

# Guillaume Filion

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## PERSONAL INFORMATION

**Born in** Drummondville (Canada) September 4, 1979.

**Fluent in** French, English, Spanish, Russian, Dutch.

**High school level in** German.

## RESEARCH EXPERIENCE

### **from 2012: Junior group leader position**

Center for Genomic Regulation (Barcelona, Spain)

*My current focus is to understand how genomes are organized. To this aim, we are developing technologies to study position effects. This requires new statistical and computational methods that are also developed within the team.*

### **2008-2011: Post-doctoral position** in the lab of Bas van Steensel

Netherlands Cancer Institute (Amsterdam, The Netherlands)

*During my post-doc, my collaborators and myself redefined the Drosophila chromatin. Using genome-wide technologies and computational tools, we proposed a classification of chromatin in 5 basic states that suggests the existence of yet-to-discover silencing mechanisms.*

### **2004-2007: PhD thesis** in the lab of Pierre-Antoine Defossez

Curie Institute (Paris, France)

*During my PhD, I discovered two new mammalian zinc finger proteins able to bind meCpGs (ZBTB4 and ZBTB38). Using an in vitro method that I developed, I could show that those proteins have different intrinsic binding specificities.*

## EDUCATION

### **2003-2004: M2, Human Genetics**

Université Denis Diderot (Paris, France)

### **2001-2003: M2, Molecular Biology**

Ecole Normale Supérieure (Lyon, France)

### **2000-2001: L3 (BSc) Biology**

Concordia University (Montreal, Canada)

### **1998-2000: L2 Biology**

Université Claude Bernard (Lyon, France)

## **FUNDING**

### **2014-2019: ERC Synergy Grant**

1.5 M€ distributed in salaries and consumables.

### **2012-2015 EpiGeneSys RISE1**

Salary for a post-doc position.

### **2012-2016 Marie Curie Career Integration Grant**

80K€ of consumables.

### **2013-2017 Plan Nacional**

Salary for a post-doc position.

### **2012-2017 CRG internal funding**

Consumables (80K€/year), and salary for four positions.

## **TEACHING EXPERIENCE**

### **2013:** Internal training on statistics

PhD students, CRG (Barcelona, Spain).

### **2012:** External speaker

M2 students, Universitat Pompeu Fabra (Barcelona, Spain),  
Université Paul Sabatier (Toulouse, France).

### **2010-2011:** Internal training on the use of R and statistics

PhD students, The Netherlands Cancer Institute (Amsterdam, The Netherlands)

### **2008-2011:** External speaker

M1 students, Vrije Universiteit (Amsterdam, The Netherlands)

### **2004-2007:** Course on basic genetics

L2 students, Université Denis Diderot (Paris, France)

## **REVIEWING EXPERIENCE**

Nature Biotechnology

PLoS Genetics

Nucleic Acids Research

PLoS ONE

BMC Genomics

Nucleus

## PRIZES AND AWARDS

**EMBO Short-Term mobility fellowship** 2006

**École Normale Supérieure de Lyon** ranked first on national exam, 2000

## ATTENDED MEETINGS (SELECTION)

**EpiGeneSys meeting:** Oral presentation, United Kingdom, 2013

**Barcelona Chromatin Club meeting:** Invited speaker, Spain, 2013

**Boheringer meeting:** Invited speaker, Germany, 2012

**Epigenetics, from bases to pathology:** Invited speaker, France, 2011

**EMBL Functional Genomics meeting:** Oral presentation, Germany, 2010

**Dutch-Belgian Chromatin meeting:** Oral presentation, The Netherlands, 2010

## SOFTWARE DEVELOPMENT

**from 2011:** PubCron

A personal literature watch (<http://pubcron.appspot.com>).

**from 2009:** Tools for molecular biology

Open source R and Python tools for molecular biology (the code is available at <http://github.com/guillaume/>).

## COMMUNITY & OUTREACH ACTIVITIES

**2012-present:** Author of a blog on statistics and their application to biology  
(<http://blog.thegrandlocus.com>)

**2005-2007:** Students representative at the lab council  
Curie Institute (Paris, France)

**2006:** Organizer of a career development workshop during the Course on Epigenetics  
Curie Institute (Paris, France)

**2006-2007:** Board member of the PhD students association  
Curie Institute (Paris, France)

## PUBLICATIONS

- van Bemmél J, **Filion GJ**, Rosado A, Talhout W, de Haas M, van Welsem T, van Leeuwen E, van Steensel B. *A network model of the molecular organization of chromatin in Drosophila*, **Molecular cell**, Vol. 49 pp. 759-71 (2013).
- Steglich B, **Filion G**, van Steensel B, Ekwall K. *The inner nuclear membrane proteins Man1 and Ima1 link to two different types of chromatin at the nuclear periphery in S. pombe*, **Nucleus**, Vol. 3 pp. 77-87 (2012).
- **Filion GJ**, van Bemmél JG, Braunschweig U, Talhout W, Kind J, Ward LD, Brugman W, de Castro Genebra de Jesus I, Kerkhoven RM, Bussemaker H, van Steensel B, *Systematic protein location mapping reveals five principal chromatin types in Drosophila cells*, **Cell**, Vol. 143, pp. 212-24 (2010).
- **Filion GJ**, van Steensel B, *Reassessing the abundance of H3K9me2 chromatin domains in embryonic stem cells*, **Nat Genet**, Vol. 42, p. 4 (2010). [Correspondence]
- van Steensel B, Braunschweig U, **Filion GJ**, Chen M, van Bemmél JG, Ideker T, *Bayesian network analysis of targeting interactions in chromatin*, **Genome Res**, Vol. 20, pp. 190-200 (2010).
- Yamada D, Pérez-Torrado R, **Filion GJ**, Caly M, Jammart B, Devignot V, Sasai N, Ravassard P, Mallet J, Sastre-Garau X, Schmitz ML, Defossez PA, *The Human protein kinase HIPK2 phosphorylates and downregulates the methyl-binding transcription factor ZBTB4*, **Oncogene**, Vol. 28, pp. 2535-44 (2009).
- Augui S, **Filion GJ**, Huart S, Nora E, Guggiari M, Maresca M, Sterwart AF, Heard E, *Sensing X chromosome pairs before X inactivation via a novel X-pairing region of the Xic*, **Science**, Vol. 318, pp. 1632-6 (2007).
- **Filion GJ**, Fouvry L, Defossez PA, *Using reverse electrophoretic mobility shift assay to measure and compare protein-DNA binding affinities*, **Anal Biochem**, Vol. 357, pp. 156-8 (2006).
- **Filion GJ**, Paul RE, Robert V, *Transmission and immunity: the importance of heterogeneity in the fight against malaria*, **Trends Parasitol**, Vol. 22, pp. 345-8 (2006). [Review]
- **Filion GJ**, Zhenilo S, Salozhin S, Yamada D, Prokhortchouk E, Defossez PA, *A family of human zinc finger proteins that bind methylated DNA and repress transcription* **Mol Cell Biol**, Vol. 26, pp. 169-81 (2006).
- Defossez PA, Kelly KF **Filion GJ**, Perez-Torrado R, Magdinier F, Menoni H, Nordgaard CL, Daniel JM, Gilson E, *The human enhancer blocker CTC-binding factor interacts with the transcription factor Kaiso* **J Biol Chem**, Vol. 280, pp. 43017-23 (2005).