

# The CARTaGENE voice

AIMS TO ACCELERATE HEALTH RESEARCH

VOLUME 9 - DECEMBER 2019

[www.cartagene.qc.ca](http://www.cartagene.qc.ca)

## CARTaGENE wishes you Happy Holidays!



In 2020, CARTaGENE will begin its 11th year of activity!

We would not have been able to take this important step without your involvement which has generated new data used by researchers in projects contributing to health research.

Thanks you for trusting **CARTaGENE** since the beginning of this adventure. Without you, this platform would not exist and we are grateful for your precious contribution.

Your continued commitment is crucial to the future of **CARTaGENE**. You are helping to improve the platform and make it more useful for health research (e.g. cancer and chronic diseases).



CARTaGENE for the health of Quebec

Source image snowflake: Iconfinder.com

Follow us on our social networks:



@\_CARTaGENE\_  
#ProjetDeSociété



## New additions to CARTaGENE scientific lead!

New experts join Dr. Broët to form a high-caliber scientific team.



**Philippe Broët, M. D., Ph. D.** is a professor at the Université de Montréal and researcher at CHU Sainte-Justine. His areas of expertise are clinical epidemiology and clinical predictive medicine. His research focuses on the development of new analytical strategies adapted to genomic studies in multifactorial diseases. These projects combine both methodological and clinical transfer components. He also teaches at the University Paris-Sud / Paris-Saclay.



**Guillaume Lettre, Ph. D.** is a professor at the Université de Montréal and researcher at the Montreal Heart Institute. He holds a Canada Research Chair in Complex Trait Genetics since November 2010. His laboratory is funded by grants from the Canadian Institutes of Health Research (CIHR), the Heart and Stroke Foundation of Canada, the "Fonds de Recherche du Québec-Santé", and the Montreal Heart Institute Foundation. In 2019, he was appointed to the College of New Scholars of the Royal Society of Canada.



**Simon Gravel, Ph. D.** is a professor at McGill University and researcher at the McGill University and Génome Québec Innovation Center. He holds a Canada Research Chair in Statistical and Population Genetics. He is interested in biology and evolution through creative analysis of high throughput biological data. His group develops mathematical and statistical methods that use a variety of data sources to refine the understanding of the fundamental parameters of human history and biology.

## CARTaGENE is collaborating with Health Canada on a study on Radon gas

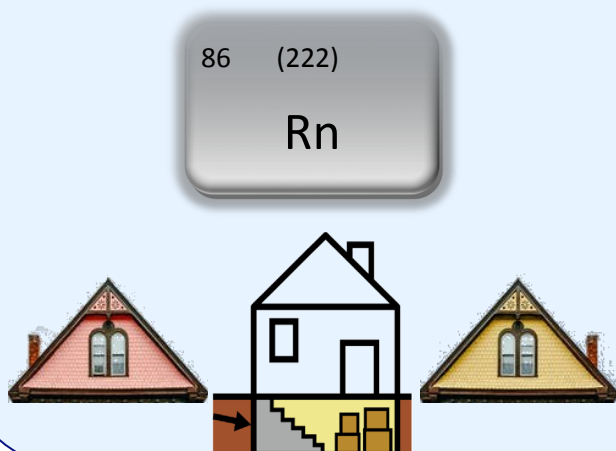
Radon is a radioactive gas that is naturally and slowly released from the soil, water and some building materials and can end up in homes. Radon is the second leading cause of lung cancer after smoking.

Currently, Health Canada, in collaboration with CARTaGENE, is conducting a study to measure radon levels (using a detector provided by Health Canada) in the home of CARTaGENE participants selected for the study.

You may receive an invitation to participate in the study by email or telephone. Participants taking part in the study will receive results from radon levels measured in their homes.

**The main objective of this research is to better understand the effects of radon gas on health. Only selected participants who own their home are eligible to participate in this study.**

👉 Learn more about Radon [HERE!](#)

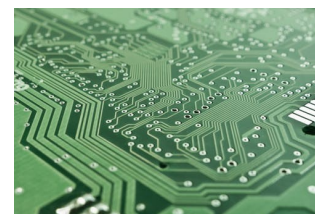


## Data security at CARTaGENE, let's talk about it!

*Have you ever wondered what procedures were in place at CARTaGENE to ensure the security of your data?*

*Here is a brief overview of the structure set up at CARTaGENE which has been proven safe for more than 10 years.*

1.  
Data encoded,  
encrypted and stored in  
highly secure computer  
facilities



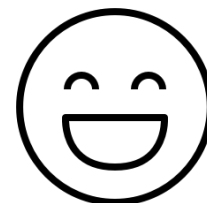
2.  
Personal information  
separated from the  
health data and kept in  
a distinct location

3.  
Identity of participants  
never disclosed to  
researchers using  
CARTaGENE data



4.  
IT security and data  
storage structure  
approved by the  
Commission d'accès à  
l'information

5.  
The security system  
established by  
CARTaGENE cited as an  
international standard



## ***CARTaGENE in numbers!***

**73 health research projects approved,  
55 of which are still in progress!**

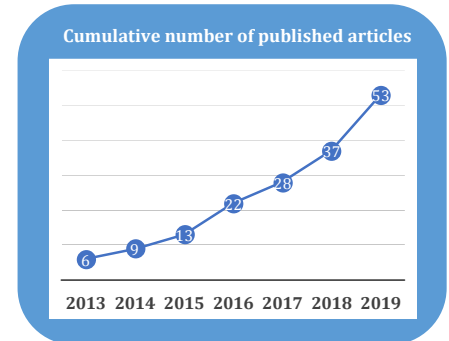


**14 new projects in 2019!**



**11 years of advances in research that will have  
major impacts on our health.**

**53 articles published in scientific journals!**



Source images: Iconfinder.com

### **Some exemples of your contribution to health research!**

#### **1- Luda Diatchenko - McGill University / Center for Innovation - Genetic Varieties Associated with Pain Reduction in Patients with Low Back Pain or Neuropathic Pain**

Low back disorders are common and affect approximately 20% of North Americans. Neuropathic pain is caused by an injury or disease that affects the sensory nerves. About 5 to 8% of the population has neuropathic pain and conventional painkillers are generally not effective against this type of pain. This study explores the relationship between the genes of patients with low back pain and neuropathic pain, and the therapeutic response. More specifically, this research project aims to find genetic variants related to different types of low back pain and neuropathic pain, and the effectiveness of pain treatment.

#### **2- Louis P russe - Universit  Laval / Institute on Nutrition and Functional Foods (INAF) - Nutritional and behavioral mediators increasing genetic susceptibility to obesity**

The increase in the prevalence of obesity around the world is mainly due to changes in our lifestyle (eating habits and physical activity), and the environment in which we live (food supply, physical and social environment). However, because of genetic factors, we are not all equally affected by these changes. The objective of the project is to identify, within a representative cohort of the Quebec population, other nutritional, behavioral and lifestyle mediators related to genetic susceptibility to obesity.

#### **3- Francis Rodier - Universit  de Montr al / CHUM Research Center - Evaluation of biomarkers of cellular senescence in participants of the CARTaGENE cohort**

Certain diseases observed in the elderly have been associated with aging of human cells, especially cells of the immune system. Additionally, some people develop diseases associated with aging at a very young age: this phenomenon is called premature aging. This study aims to contribute to the improvement of knowledge about blood markers of natural and premature aging and learn more about the associated diseases.

**For the complete list of projects, visit: [www.cartagene.qc.ca/en/participants/projets](http://www.cartagene.qc.ca/en/participants/projets)**



## Did You Know...

During the 2011-2012 nutrition follow-up survey, almost 10,000 CARTaGENE participants completed a nutrition questionnaire. This allowed to establish the nutritional profile of the participants of CARTaGENE and to enrich our data. Here are some highlights:

- 31% of participants have sufficient calcium intakes. Calcium plays a key role in protecting against osteoporosis;
- 99% have insufficient vitamin D intake which is essential to assimilate calcium and protect against osteoporosis;
- 75% consume more than 4 daily servings of fruits and vegetables and 50% consume 5 servings or more;
- 78% reported excessive intakes of sodium which can contribute to high blood pressure and cardiovascular diseases;
- 25% have sufficient fiber intake;
- 7% reported food intolerances.

Many researchers are interested in CARTaGENE nutrition data which is studied in 20 research projects.

*Enjoy your meal !*

Source images: Iconfinder.com

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## Thank you for keeping your informations updated

Have you moved, retired, changed your email address or phone number? Take a moment to send us your new contact information. Even if you move away from Québec or Canada, you can still stay involved! Keeping in touch with you is essential for the success of this project!

### Contact us



**By email:** [unite.cartagene.hsj@ssss.gouv.qc.ca](mailto:unite.cartagene.hsj@ssss.gouv.qc.ca)

**By phone:** 1 (877) 263-2360 (toll-free number in Québec and Canada)



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### Our partners:

