



What is Parkinson's disease?

Parkinson's is a **progressive neurological condition**. People with Parkinson's don't have enough of a chemical called **dopamine** because some nerve cells in their brain have died. Without dopamine people can find that their movements become slower so it takes longer to do things. The main symptoms of Parkinson's are tremor, rigidity and slowness of movement.

There's currently no cure for Parkinson's and we don't yet know why people get the condition.

Parkinson's doesn't directly cause people to die, but symptoms do get worse over time.

Parkinson's disease (PD) is the second most common neurodegenerative disorder after Alzheimer's disease and is expected to impose an increasing social and economic burden on societies as populations age.

Every hour, someone in the UK is told they have Parkinson's...



According to the European Parkinson's Disease Association, 1.2 million people in Europe have this disease.

The NoTremor project

The overall aim of the project is to provide **patient specific computational models** of the coupled motor and neuromuscular system that will be subsequently used to improve the quality of **analysis, prediction and progression of Parkinson's disease**.

In this way, NoTremor will be able to provide **clinical decision support** through a powerful parametric simulation engine, able to **predict the progression of the disease** for individual patients, based on the specific **neurological and behavioural** state of the user.

How will they do this?

The NoTremor research team will make models personalized to each patient using their specific clinical data, enabling prediction of disease progress on an individual basis.

These models are expected to be a significant achievement for the understanding of PD, while it can pave the way for similar approaches for other neurodegenerative disorders.



By using these novel approaches to research we can develop new patient-specific digital models that will enable us to monitor a disease and how it progresses

Everyone is different...

One of the biggest challenges for treating Parkinson's is the individual and unpredictable nature of the condition.

Parkinson's affects everyone differently – people may experience a wide range of symptoms and the condition progresses in different ways in different people.

The topic of personalised medicine is increasingly becoming a key area for medical experts and researchers to focus on. The NoTremor project is part of this field of research.





NoTremor

Seeing the Future with NoTremor?

"Claire Bale, Research Communications Manager at Parkinson's UK (partner also in Notremor project), said:

"We're delighted to be a partner in this innovative and ambitious project because it could have a profound impact for people living with Parkinson's and their families.

"The tools they plan to develop really could help us **to see into the future of people with Parkinson's** – something that is often a source of uncertainty and worry.

"This would not only give us the chance of providing the best possible care for each individual, but would also give us the opportunity to try and prevent certain symptoms that may appear further down the line."

*See more at: <http://www.parkinsons.org.uk/news/3-february-2014/new-project-launches-predict-parkinsons-progression>

Further information

For more information on the 3-year EU-funded **NoTremor** (Virtual, Physiological and Computational Neuromuscular Models for the Predictive Treatment of Parkinson's Disease) project, visit the website: www.notremor.eu



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