

BELGIAN BRAIN COUNCIL



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Belgian researchers in the spotlight

Recent significant advances made by Belgian researchers in the mechanism of Parkinson's disease, in the perception of pain and the different forms of Charcot-Marie-Tooth disease.

Parkinson: It has been in the Institut Duve of the UCLouvain that the team of Pr. **Guido Bommer** discovered the enzyme called PARK7, known to be inactive in hereditary Parkinson's patients, protects the cells against a toxic intermediate metabolite of glycolysis (set of metabolic degradation or disappearance reactions of glucose present in a living organism) and this discovery established a link between cells damaged by the absence of PARK7 and Parkinson's disease (its hereditary form).¹

Pain perception: The team of our President, Pr. **Laurence Ris** (UMons) and the Pr. **Eric Bellefroid** from the Institute of Neurosciences of the ULB have demonstrated that the Prdm12 gene controls the excitability of neurons specialized in pain perception and thus constitutes a target for the development of new painkillers.²

Charcot-Marie-Tooth:³ Progressive mitochondrial dysfunction is a common pathological mechanism in the different subtypes of Charcot-Marie-Tooth disease. Research results from the group of Prof. Vincent Timmerman (UAntwerpen)⁴ using patient stem cells, revealed common features in motor neurons of patients with different subtypes of

¹ Parkinson's disease protein PARK7 prevents metabolite and protein damage caused by a glycolytic metabolite by Isaac P. Heremans, Francesco Caligiore, Isabelle Gerin, Marina Bury, Marilena Lutz, Julie Graff, Vincent Stroobant, Didier Vertommen, Aurelio A. Teleman, Emile Van Schaftingen, and Guido T. Bommer in PNAS January 25, 2022 119 (4) e2111338119; <https://doi.org/10.1073/pnas.2111338119>

² Prdm12 modulates pain-related behavior by remodeling gene expression in mature nociceptors by Aurore Latragna, Alba Sabaté San José, Panagiotis Tsimpos, Simon Vermeiren, Roberta Gualdani, Sampurna Chakrabarti, Gerard Callejo, Simon Desiderio, Orr Shomroni, Maren Sitte, Sadia Kricha, Maëlle Luypaert, Benoît Vanhollebeke, Geoffroy Laumet, Gabriela Salinas, Ewan St John Smith, Laurence Ris, Eric J Bellefroid in Pain 2021 Dec 24. doi: 10.1097/j.pain.0000000000002536.

³ La maladie de Charcot-Marie-Tooth (CMT) est une maladie neurologique (neuropathie) héréditaire relativement fréquente (~1 sur 2500) qui peut être causée par des mutations (plus de 1.000 y ont été associées) sur plus de 100 gènes. La CMT est donc génétiquement hétérogène mais aussi cliniquement. Une classification large et donc imparfaite en répertorie deux formes : CMT1 (dite démyélinisante) et CMT2 (dite axonale) avec des sous-types intermédiaires.

Charcot-Marie-Tooth disease (CMT) type 2 (impaired axonal transport and mitochondrial dysfunction). Targeting these underlying pathological mechanisms could pave the way for treatments that could help a larger group of CMT patients.

LONG COVID (or PASC)⁵ and Chronic Fatigue (or Myalgic Encephalomyelitis): SAME FIGHT

A recent article⁶ describes evidence that patients affected by Covid Long and those affected by chronic fatigue (2.5 million people in the US) have similar biological abnormalities i.e. REDOX⁷ imbalance, systemic inflammation including neuroinflammation, altered ATP production⁸ and a general state of hypometabolism. Further investigation of the relation between redox imbalance, inflammation and energy metabolism in Covid Long and in chronic fatigue (ME/CFS) should lead to improvements in both new diagnostics and new therapies.

What is the NOCEBO effect?

Most of the side effects observed after vaccination with COVID-19 are due to the "nocebo effect". The nocebo effect is like the evil twin of the placebo effect - for example, it increases pain if a person anticipates that something will hurt. Researchers found that for the COVID vaccine, the nocebo effect accounted for 76% of common adverse reactions, such as headache and fatigue, after the first dose. Article published January 18, 2022 by Julia Haas et al, Harvard Medical School, Boston.⁹

BBC and Brain Awareness WEEK 2022 March 14–20

Celebrate Brain Awareness Week!
Join the global campaign to foster public enthusiasm and support for brain science.

Write your text here

BRAIN AWARENESS WEEK Dana Foundation

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Celebrate Brain Awareness Week!
Join the global campaign to foster public enthusiasm and support for brain science.

5 Les experts ont proposé un nouveau terme pour désigner ce syndrome : les séquelles post-aiguës de l'infection par le SRAS-CoV-2 (PASC).

6 Redox imbalance links COVID-19 and myalgic encephalomyelitis/chronic fatigue syndrome by Paul BD, Lemle MD, Komaroff AL, Snyder SH in Proc Natl Acad Sci U S A. 2021 Aug 24;118(34):e2024358118. doi: 10.1073/pnas.2024358118.

7 Le stress oxydant se définit par un déséquilibre entre la production d'espèces radicalaires (ou réactives) de l'oxygène (ERO) et les capacités cellulaires antioxydantes.

8 Adénosine TriPhosphate, molécule indispensable pour la production d'énergie dans chaque cellule

9 Frequency of Adverse Events in the Placebo Arms of COVID-19 Vaccine Trials: A Systematic Review and Meta-analysis by Julia W Haas, Friederike L Bender, Sarah Ballou, John M Kelley, Marcel Wilhelm, Franklin G Miller, Winfried Rief, Ted J Kaptchuk in JAMA Netw Open 2022 Jan 4;5(1):e2143955. doi: 10.1001/jamanetworkopen.2021.43955.

In collaboration with...



Links :

<https://www.sciences.be/member/scienceinfuse-uclouvain/>

<https://www.sciences.be/member/inforsciences-ulb/>

<https://www.sciences.be/member/rejouisciencias-uliege/>

<https://www.sciences.be/member/mumons/>

<https://www.sciences.be/member/cdsunamur/>

... and Leuven Brain Institute

Care FOR BRAIN
CALL FOR EVENTS

National Brain Awareness Week
March 14th – 20th 2022

- Understand your brain: Promoting greater understanding and knowledge about our brains and how they work
- Keeping your brain healthy: Raising awareness of brain health and how you can protect and strengthen your brain
- Living with a neurological condition: Calling for more investment in services for people living with brain conditions
- Promoting brain research: Highlighting the need to support research into the brain and brain conditions

#CareForBrain
#BrainAwarenessWeek

BRAIN AWARENESS WEEK

LEUVEN BRAIN INSTITUTE

BELGIAN BRAIN COUNCIL

Detailed programs will be posted on our WEB page



Our member associations (scientifics and patients) are invited to organise an event during this week. The BBC can help you by contributing up to 1,000€ to the organisation of your BAW event. For more information contact pochet.roland@ulb.be.

Autism Day – April 2

The 15th annual World Autism Awareness Day will take place on 2nd of April, 2022.

Autism Spectrum Disorder or ASD is a developmental disorder that poses several challenges to an individual including social, communication and behavioral difficulties. While various organizations around the world help to diagnose and treat ASD, it is important that people know about this disorder.

The BBC, APEPA and ACTE via European action Care4Brain are participating in this day.



Call to BBC members to participate in an Erasmus+ project

Erasmus+ is, with the support of the BBC, an opportunity for member associations to apply for a new project (deadline March 23). Contact us (soon) for more information.

News from our members



LBI webinar: The lecture of Prof. Erik Thys, psychiatrist and artist, on the link between creativity and psychological vulnerability given on January 25 is visible online <https://www.youtube.com/watch?v=wWOrViE1ntk> (60 min in NL).



The association **Can Cé-tu ?**, a member of the BBC has taken the difficult decision to proceed to its dissolution.



The **Belgian National League for Multiple Sclerosis** is organising a gala concert on 10 March at the Centre for Fine Arts in Brussels. The programme, booking form and prices are available at <https://nl.braincouncil.be/copie-de-erasmus-1>.



The **Belgian Pain Society** grants for 2022 a prize of 5.000 € for clinical research. The deadline for submission is April 27 and the rules are available at: <https://www.belgianpainsociety.org/activities/Call-for-application%3A-BPS-Award-2022?lang=fr>.



On January 23, the **DMLA** celebrated the 100th birthday of its President, Maître Bourguignon.

**Support our
actions I**



BBC ACCOUNT : BE87 7512 0194 0094

In 2021, the BBC had 27 patient associations and 24 scientific societies as full members and 21 pharmaceutical companies as partners. The complete list can be read here (<https://www.braincouncil.be/about>).

**The BBC is on the
following social
networks:**



Composition of the Executive Committee for the period 2021-2022

President: **Professor Laurence RIS**

Secretary General: **Professor Roland Pochet**

Vice-Presidents: **Professor Chris Bervoets, Dr Gianni Franco, Baron Charles van der Straten-Waillet**

Treasurer: **Baron Charles van der Straten-Waillet**

Secretary: **Mrs Lia Le Roy**

Dates to remember

14 Februar

Journée
Mondiale de
l'Épilepsie

14-20 March

Brain Awareness
WEEK

23 March

Deadline for
Erasmus+
application

28 March

Care4Autism
BBC Erasmus+
meeting

2 April

Journée
mondiale de
sensibilisation à
l'autisme

27 April

Belgian Pain
Society Award
5.000€ submission
deadline

11 June

BPS Congress

5-9 July

ICNMD-International
Congress on
Muscular Diseases-
Brussels

