

# GUSTAVE ROUSSY IN ASCO 2019

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Press release / Oral session / Chicago, 1<sup>st</sup> June 2019  
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## ARTIFICIAL INTELLIGENCE

### Artificial intelligence can predict the chances of post-treatment fatigue in breast cancer.

**Research results presented at the 2019 ASCO Conference show for the first time that artificial intelligence can help predict the chances of development of severe fatigue in women due to undergo treatment for breast cancer. This is before they commence treatment and even before they show clinical symptoms associated with such asthenia. This work, conducted on patients in the CANTO (CANCer TOxicities) cohort, demonstrates the value of exploring the possibilities that artificial intelligence may offer for curing breast cancer while restricting the possible sequelae to a minimum.**

More than a quarter of patients experience severe fatigue in the months following completion of breast cancer treatment. This is not the simple fatigue that everyone may feel at the end of a long day at work or after heavy physical exertion. Patients are exhausted by this fatigue with its physical, cognitive and emotional components, and feel worn out. The least activity becomes a real ordeal. ***“Some patients can no longer manage to leave the house; their lives are turned upside down,”*** pointed out medical researcher and head of the fatigue outpatient facility at Gustave Roussy, Dr. Inès Vaz-Luis. A part of the latter’s research focuses on fatigue following breast cancer and is supported by *Susan Komen for the Cure*.

Gustave Roussy medical researchers in collaboration with colleagues at the *Memorial Sloan-Kettering Cancer Center* tried to develop a test which can recognise at the time of diagnosis of breast cancer, before institution of treatment, which women are likely to be affected by fatigue. The aim is to recommend, within the bounds of the possible, alternative, better-tolerated therapies.

The researchers used patients from the CANTO cohort, sponsored by Unicancer and coordinated by Professor Fabrice André, Inserm Research Director and Gustave Roussy oncologist with a special interest in breast cancer. This is mainly financed by the Agence Nationale de la Recherche (*National Research Agency*) through the “Investments in the Future” programme. It is a very large cohort study initiated in 2012 which recruited 12,000 patients from more than 20 centres in France. Having selected those patients who were not fatigued before being treated, their genome was sequenced looking for various genetic polymorphisms (variations in gene sequences, performed using Genmed). Then, employing an artificial intelligence technique, combinations of genetic polymorphisms which might cause post-treatment fatigue were identified. ***“We noted that the presence of a number of genetic disruptions related to signal transmission between synapses resulted in an increased probability of developing cognitive fatigue following breast cancer treatment,”*** reported Professor André. This might explain why these women mainly manifest cognitive fatigue following treatment.



#### ORAL SESSION

Saturday 1<sup>st</sup> June  
from 8:36 to 8:48 am  
(Chicago time)  
Room S102

▶ [READ THE ABSTRACT](#)  
N° 11515



## USING ARTIFICIAL INTELLIGENCE

To cure breast cancer with the minimum of possible sequelae



*“Thanks to this technique, we managed to predict cognitive fatigue in patients before they had experienced other clinical symptoms,” stated Dr. Vaz-Luis.*

A study conducted by Dr. Vaz-Luis and presented in October 2018 at the European Society for Medical Oncology (ESMO 2018) Congress, had previously identified clinical factors associated with the risk of having chronic fatigue at one year after breast cancer treatment: young patients, smokers and those with one or more other conditions in addition to their breast cancer.

▶ [LISTEN TO Dr. VAZ-LUIS'S EXPLANATIONS](#)



## CANTO COHORT:

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**12,000 patients**

×

**26 centres in France**

×

**Sponsored by Unicancer**

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**about**

**Gustave Roussy at ASCO**

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#### / Regarding Gustave Roussy

Gustave Roussy, the leading cancer center in Europe, is a comprehensive hub of expertise in oncology, entirely devoted to patients. It employs 3,100 professional staff engaged in patient care, research and teaching.

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