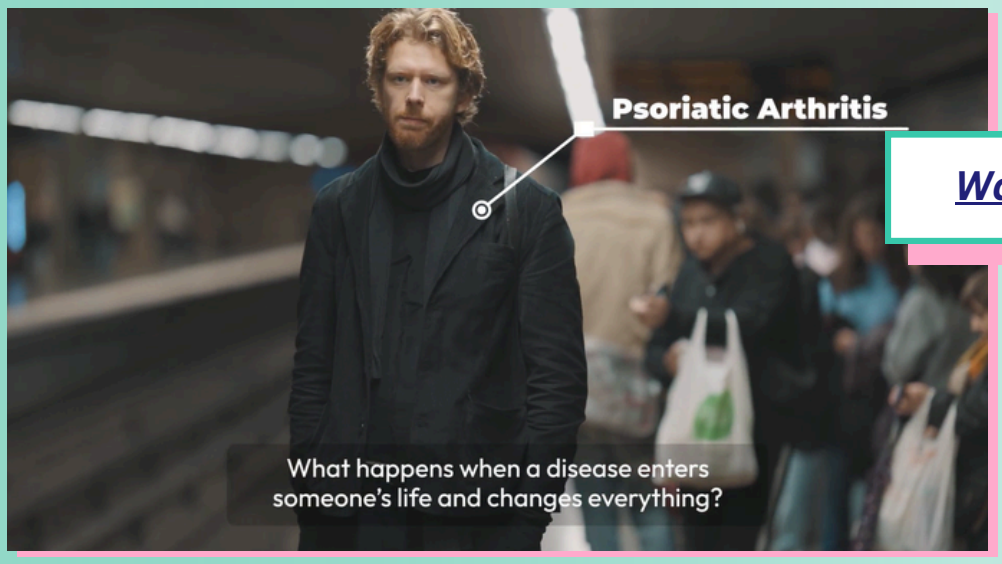
Project Highlights

How AI Is Enabling Earlier and More Personalised Healthcare

What happens when a disease enters someone's life and changes everything? Millions of people live with conditions that shape their daily routines – often in ways that are invisible to others. Early diagnosis, timely intervention and better care can make a profound difference.

This is where **iPROLEPSIS**, **AI-PROGNOSIS**, and **REBECCA** – three EU-funded projects – step in. Together, they use artificial intelligence and digital biomarkers to support earlier prediction, continuous monitoring and more personalised, patient-centred care **across psoriatic arthritis**, **Parkinson's disease** and **breast cancer**.

Our new video, developed under the European Commission's Booster Service, presents this shared vision. It shows how real-world behavioural data, wearable signals and patient-reported information can be transformed into actionable clinical insights – helping clinicians make more informed decisions while keeping patients at the centre of care.



Watch the video

To learn more about each initiative and their work:

iPROLEPSIS – www.iprolepsis.eu
AI-PROGNOSIS – www.ai-prognosis.eu
REBECCA – www.rebeccaproject.eu

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Publications

Co-Designing Mobile Serious Games to Support Patients With Psoriatic Arthritis and Chronic Pain: Mixed Methods Study

Ramalho B., *et al.* JMIR Serious Games. 2026 Jan 30; 14:e75072.
doi: 10.2196/75072

The paper *"Co-Designing Mobile Serious Games to Support Patients With Psoriatic Arthritis and Chronic Pain: Mixed Methods Study"* from the iPROLEPSIS project was published in **JMIR Serious Games** (Vol. 14, 2026).

The study reports on the co-design and usability evaluation of NoPain Games, mobile serious games developed to support chronic pain management in people living with psoriatic arthritis. Using a mixed-methods approach, the research combined a multidisciplinary co-creation session with clinical, research, and technical experts and a usability feedback session with patients with psoriatic arthritis.

The findings highlight the value of co-design methodologies for developing accessible and patient-centred digital health interventions.

Figure 1. Schematic representation of the development framework for the proposed NoPain Games, illustrating the cocreation and agile methodologies used to achieve a minimum viable product.

Read the full **paper.**

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Publications

Modeling Interphalangeal Joints for Swelling Assessment in Psoriatic Arthritis via Smartphone Photographs

Apostolidis G., *et al.* 2025 IEEE International Conference on E-health Networking, Application & Services (Healthcom), 21-23 Oct. 2025, Abu Dhabi.

This paper was published in the proceedings of the **2025 IEEE International Conference on E-health Networking, Application & Services (HealthCom).**

The study investigates the use of smartphone photographs to support the remote assessment of swollen joints in patients with inflammatory arthritis, focusing on psoriatic arthritis. The proposed method classifies each interphalangeal joint in hand photographs as swollen or not swollen, supporting scalable and patient-friendly monitoring approaches.

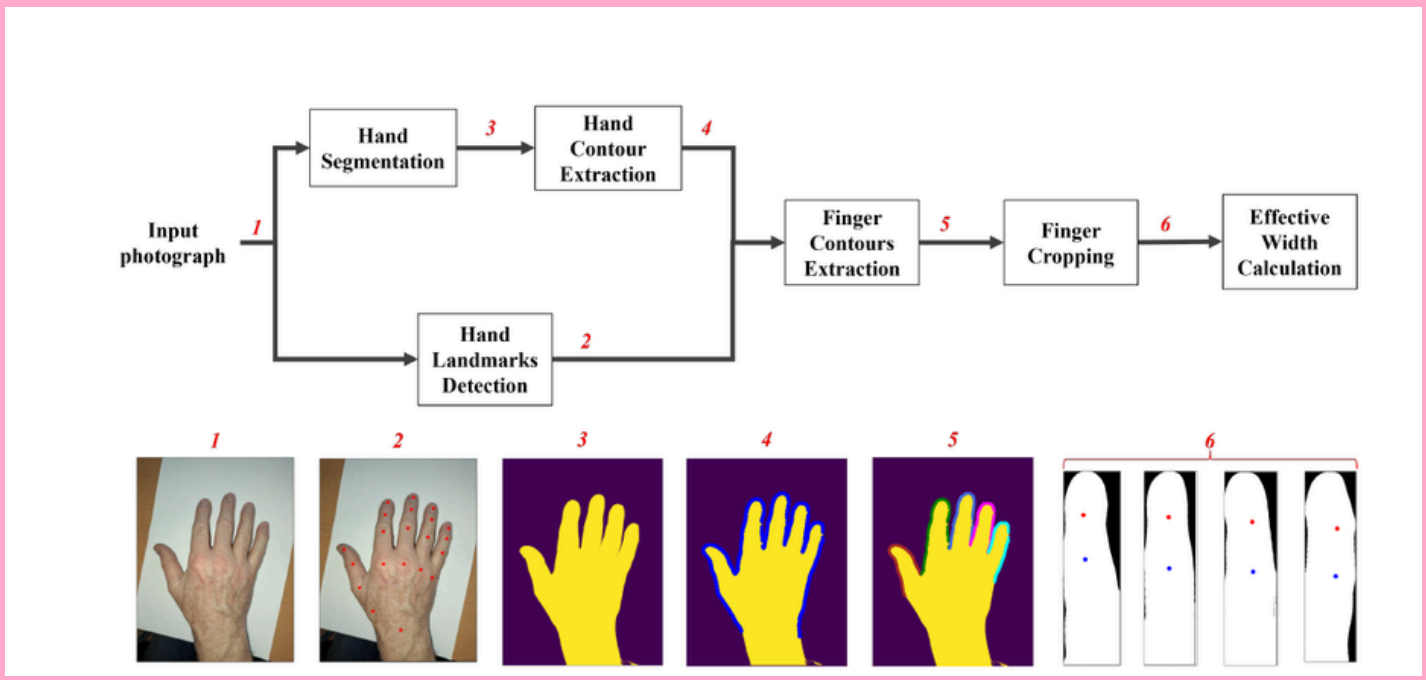

Figure 2. The effective width calculation process. A six-step processing workflow from input photograph to effective width calculation: (1) image acquisition, (2) landmark detection, (3) hand segmentation, (4) contour extraction, (5) finger cropping, and (6) width measurement. Bottom panel shows representative outputs at each processing stage.

Read the full **paper.**

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Publications

Designing Exergames for Psoriatic Arthritis: The Spy and Zen Forest Paradigms

Ramalho B., et al. 2025 IEEE International Conference on E-health Networking, Application & Services (Healthcom), 21-23 Oct. 2025, Abu Dhabi.

This paper was published in the proceedings of the **2025 IEEE International Conference on E-health Networking, Application & Services (HealthCom).**

It presents the design of two ***exergames*** – ***The Spy and Zen Forest*** – developed as accessible digital tools to complement traditional rehabilitation approaches.

Exergames embed therapeutic movements into game mechanics, supporting motivation and consistency in physical activity.

Both games were co-designed **with 29 experts**, including patients with psoriatic arthritis, clinicians, researchers, and technical stakeholders, to ensure alignment with clinical goals, patient needs, and safe physical engagement.

In *The Spy*, players complete physically engaging missions designed to stimulate dynamic body movement and support coordination, mobility, balance, strength, and flexibility. *Zen Forest* focuses on slow, calm stretching routines inspired by Pilates and Yoga, promoting flexibility, relaxation, and body awareness. Together, the exergames aim to support personalised activity routines and enable clinicians to monitor progress and recommend tailored interventions.

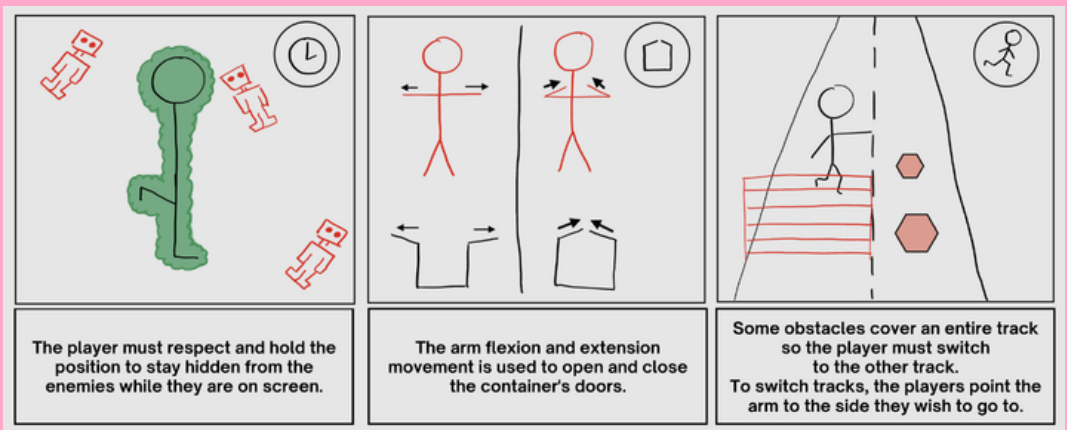

Figure 3: A storyboard excerpt from the game, The Spy, illustrating three player exercises: holding a position, arm flexion and extension, and pointing.

Read the full **paper.**

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Project Milestones

iPROLEPSIS-PDPID Study: Recruitment Completed

The PsA Digital Phenotyping and Inflammation Drivers (iPROLEPSIS-PDPID) study has **completed recruitment** in the Netherlands, the UK, Portugal, and Greece.

>490

participants have been enrolled

Recruitment was completed by December 2025, with a total of **493 participants** enrolled:

- **161** in the Netherlands
- **129** in Portugal
- **106** in Greece, and
- **97** in the UK

Using smart devices and clinical data, the study supports the development of AI-driven tools for personalised monitoring and flare prediction in psoriatic arthritis (PsA).

Participants contributed daily data via the iPROLEPSIS app and Garmin smartwatches, helping to inform the development of digital biomarkers for PsA care.

Garmin Vivoactive 5 smartwatch

heart rate, sleep quality, and physical activity

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Knowledge base

Spotlight on the Psoriatic Arthritis Handbook

The Psoriatic Arthritis Handbook, available through the iPROLEPSIS Learning Hub, brings together key information about psoriatic arthritis – from understanding the condition to managing daily life.

It is organised into four main sections:

Understanding Psoriatic Arthritis
What it is, common symptoms, and how it is diagnosed.

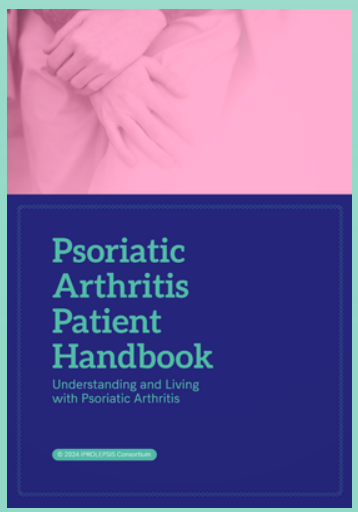
Managing Psoriatic Arthritis
Treatment options, non-pharmacological approaches, and lifestyle considerations.

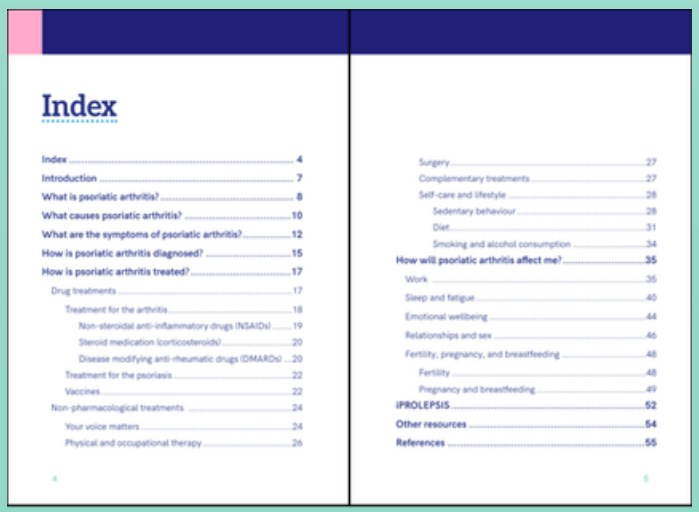
Living with Psoriatic Arthritis
Work, fatigue, and emotional wellbeing.

Intimacy, Reproductive Health and Family Life
Relationships, fertility, pregnancy, and breastfeeding.

Together, these sections help readers navigate different aspects of psoriatic arthritis and its impact on everyday life.

Explore the Handbook





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Events

MEDICA 2025

7–20 November 2025, Düsseldorf, Germany

MEDICA 2025 took place in Düsseldorf, Germany, from 17–20 November 2025, bringing together international professionals from the medical technology and healthcare sectors.

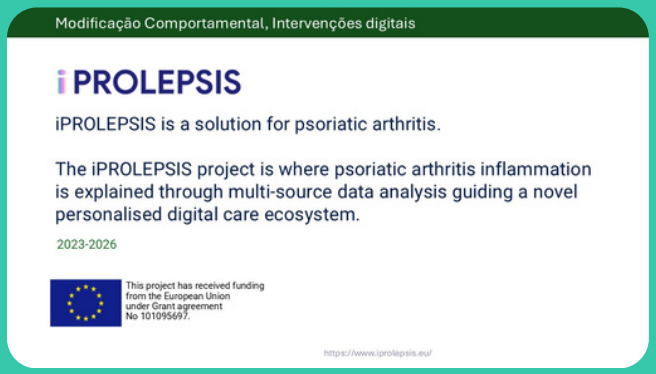
iPROLEPSIS was presented by project partner PLUX at the event, alongside other Portuguese organisations. The trade fair provided an opportunity to showcase the project to industry and healthcare stakeholders and to engage with an international audience.

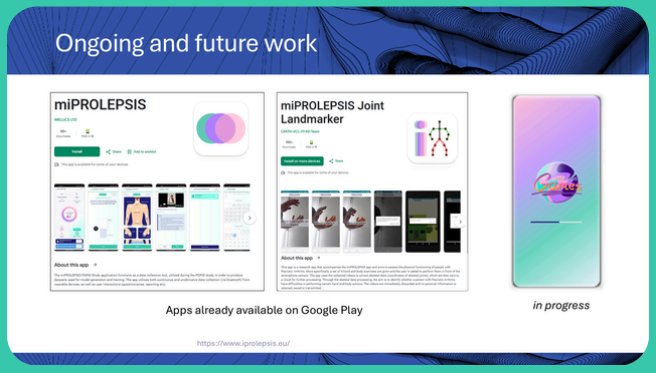
iPROLEPSIS at Faculdade de Motricidade Humana PhD Seminar

20 November 2025

On 20 November 2025, iPROLEPSIS was presented at Faculdade de Motricidade Humana (FMH) during the **PhD course “Métodos de Investigação Avançada em Motricidade Humana”**.

Sofia Balula Dias addressed more than 20 PhD students, sharing key findings from the project’s recent publications and ongoing research on psoriatic arthritis. The session provided an opportunity to discuss the scientific results and engage in questions and exchange with early-stage researchers.





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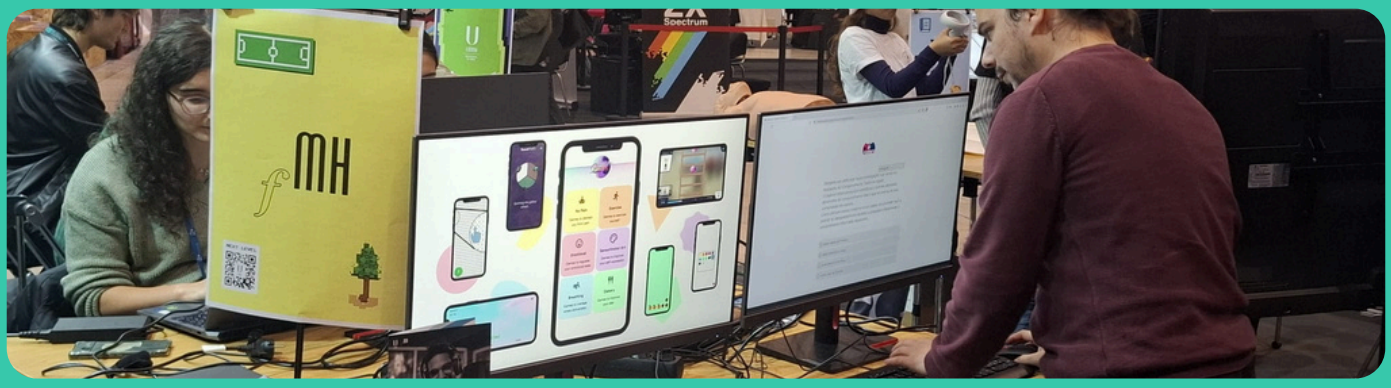
Events

Lisboa Games Week 2025

20–23 November, Lisbon, Portugal

The iPROLEPSIS Games were presented at **Lisboa Games Week 2025**, held from 20–23 November in Lisbon, Portugal. The team from Faculdade de Motricidade Humana / Instituto Superior Técnico – ULisboa (Bárbara Ramalho, Samuel Gomes, Marta Vicente, Filipa Magalhães and Rodolfo Costa) showcased the serious games developed within the project.

Lisboa Games Week highlights academic and professional training in the video game industry, bringing together educational institutions, students, and professionals. The programme features exhibitions, live demonstrations, talks, and opportunities to explore courses and career pathways in game development and related digital and creative fields. Participation provided an opportunity to present the iPROLEPSIS Games in a setting focused on education, creativity, and technological innovation.



IEEE-EMBS BSN 2025

3–5 November 2025, Los Angeles, USA

The I**EEE-EMBS International Conference on Body Sensor Networks** (IEEE-EMBS BSN 2025) was held in Los Angeles, USA, bringing together researchers, clinicians, and industry representatives working on body sensor technologies and their applications in health and biomedical research. iPROLEPSIS was represented at the conference by project partner PLUX. The project was presented to an international audience, contributing to its visibility within the body sensor and digital health research community and enabling exchanges with experts in wearable sensing and health monitoring technologies.