

IGDR - UMR6290 UR1-CNRS  
2 avenue du Professeur Léon Bernard  
35043 Rennes  
+33 2 23 23 48 85  
laurent.chesneau@univ-rennes1.fr

**Laurent CHESNEAU**

05 février 1980



## **Education**

2003/2007 : **PhD in Sciences, Molecular Biology of the Cell speciality**, University Paris-Sud XI, France

## **Work Experience**

2011-today : **Engineer** in Jacques Pécréaux Team at Institut de Génétique et Développement de Rennes at University Rennes1, France

Main Project: Cortical targeting of dynein by microtubule plus-end transport and its implication in microtubule pulling for spindle displacement

2007/2011 : **Post-Doctorat** in Arnaud Echard Team, at Institut Pasteur, Paris, France.

Main Project: Regulation of an endocytic pathway Rab35 and Arf6 dependant, necessary for PI(4,5)P<sub>2</sub> lipid domains establishment during cytokinesis in human cells.

2003/2007 : **PhD in Sciences, Molecular Biology of the Cell speciality**, in Michel Jacquet Team, under the supervision of Marie-Hélène Cuif at the Institut de Génétique et Microbiologie, Orsay. France

PhD Project: Functional characterisation of 2 proteins with "Ypt/RabGAP" domain, Gyp5p and Gyl1p, during cell cycle in *Saccharomyces cerevisiae*.

## **Scientific field of interest**

### **Biophysics of the Cell:**

- Mitotic Spindle Mechanics
- Mitosis Robustness

### **Cell Biology**

- Mitotic Spindle Assembly and Chromosome Segregation : structural, dynamics and regulation aspects
- Cell Polarity in asymmetric division (*S. cerevisiae*, *C. elegans*)
- Intracellular Traffic in polarized cell (endocytosis and exocytosis)

### **Molecular Biology :**

- Microtubule dynamic and plus-end tracking proteins
- Molecular Motors
- Kinetochore assembly and interface with microtubules
- Small GTPase regulation (Rab and Arf GTPases)

## Technical Skills

- **Fluorescence Microscopy:** Spinning-Disk Confocal, TIRF microscopy, AiryScan
- **Model organisms:** *Saccharomyces cerevisiae*, *Caenorhabditis elegans*, human culture cell

## Publications and Communications

### Publications

- Rodriguez Garcia R.\*, **Chesneau L.\***, Pastezeur S, Roul J., Tramier M., Pécréaux J., *The polarity-induced force imbalance in Caenorhabditis elegans embryos is caused by asymmetric binding rates of dynein to the cortex.*, **Mol Biol Cell.** 2018 Dec 15 ;29(26) :3063-3200
- Bouvrais H, **Chesneau L**, Pastezeur S, Fairbrass D, Delattre M, Pécréaux J., *Microtubule Feedback and LET-99-Dependent Control of Pulling Forces Ensure Robust Spindle Position.* **Biophys J.** 2018 Dec 4;115(11):2189-2205
- **Chesneau L.**, Machicoane M., Kouranti I., Goud B., Echard A., *An Arf6/Rab35 GTPase cascade for endocytic recycling and successful cytokinesis.* **Current Biology** 2012 Jan 24;22(2):147-53
- Dambournet D., Machicoane M., **Chesneau L.**, Sachse M., Rocancourt M., El Marjou A., Formstecher E., Salomon R., Goud B., Echard E., *Rab35 GTPase and OCRL phosphatase remodel lipids and F-actin for successful cytokinesis.* **Nat Cell Biol**, 2011 Jun 26
- Prigent M., Boy-Marcotte E., **Chesneau L.**, Gibson K., Dupré-Crochet S., Tisserand H., Verbavatz J.M., Cuif M.H., *The RabGAP proteins Gyp5p and Gyl1p recruit the BAR domain protein Rvs167p for polarized exocytosis.* **Traffic**, 2011 May 10.
- **Chesneau L.**, Prigent M., Boy-Marcotte E., Daraspe J., Fortier G., Jacquet M., Verbavatz J.M., Cuif M.H., *Interdependence of the Ypt/RabGAP Gyp5p and Gyl1p for recruitment to the site of polarized growth.* **Traffic**, 2008. 9(4) : 608-22.
- **Chesneau L.**, Dupré S., Burdina A., Roger J., Le Panse S., Jacquet M., Cuif M.H., *Gyp5p and Gyl1p are involved in the control of polarized exocytosis in budding yeast.* **J Cell Science**, 2004. 117(Pt 20) : p. 4757-67

### Communications

- 27-30 August 2019: 6<sup>th</sup> **Dynamic Kinetochores Workshop** at Paris, France. (Poster)
- 1-2 July 2019: 4<sup>th</sup> **French Network Microtubules** at Rennes, France. (Poster)
- 15 March 2019: 22<sup>th</sup> **Ver Midi meeting** at Paris, France. (Poster)
- 26-28 September 2018: 3<sup>rd</sup> **Building the Cell** at Paris, France. (Poster)
- 8-12 May 2017: **J. Monod Conf.: Actin and microtubule cytoskeleton** at Roscof, France. (Poster)
- 23-26 September 2014: 1<sup>st</sup> **Building the Cell** at Paris, France. (Poster)
- 10 January 2014: 17<sup>th</sup> **Ver Midi meeting** at Strasbourg, France. (Poster)
- 25 January 2013: 16<sup>th</sup> **Ver Midi meeting** at Lyon, France. (Poster)
- 3-5 June 2010: 13<sup>th</sup> **Club Exocytose-Endocytose meeting** at Gérardmer, France. (Presentation)
- 27-29 April 2009: **Young Researchers & Life Sciences Meeting** at Paris, France. (Presentation)
- 9-12 January 2008: **Mechanics and Control of Cytokinesis meeting** at Edinburgh, UK. (Poster)
- 26-28 October 2007: 10<sup>th</sup> **Club Exocytose-Endocytose meeting**, Villars de Lans, France. (Presentation)
- 27-29 September 2006: 7<sup>th</sup> **Levures, Modèles et Outils colloque** at Paris, France. (Presentation)
- 4-8 September 2004: 4<sup>th</sup> **European Life Scientist Organization Conference**, Nice, France. (Poster)
- 29-31 October 2003: 4<sup>th</sup> **French "small G protein" meeting** at Le Croisic, France. (Poster)