

## Newsletter #1

November 2023

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



**Newsletter  
highlights**

**About the project**

**Interview with the Project  
coordinator**

**Insights from Patient  
Researcher Sara Riggare**

**Project updates and  
Communication kit**

Learn more on [www.ai-prognosis.eu](http://www.ai-prognosis.eu)



@ai-prognosis



@aiprognois



AI-PROGNOSIS



**Funded by  
the European Union**

**AI-PROGNOSIS** receives funding from the European Union under Grant Agreement No. 101080581.

## About the project

**AI-PROGNOSIS** is a Horizon Europe 48-month research and innovation project that addresses the HORIZON-HLTH-2022-STAYHLTH-01-04-two-stage call and **aims to advance Parkinson's disease diagnosis and care through novel predictive models combined with digital biomarkers from everyday devices.**

### Our motivation



Parkinson's disease (PD) is the most common neurodegenerative movement disorder, affecting approx. 10 million people worldwide, and has no cure. PD is often missed or misdiagnosed, as early symptoms are subtle and shared with other diseases. Moreover, selecting the optimal medication regimen is usually a lengthy trial-and-error process, leading to unnecessary suffering.

### Our research

Based on multi-source sets of in-depth health and genetic data, AI-PROGNOSIS aims to develop and validate novel AI models for personalised Parkinson's disease risk assessment and prognosis.



### Our methodological pillars



AI-PROGNOSIS methodology centers on co-creation, involving continuous engagement with stakeholders, compliance in practice with trustworthy and responsible AI guidelines, and clinical studies for proof-of-concept validation of research outcomes and digital tools.

### Our envisioned AI tools

AI-PROGNOSIS aims to develop an ecosystem of digital health tools for persons with and without Parkinson's disease (PD) and healthcare professionals, with the purpose of ensuring better disease screening and care.



# The Vision and ambitions of AI-PROGNOSIS: an interview with Prof. Leontios Hadjileontiadis



Prof. Leontios Hadjileontiadis  
Aristotle University of Thessaloniki

In this interview, Prof. Leontios Hadjileontiadis, the project coordinator of AI-PROGNOSIS, discusses inspiration behind the project, and its potential impact on Parkinson's disease diagnosis and care. This conversation offers a glimpse into the world of AI-PROGNOSIS and its mission to make a significant difference in healthcare.

## Can you tell us a bit about how the AI-PROGNOSIS project was conceived?

AI-PROGNOSIS is a direct continuation of our previous HORIZON2020 project, namely i-PROGNOSIS (2016-2020), in which we established novel digital biomarkers. It also laid the foundation for AI-PROGNOSIS. The success of i-PROGNOSIS inspired us to continue our efforts incorporating AI as the core of the extended ideas, towards modern solutions for people with Parkinson's Disease.

## And what does the name of the project - AI-PROGNOSIS - represent?

AI-PROGNOSIS incorporates the Greek word Πρόγνωση (PROGNOSIS) and AI. In our previous sister project i-PROGNOSIS, I was referring to the Intelligent, where by adding the letter A in front we entered to the AI-based era of the PROGNOSIS, highlighting the extended view of our approach, initiated in i-PROGNOSIS.

## AI-PROGNOSIS is an ambitious project with 18 partners from 11 European countries. What are the main benefits and challenges of such a large project?

Parkinson's disease is a very complex disease that needs to be approached from different perspectives, and the solutions should be based on multidisciplinary. In this vein, we have incorporated in AI-PROGNOSIS categories of stakeholders who can provide guidance. We harness this diversity of expertise through a co-creation approach that contributes to achieving the goals of the project.

## What is the main goal of AI-PROGNOSIS?

To detect, diagnose, and assess Parkinson's disease in individuals at risk or those already diagnosed, and to develop new AI-based tools that will assist healthcare practitioners in addressing the disease in a personalised and optimal manner.

## What would you say is AI-PROGNOSIS's main added value?

To offer innovative AI-based models and tools that could transform the approach to Parkinson's disease, benefiting individuals at risk, those diagnosed with Parkinson's disease, healthcare practitioners, and healthcare policymakers.

## How do you hope AI-PROGNOSIS will contribute to a healthier Europe?

AI-PROGNOSIS is centered around people. The primary objective is to extend the reach of AI-PROGNOSIS solutions to multiple European countries and build a broad community of individuals who can collaboratively develop new solutions for Parkinson's disease at a European scale. We aim for our results to influence policies in Europe, contributing to a deeper understanding of Parkinson's disease and its implications at both the research and translational levels. This involves the application of novel AI-based tools in clinical practice and supporting self-management for active and healthy aging.

## Last but not least, what is your wish for the project's first year and the AI-PROGNOSIS consortium?

I hope we will deliver on our commitment to society by establishing the AI-PROGNOSIS community and constructing a knowledge base. This involves analysing retrospective data, identifying user needs, and prototyping AI-based models through a co-creation process.

## The Parkinson's journey: insights from patient researcher Sara Riggare

**Sara Riggare**, a patient and researcher living with Parkinson's disease, **shares her journey and expertise and brings her unique perspective to the AI-PROGNOSIS project**. Sara's insights and experiences offer a deeper understanding of this complex condition and its management. Her active involvement in the AI-PROGNOSIS project is driven by her personal experience with Parkinson's disease and her conviction that the project can contribute to enhancing our understanding of how AI can be applied to improve the lives of those living with this condition.



My name is Sara Riggare and I am a patient researcher at Uppsala University in Sweden. Being a patient researcher means that I am both a patient and a researcher and that I use my own experiences from being a patient in my work and research. The AI-PROGNOSIS project is especially interesting for me since the focus of the project is the disease I am living with, namely Parkinson's disease. I have a PhD from Radboud University in the Netherlands and my PhD thesis was titled "Personal science in Parkinson's disease: a patient-led research study" ([link to thesis](#)).

I was diagnosed with Parkinson's disease in 2003 and during the time since then I have learned a lot. Before my diagnosis I had no idea of how extremely individual Parkinson's is, both in terms of symptoms and in terms of treatment. Today I take 5 different prescription medications for my Parkinson's, in 4 different combinations, in total 7 times every day. Finding this medication regime has taken a lot of effort and discussions with my neurologist. To learn more about medication in Parkinson's, see the links below:

- [A small round white pill](#)
- [Neuroscience - theory and practice](#)
- [Dagens patient - Lena - kort version \(in Swedish with English subtitles\)](#)

I am very happy to be involved in AI-PROGNOSIS and am convinced that the project will contribute to improving our understanding of how AI can be used for Parkinson's disease. However, research and development take time so even if all goes precisely according to plan, the solutions developed during the project will not be generally available to persons living with Parkinson's for at least 5-10 years. Therefore, I am determined to do what I can for the work done in AI-PROGNOSIS to benefit my fellow persons with Parkinson's also during the project. This will be done for example by developing educational content, so if you are interested in learning more, follow the project on social media!

## Publications



**The first AI-PROGNOSIS project-related publication** - "Bispectral Analysis of Parkinsonian Rest Tremor: New Characterization and Classification Insights Pre-/Post-DBS and Medication Treatment", is available in IEEE Access.

The publication addresses one of the most common Parkinson's disease symptoms - rest tremor. Traditional diagnostic and treatment methods often fall short, leading to subjective assessments and limited effectiveness. An innovative AI-powered approach analyses data from Parkinson's patients, leading to a more accurate classification of treatment effectiveness and tremor severity. This is a significant step towards enhancing treatment and improving the quality of life for those living with Parkinson's.

Leveraging Higher Order Spectra and Machine Learning, the research reveals how Parkinsonian tremor responds to different treatment strategies, paving the way to more efficient, sensitive, and comprehensible tremor monitoring.

The publication was authored by Ioannis Ziogas, Charalampos Lamprou and Prof. Leontios Hadjileontiadis. The work was supported in part by Khalifa University and in part by the European Union's HORIZON-RIA Program AI-PROGNOSIS.

The full article is available on IEEE Xplore: <https://ieeexplore.ieee.org/document/10286508>

## Upcoming events



**2nd Plenary meeting**

18-19 January 2024, Leuven, Belgium

## Synergies and collaboration



In October 2023, **AI-PROGNOSIS formed an alliance with the Digital Health Uptake (DHU) project**, marking a significant step forward in our commitment to advancing digital health solutions.

The Digital Health Uptake (DHU) project, funded through the Digital Europe Programme, is dedicated to aligning policies, strategies, instruments, and activities to promote the adoption of digital health solutions and services across Europe. The work of DHU is grouped under three key aspects: RADAR, KNOWLEDGE COMMUNITY and ACCELERATOR.

The AI-PROGNOSIS and Digital Health Uptake (DHU) partnership will extend across multiple channels, including websites, newsletters, and social media platforms. As our collaboration deepens, we look forward to co-organising impactful events that resonate with our shared mission.

## Call for Radar entries

**Looking to increase the reach and impact of your digital health solution or service?** Join +100 practices that are already featured in the DHU Radar Repository. The DHU Radar is currently looking for entries for various types of practices, including:

1. **Policy and strategy** in relation to digital health solutions or services
2. **Digital solutions and services** (e.g., apps, portals, AI-based systems, etc.)
3. **Supporting tools and methodologies** for upscaling digital health solutions or services (e.g., management tools, impact assessment methodologies, etc.)

And more >>> [Publish your practice here](#)

## DHU sessions at the Digital Health and Data Week

The Digital Health and Data Week is a three-day event in Ghent (Belgium), as the result of the collaboration between EHTEL, I<sup>2</sup>HD, and the UNICOM project consortium. The Digital Health Uptake (DHU) project, will be featured at the **EHTEL Symposium on 29 November** with a session on deploying digital health in the community and at the I<sup>2</sup>HD annual conference on 1st December with a session on successful practices for patient engagement and empowerment. Secure your spot now!

## Communication material

In our Communication kit, you can find the communication materials produced within the AI-PROGNOSIS project. Any material can be downloaded on the AI-PROGNOSIS website.

### Logo

### Roll-up



### Flyer

### Poster



LEARN MORE

