

Newsletter #8

October 2025

AI-PROGNOSIS -

Towards Parkinson's risk assessment and prognosis through AI



**Newsletter
highlights**

**Scientific
Publications**

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Base**

Interviews

Events

Learn more on www.ai-prognosis.eu



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the European Union**

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Project updates

AI-PROGNOSIS survey: Share your opinion on the use of AI in Parkinson's care

The AI-PROGNOSIS survey invites individuals aged 18 and above who are living with Parkinson's disease (PD), their relatives or caregivers, and healthcare professionals to share their views on the use of artificial intelligence in PD care.

Preliminary analysis of responses indicates that **symptom tracking** is viewed as the most valuable potential AI feature. While people with Parkinson's often highlight **motor symptoms** as their main challenge, healthcare professionals tend to emphasise **non-motor symptoms**.

The survey takes approximately **15–20 minutes** to complete and is available in 4 languages:

-  English
-  French
-  German
-  Spanish



The poster features the ai-prognosis logo at the top left. The title 'AI-PROGNOSIS - Towards Parkinson's risk assessment and prognosis through AI' is centered. Below it, a call to action 'Your opinion matters - take our survey!' is followed by a paragraph: 'We need your opinion on the use of an AI system for people at risk of or living with Parkinson's disease (PD), and for their healthcare professionals.' A large QR code with the ai-prognosis logo in the center is positioned below the text. At the bottom, a globe icon is followed by the text 'Available in English, French, German, and Spanish.' A decorative graphic of overlapping colored circles is on the right side.

ai-prognosis

AI-PROGNOSIS -
Towards Parkinson's risk assessment and
prognosis through AI

Your opinion matters - take our survey!
We need your opinion on the use of an AI system for people at risk of or living
with Parkinson's disease (PD), and for their healthcare professionals.



 Available in English, French, German, and Spanish.

Scan QR code or take part [here](#).

Scientific Publications

Alves B, et al. (2025), Journal of Medical Internet Research

Read the [full publication](#).

Stakeholder Perspectives on Trustworthy AI for Parkinson Disease Management Using a Cocreation Approach: Qualitative Exploratory Study

Knowledge Base

The AI-PROGNOSIS Learning Hub offers educational resources to raise awareness about Parkinson's disease and support informed engagement with emerging technologies. We are expanding the Hub with new articles exploring different stages of Parkinson's and the role of AI in diagnosis and care:

Journey to a Parkinson's Diagnosis

Read [more](#)

Getting an accurate diagnosis of Parkinson's disease (PD) can be a **long journey**. PD is a progressive neurological disorder with no single definitive lab test, so doctors rely on clinical evaluation of symptoms.

Living with Parkinson's Disease

Read [more](#)

Parkinson's disease (PD) is one of **the most common** neurological disorders, affecting around 10 million worldwide. It is a chronic, progressive disease. With advances in treatment, people with PD today often live long and active lives despite their diagnosis.

Using AI to strengthen Parkinson's diagnosis

Read [more](#)

Diagnosing Parkinson's disease (PD) can be challenging, especially in the early stages. The early symptoms can be subtle or overlap with other disorders, and PD is defined clinically, so there is **no lab test** for diagnosing PD.

Predicting Parkinson's progression with AI: promise and pitfalls

Read [more](#)

Every person with Parkinson's disease (PD) experiences a **unique journey** – some people's symptoms progress slowly over many years, while others may develop severe disabilities within a shorter time.

Interview

Smartphones and Smartwatches Against Parkinson's Disease

Our Scientific & Technical Manager, Stelios Hadjidimitriou, along with Project Coordinator, Prof. Leontios Hadjileontiadis from the Signal Processing & Biomedical Technology Unit-AUTH, recently gave an interview to Thessalonikeon Polis, a platform about the history, culture, and people of Thessaloniki, Greece.

In the interview, they discuss the AI-PROGNOSIS project and how smartphones and wearable devices can aid in Parkinson's disease screening and care. They also share their thoughts on the evolving role of AI in healthcare and whether we are approaching a future where it could replace healthcare professionals.



Read the full article (in Greek) titled "Smartphones and smartwatches against Parkinson's disease" [here](#).



Public deliverables

1. First report on digital biomarkers for PD

Full [report](#)

AI-PROGNOSIS aims to develop a system of digital biomarkers for Parkinson's disease (PD) monitoring and for informing predictive models of disease risk and prognosis.

The reports on the development of the first version of digital biomarkers (dBM)s for tracking PD symptoms and risk factors. The focus is placed on motor and non-motor symptoms, including rest tremor, slowness of movement (bradykinesia), dyskinesias, REM Behaviour Disorder (RBD), daytime somnolence, overall physical activity, gross motor function, and cognitive function, using data from wearables, smartphone interaction, and digital active tests.

2. First report on predictive modelling for PD

Full [report](#)

The report provides an overview of all methodologies, findings and future directions of the AI-PROGNOSIS predictive models for Parkinson's disease (PD). The deliverable focuses on three main pillars of prognostic modelling: a) estimation of the risk of developing PD, b) estimation of progression in PD, and c) estimation of response to medication.

Three distinct predictive models were developed and evaluated using open, multimodal datasets (PPMI, AMP-PD, Verily). This represents an initial model development effort. Hence, the report not only presents all developments associated with predictive modelling for PD but also sets the ground for further advances and clear future directions in the field.

The models follow TRIPOD-AI guidelines and will be externally validated in the AI-PROGNOSIS clinical studies (AI-PRA and AI-PMP).

3. The AI-PROGNOSIS digital health ecosystem (Alpha version)

Full [report](#)

The report details the development of the AI-PROGNOSIS digital health ecosystem applications (mAI-Health, mAI-Care, and mAI-Insights).

It highlights the progress from initial user requirements gathering through co-creation workshops to deploying functional alpha-version prototypes.

These applications aims to serve different user groups, including individuals at risk of developing Parkinson's Disease, patients, and healthcare professionals. Being built as Minimum Viable Products (MVPs), they incorporate advanced data collection and processing mechanisms, such as smartwatch integration, a custom virtual keyboard for capturing keystroke dynamics, active cognitive function tests, and a motor function assessment test using camera-based body tracking.



Events

IEEE HealthCom 2025

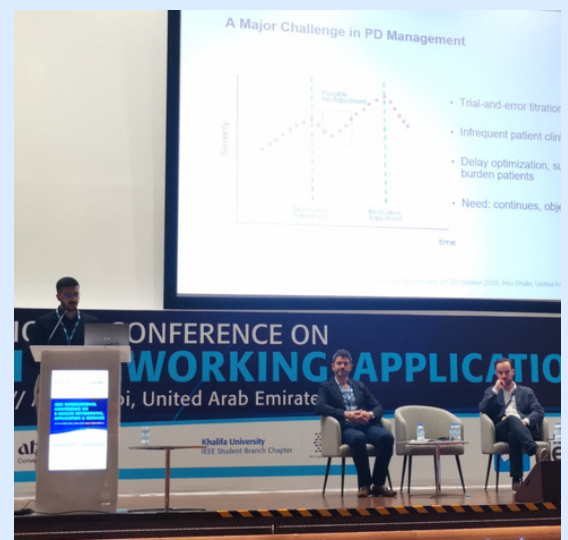
21 September 2025

Abu Dhabi, UAE

The AI-PROGNOSIS teams from the Signal Processing & Biomedical Technology Unit (AUTH) and from the Centre for Research and Technology Hellas participated in the IEEE HealthCom 2025 Conference, hosted by Khalifa University in Abu Dhabi, UAE. The team showcased project research on digital biomarkers and AI-driven monitoring in Parkinson's disease.

Capturing effects of medication change in Parkinson's with wearable data

Apostolos Moustaklis from the Signal Processing & Biomedical Technology Unit-AUTH presented the paper titled **"On capturing effects of medication change in Parkinson's disease with wrist accelerometry-based digital biomarkers"**. By analyzing data from the Verily Study Watch cohort of the Parkinson's Progression Markers Initiative (PPMI), the study provided evidence that diurnal acceleration metrics associated with slowness of movement, captured using a single wrist wearable, can be indicative of effects of the increase in levodopa equivalent daily dose, i.e., the total daily intake of anti-parkinsonian medications, in persons with Parkinson's.



Assessing rest tremor in daily life using wearable data (Best workshop paper award)



The paper titled **"A Deep Learning Approach for Parkinsonian Tremor Assessment Using Wearables"** from Theodoris Chatzis and team at the Centre for Research & Technology Hellas was awarded the Best Workshop Paper Award. The work analysed data from the the Verily Study Watch cohort of the Parkinson's Progression Markers Initiative study (PPMI) and the Michael J. Fox Levodopa Response Study and proposed a novel deep learning-based framework for detecting and quantifying tremor in Parkinson's disease using accelerometry data from a single wrist wearable.

Panel discussion

Project Coordinator Prof. Leontios Hadjileontiadis, Scientific & Technical Manager Stelios Hadjidmitriou, and Vasileios Charisis from the Signal Processing and Biomedical Technology Unit, along with Kosmas Dimitropoulos from the Centre for Research and Technology Hellas and Prof. Mohdamed Seghier from Khalifa University participated in the panel discussion **"Digital Bridges for better health: AI Innovation from Europe to the Middle East and North Africa (MENA)"**.

The panel provided insights into:

- The biggest technical challenges in integrating AI with existing healthcare IT systems,
- How key stakeholders can collaborate to ensure AI digital health tools are user-friendly and clinically relevant,
- The role of patient engagement and digital literacy in the effectiveness of AI tools in chronic disease management
- How socio-cultural differences between Europe and MENA can influence the design and adoption of AI digital health solutions
- What are the key regulatory challenges in Europe and MENA regarding the use of AI in healthcare and what joint efforts can be undertaken to harmonize standards in these regions

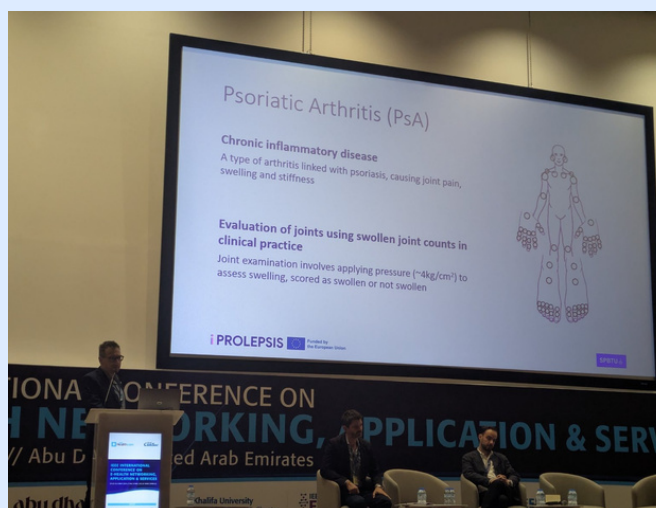
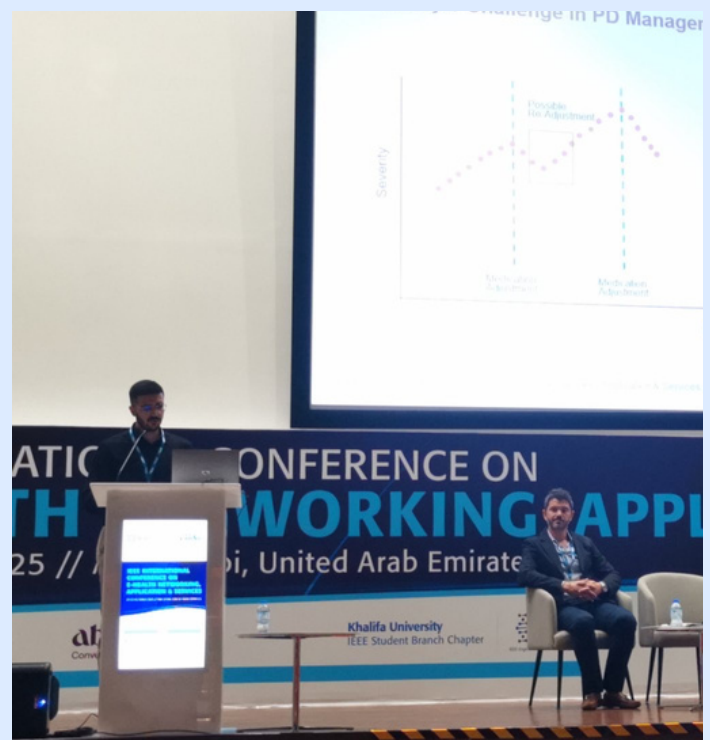
During the discussion, the AI-PROGNOSIS project and its AI-enabled digital health tools for Parkinson's disease screening and care were presented as a case study of how AI can support improved health outcomes in non-communicable diseases.



Workshop chairing - AUTH team

Scientific & Technical Manager Stelios Hadjidimitriou from the Signal Processing & Biomedical Technology Unit-AUTH co-chaired the workshop **"AI-enabled Digital Health Tools for Non-Communicable Diseases: From Concepts to Impact"**. The workshop was co-organised with the iPROLEPSIS Horizon Europe project and included research works in the fields of Parkinson's disease, psoriatic arthritis, multiple sclerosis and post-stroke rehabilitation. Two of the presented papers stem from research carried out within AI-PROGNOSIS.

- Chatzis et al., A deep learning approach for Parkinsonian tremor assessment using wearables
- Moustaklis et al., On capturing effects of medication change in Parkinson's disease with wrist accelerometry-based digital biomarkers



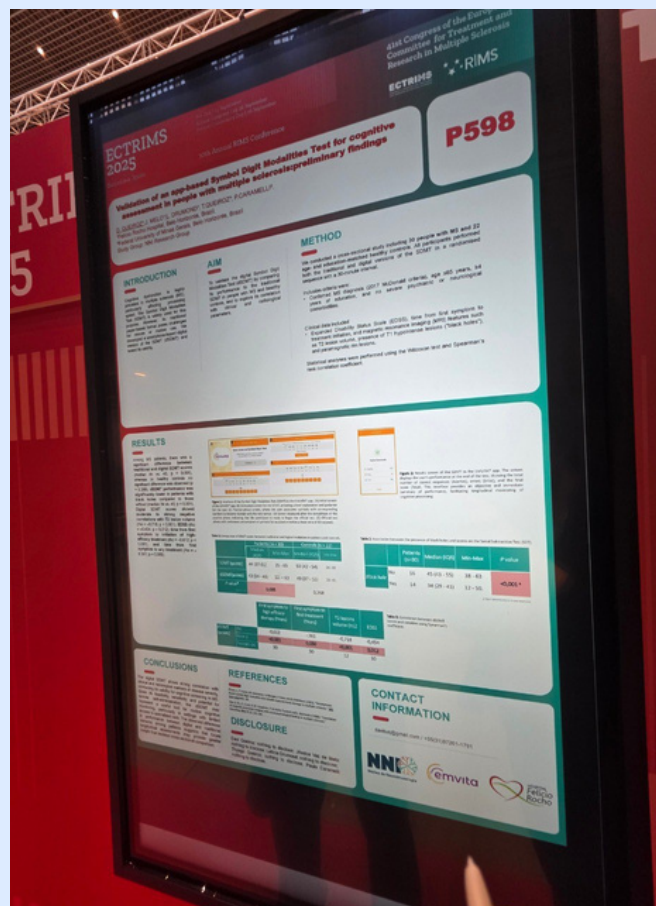
ECTRIMS 2025

8-10 October 2025

Barcelona, Spain

AI-PROGNOSIS partner NeuroTransData (NTD) participated in ECTRIMS 2025, the 41st Congress of the European Committee for Treatment and Research in Multiple Sclerosis, held in Barcelona from 8-10 October 2025.

The congress provided an excellent opportunity to **network** with the international neurology community and to raise **visibility** for AI-PROGNOSIS in the broader fields of neurodegeneration and digital health.

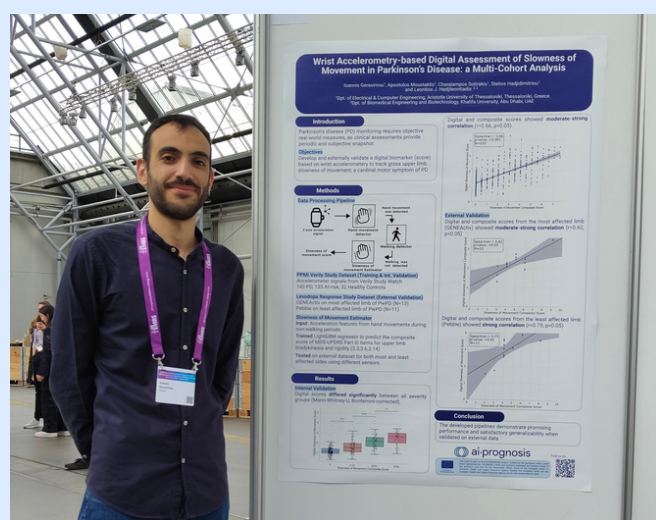


EMBC 2025

14-17 July 2025

Copenhagen, Denmark

At the 47th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC 2025), held in Copenhagen, Denmark, from July 14-17, 2025, Ioannis Gerasimou (Aristotle University of Thessaloniki) presented the paper **“Wrist Accelerometry-based Digital Assessment of Slowness of Movement in Parkinson’s Disease: a Multi-Cohort Analysis”**.



This work aimed to develop a digital biomarker (dBM) for assessing upper limb slowness of movement in Parkinson's disease using wrist accelerometer data passively captured during daily living. The dBM was trained on data from the Verily substudy of the Parkinson's Progression Markers Initiative (PPMI) and externally validated on an independent dataset (Michael J. Fox Foundation Levodopa Response Study) to assess generalizability".



ISPGR 2025

30 June – 3 July 2025

Maastricht, Netherlands

The AI-PROGNOSIS project was presented at the 2025 International Symposium of Gait and Posture Research (ISPGR), held in Maastricht, Netherlands from June 30 to July 3, 2025.

Harris Sotirakis from Aristotle University of Thessaloniki (AUTH) represented the project during the scientific session titled **"Measures, measures, measures... and what about the outcomes?"**

This session brought together researchers focused on methods and metrics in gait and posture studies, with an emphasis on how these translate into meaningful outcomes.



Upcoming events

26–27 November 2025. Nicosia, Cyprus

6th Plenary meeting



25 November, 2025. Online, in Swedish

Webinar: Parkinson's Disease and Artificial Intelligence – What Does AI Mean for Those of Us Living with Parkinson's?

[Register here](#)

Artificial intelligence – or AI – is everywhere today. But what does it actually mean? And how might this new technology affect the lives of people with Parkinson's disease and their family members or loved ones?

You are warmly invited to a webinar offering an accessible introduction to AI and how it is being used in the field of Parkinson's disease. We will go through what AI is, the main types that exist, and how AI is already being applied to understand symptoms, monitor disease progression, and develop future treatments.

We will also present the European research project AI-PROGNOSIS, which is developing AI-based tools to improve the detection, monitoring, and treatment of Parkinson's disease.

During the webinar, there will be time for questions and discussion: What feels promising – and what raises concern? How can people with Parkinson's and their families contribute to ensuring that AI is developed in the best possible way?

 ai-prognosis

Tuesday, 25 November
2025, 17:00–18:30 CET

Location
Online via Zoom (link provided after registration)

Speakers

Sara Riggare
Researcher at Uppsala University and
person living with Parkinson's

Therese Scott Duncan
Researcher at Uppsala University

Webinar: Parkinson's Disease and Artificial Intelligence – What Does AI Mean for Those of Us Living with Parkinson's?

NB: This webinar will be held **only in Swedish**

