



<https://www.iprolepsis.eu>

PROLEPSIS

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

iPROLEPSIS project newsletter | Issue No.4

March 2024

Welcome! This is the fourth edition of the Newsletter series of the iPROLEPSIS project. Let's explore the latest developments and advancements in our project activities, collaborations, and upcoming events.

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A Spotlight on iPROLEPSIS

Prof. Leontios Hadjileontiadis, the coordinator of the **iPROLEPSIS** project, shares how the **iPROLEPSIS** project addresses **psoriatic arthritis** research.



iPROLEPSIS aims to identify triggers behind the transition **from psoriasis to psoriatic arthritis**, employing **digital models** and **everyday devices** like smartphones and smartwatches to understand disease dynamics.



Beyond research, **iPROLEPSIS** introduces practical solutions such as biAURA for pain relief through sound and serious games targeting exercise, emotion, nutrition, and pain management.



Collaborating with **15 partners**, including patient advocates, **iPROLEPSIS** adopts a co-creation approach, bridging technological innovation with real-world healthcare practices.

Watch the full interview [here](#).



Screenshot from the interview.



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Ongoing preparation for the iPROLEPSIS-PDPID study

Patients with **Psoriatic arthritis (PsA)** experience difficulties in dealing with unpredictable disease activity, which can affect their quality of life. Developing a **digital biomarker using a smartphone and smartwatch** would allow for unobtrusive monitoring of the disease activity in these patients. Besides, understanding what factors trigger flare would allow for **better disease control**.

About

The **iPROLEPSIS-PDPID** study is a multicentre observational cohort study that aims to develop an **unobtrusive** and **affordable** digital **biomarker** capable of detecting changes in disease activity including flare, and to **identify triggers** of flare in patients with PsA.

Approval granted

Ethical **approval has been granted** for initiating the **iPROLEPSIS-PDPID** study in **the Netherlands** and **the UK**.

OpenClinica

The **OpenClinica** platform will be used in the collection and storage data of the **iPROLEPSIS-PDPID** study.



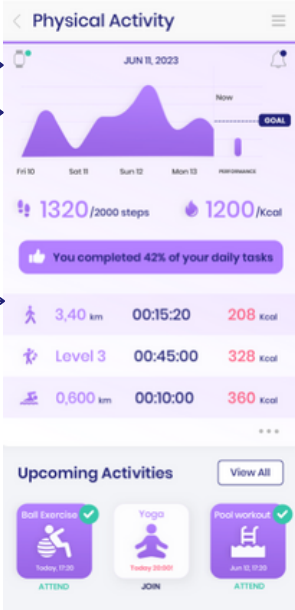
The **miPROLEPSIS** phone app, which is currently under development, will be used in this study. The app will be installed on the patient smartphone and utilised as a data collector, which will be then used for **algorithms development** and **training**.

Smartwatch

For data collection on physical activity, heart rate, heart rate variability, and sleep quality, the **Garmin smartwatch Vivoactive 5** will be utilised.

Countries

The study will be conducted in **four countries**: the Netherlands, the UK, Portugal and Greece.



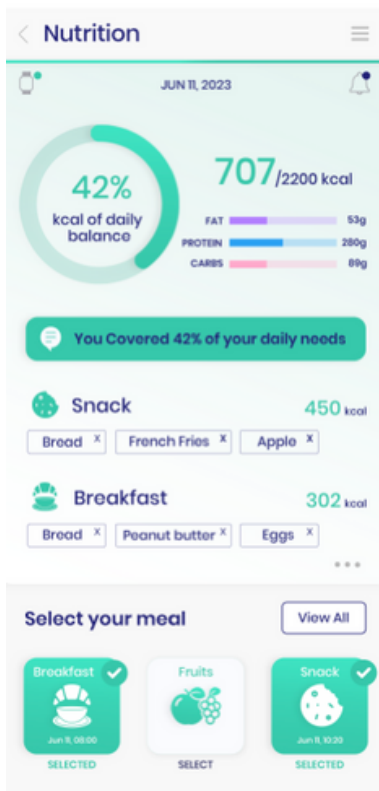
Indication that wearable is connected

Graphical representation of steps through time (measured through wearable)

Different physical activity metrics list measured either from wearable or through phone. In this case these are just examples to demonstrate how information is going to be

Notification button

Upcoming physical activities area. The entries here are just examples to demonstrate how information is going to be presented. For this version of the application this area will be inactive.



Nutrition

JUN 11, 2023

42% kcal of daily balance

707 / 2200 kcal

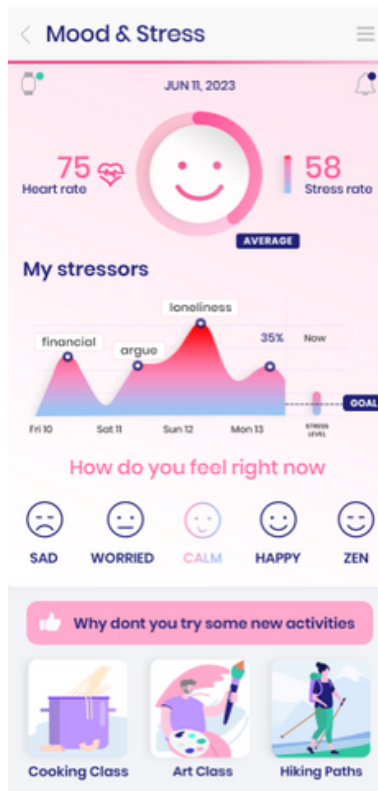
FAT 53g
PROTEIN 280g
CARBS 89g

You Covered 42% of your daily needs

Snack 450 kcal
Bread x French Fries x Apple x

Breakfast 302 kcal
Bread x Peanut butter x Eggs x

Select your meal: Breakfast (SELECTED), Fruits, Snack (SELECTED)



Mood & Stress

JUN 11, 2023

75 Heart rate | 58 Stress rate

My stressors: financial, argument, loneliness (35%), Now

How do you feel right now: SAD, WORRIED, CALM, HAPPY, ZEN

Why don't you try some new activities: Cooking Class, Art Class, Hiking Paths



Sleep

JUN 11, 2023

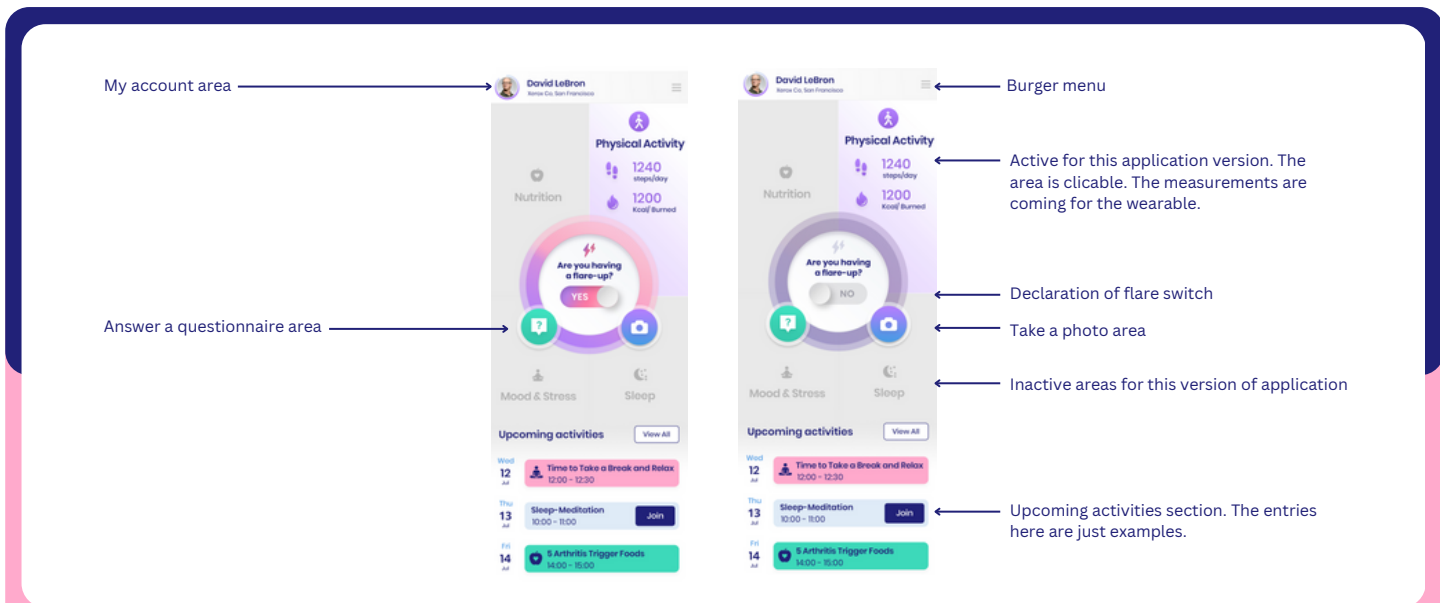
Sleep time: 11:45 PM - 06:50 AM

7h 5m duration | 5% time asleep

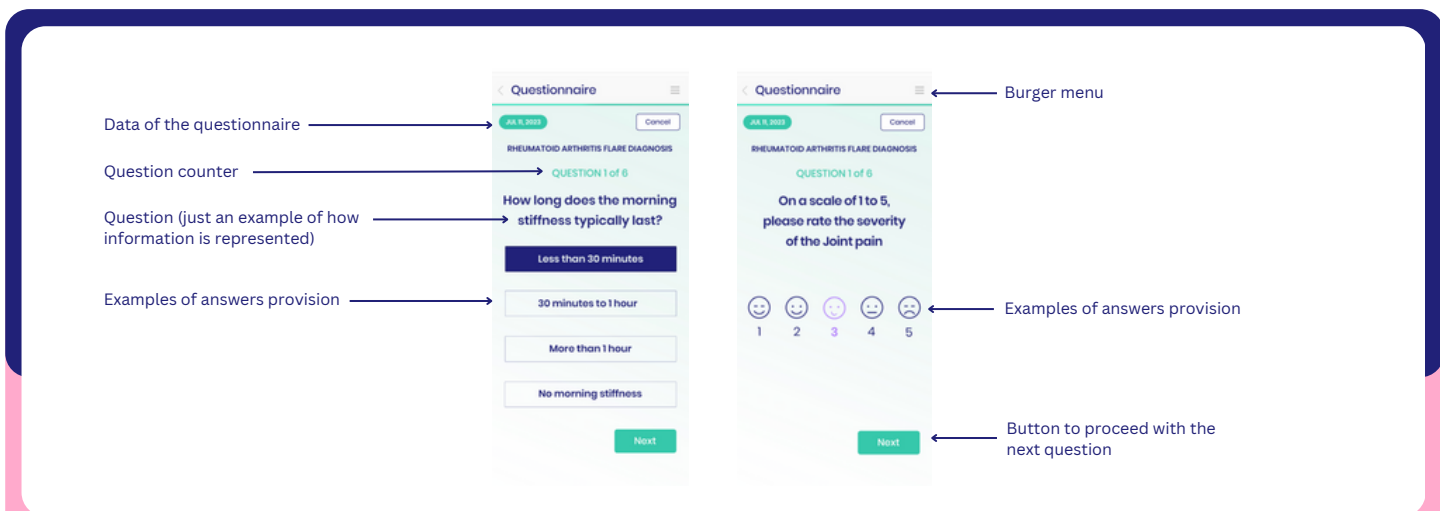
Quality of sleep: MEDIUM

Light 25%
Quiet 70%
Snoring 2h 45m

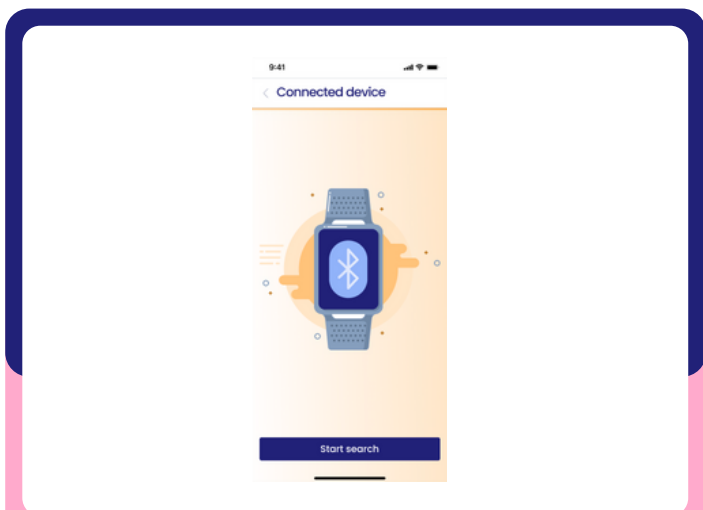
Try some sleep improvement courses: Deep Sleep, Meditation, Healthy Sleep



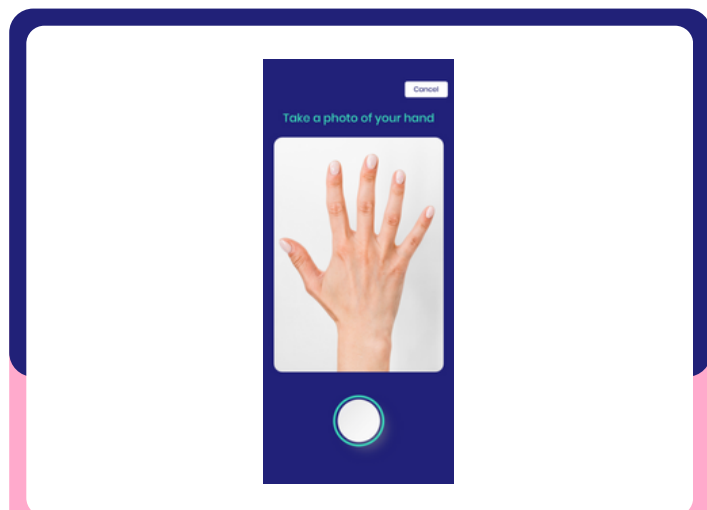
Start screen and flare registration button in miPROLEPSIS application



Example of daily questionnaires in the miPROLEPSIS application



Garmin smartwatch Vivoactive 5 for collecting of data



Assessing PsA symptoms related to nails and toes



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iPROLEPSIS joins the YouTube channel

iPROLEPSIS

A novel digital solution for psoriatic arthritis

In January 2024, **iPROLEPSIS** joined the **YouTube** channel to boost its **online visibility** and connect with a wider audience.

Subscribe to our YouTube Channel: [iPROLEPSIS - YouTube](#).

The iPROLEPSIS Website Now in Greek and Portuguese

To strengthen our connection with the community, the **iPROLEPSIS** website is now **accessible in Greek and Portuguese languages**.

Explore in Greek:

<https://www.iprolepsis.eu/el>



Discover in Portuguese:

<https://www.iprolepsis.eu/pt>





<https://www.iprolepsis.eu>

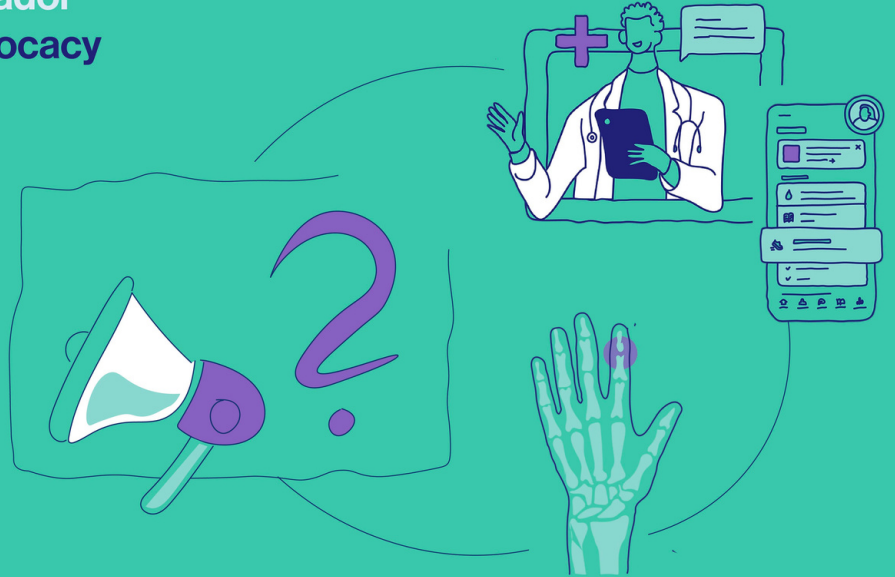
iPROLEPSIS Ambassadors

Join us as an iPROLEPSIS Ambassador and help drive change in health advocacy and psoriatic arthritis awareness!

Send us a direct message, and we will provide you with more details.

Here is how you can make a difference as an iPROLEPSIS Ambassador:

- Promote the iPROLEPSIS mission
- Share iPROLEPSIS updates and developments
- Share personal stories and insights



iPROLEPSIS

Calling **influencers**, **psoriatic arthritis warriors**, and **health advocates** to become project ambassadors.

Ready to be a part of the change?

[Apply here.](#)

iPROLEPSIS Networking Activities

in February 2024, iPROLEPSIS initiated a **collaboration** to establish an ecosystem of projects funded under the call: **HORIZON-HLTH-2022-STAYHLTH-02-01**.

Our vision is to create a robust ecosystem where each project's strength contributes to advancing **healthcare** and **well-being**. By pooling **resources**, **knowledge**, and **expertise**, we anticipate significant benefits for the collaborative cluster and individual projects.

Learn more about sister projects: <https://www.iprolepsis.eu/networking>

Events

Upcoming events

➤➤➤ PETRA 2024

PETRA 2024, 26-28 June 2024: Workshop "AGENT - Multimodal Signal Sensing/Analysis, Innovative Interactive Environments, and Personalized Behavioral Modeling for Improving Quality-of-Life".

The workshop will be organised by the Centre for Research & Technology Hellas, Aristotle University of Thessaloniki, and Faculdade de Motricidade Humana in cooperation with the **iPROLEPSIS** and **AI-PROGNOSIS** projects.

Learn more [here](#).

Past events

➤➤➤ iPROLEPSIS 3rd Plenary meeting in Rotterdam

On 12-13 December 2023, **iPROLEPSIS** partners met in Rotterdam for the third plenary meeting. The agenda included workshops on the **iPROLEPSIS-PDPID** study, digital biomarkers, technical ecosystem development, serious games co-creation, an External Advisory Board session, and more.

Read [more](#).





➤➤➤ iPROLEPSIS introduced to Eli Lilly company in the Netherlands

In November 2023, Ilja Tchetverikov from **CICERO Rheumatology** presented the results and prospects of the DEPAR cohort and introduced **iPROLEPSIS** clinical studies to the representatives of Eli Lilly company in the Netherlands.

Read [more](#).

DEPAR / iPROLEPSIS

<https://www.iprolepsis.eu/>

DEPAR / iPROLEPSIS

Multi-source data:

- Medical
- Clinical
- Well-being
- Life-style
- Environmental
- Occupational

To understand the drivers of inflammation in PsA and detect and predict exacerbations

DEPAR / iPROLEPSIS

Inflammation of the musculoskeletal system leads to different movement patterns, which are probably measurable using:

Accelerometer Motion sensors (=Pedometer) Keystroke dynamics

And if you can measure it, the results will provide: Insight into disease activity. All the time.

2018: Our Hypothesis

DEPAR / iPROLEPSIS

Multi-source data:

- Medical
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To understand the drivers of inflammation in PsA and detect and predict exacerbations

DEPAR / iPROLEPSIS

2022: Our Hypothesis

DEPAR / iPROLEPSIS

WP2 & WP3 - CICERO

Measure	Explain
Body materials DNA Microbial DNA (gut) Cortisol in hair	Clinimetrics PRO's
Smart device Sleep General physical activity Heart rate Heart rate variability during sleep Skin conductivity Bowel movement	