

Julie Cornet

**PhD Student - Physics for life sciences**



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Driving License (2012)

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Date of birth: 08/22/1993

## EDUCATION

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2017- ongoing: **PhD student** in the LPT (Laboratoire de Physique Théorique, IRSAMC), CNRS, Toulouse  
*“Study of the coupling between curvature and composition in a model lipid vesicle”*

2017 : **MASTER’S DEGREE in Physics**, “Physique du Vivant” (Physics for life sciences)

2016-2017: **Master 2** Physics for life sciences, Université Paul Sabatier Toulouse III, **Good, 2/8**

2015-2016: **Master 1** Physics and Chemistry for life sciences and health, Université Paul Sabatier Toulouse III (**Quite Good, 4/10**)

2015: **BACHELOR’S DEGREE in Physics**, Fundamental Physics, **Good**

2014-2015: Bachelor’s Degree, 3<sup>rd</sup> year, Fundamental Physics, Université Blaise Pascal Clermont-Ferrand II (**1/14**)

2013-2014: Material Science and Engineering, INSA Lyon (National Institute of Applied Science), 3<sup>rd</sup> year of engineering school

2012-2013: Bachelor’s Degree, 2<sup>nd</sup> year, Science and Technology, Applied Physics and Engineering, Université Blaise Pascal Clermont-Ferrand II - Polytech' (**3/79**)

2011-2012: Bachelor’s Degree, 1<sup>st</sup> year, Science and Technology, Physics, Université Blaise Pascal Clermont-Ferrand II - Polytech' (**5/112**)

2011 : **Baccalauréat ("Very Good", English European Section)**

## OTHER DIPLOMAS

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**BAFA** (Brevet d'Aptitude aux Fonctions d'Animateur, supervisor diploma, scientific animation specialization, 2011)

**PSC1** (Prévention et Secours Civiques niveau 1, 2011), Attestation de sensibilisation aux gestes qui sauvent (2016), first aid diplomas

## COMPUTING SKILLS

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**Programming** (C, Python, Matlab, R, VBA, C++)

Version-control system (git)

Mathematica

LaTeX

Pack Office

VMD

ImageJ

## LANGUAGES

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**French:** mother tongue

**English:** **fluent**, CAE (Certificate in Advanced English of Cambridge, 2015), **C1** level and **FCE** (First Certificate in English of Cambridge, 2009, B2), middle and high school in European Section, large amount of professional and personal experience in English language (linguistic camps and student projects)

**Spanish:** good conversational level, moderate level of professional and personal experience in Spanish language

**Russian:** **B2** conversational, 1h30 of classes a week, **5 week linguistic and cultural stay in Herzen State Pedagogical University of Russia**, Saint Petersburg (2015)

## EXPERIENCES IN SCIENCE AND TECHNOLOGIES

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2017- ongoing: **PhD student** in the LPT (Laboratoire de Physique Théorique, IRSAMC), CNRS, Toulouse  
**“Study of the coupling between curvature and composition in a model lipid vesicle”** (statistical physics, biophysics, modelling, lipid vesicles, Monte Carlo and MARTINI coarse-grained simulations, data analysis, C and Python programming)

2017, January-July: **Master 2 internship in a laboratory (6 months)**, **“Numerical study of the coupling between curvature and composition in a model lipid vesicle”**, LPT (Laboratoire de Physique Théorique), CNRS, Toulouse (statistical physics, biophysics, lipid vesicles, Monte Carlo simulations, data analysis, C programming)

2016, May-July: **Master 1 internship in a laboratory** (voluntary, **2 months**), **“Spatial analysis method of protein clusters on dSTORM super-resolution images (LFA-1 clusters in T lymphocyte immunological synapse)”**, LPT (Laboratoire de Physique Théorique) and CPTP (Centre de Physiopathologie de Toulouse Purpan, INSERM), CNRS, Toulouse (microscopy, image analysis, clustering algorithms)

2014/2015, throughout the academic year: **discovery of the scientific research field** (Laboratoire de Physique Corpusculaire de Clermont-Ferrand, Health department) and project “Understanding and mathematical modelling of cell response to irradiation in hadrontherapy” (once a week)

2014, may: **cultural, scientific and technological internship** in **Saint Petersburg Polytechnic University**, Russia, BEST (Board of European Students of Technology) Spring Course "IDEAS" (Invent, Develop, Evaluate, Act, Sell)

2012, July: **internship in a laboratory**, Institut Pascal - axe Photon, Université Blaise Pascal Clermont-Ferrand II (one-week discovery internship, nano-materials)

## OTHER EXPERIENCES

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2017, August: **Voluntary organiser and animator** of a kid summer camp in a village in Armenia with a **humanitarian association** (DA-CONNEXION)

2014, July: **Coordinator** of a linguistic teenager summer camp in Barcelona, Spain. International campus with TELLIGO and IP (International Projects)

2013-2015: **Organiser** of INSA Perch'formance and Michelin Capitale Perche (**international sport events** in Lyon and Clermont-Fd), in charge of media relations and animations, international relations, welcome of the groups in charge of foreign groups and interpreting

2011- 2016: **Camp supervisor** in **scientific** camps for children (France) and in **linguistic** camps for teenagers (England, Spain) in international campus with TELLIGO and IP (International Projects)

## SKILLS

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used to leading projects in teams, good relationship skills, dynamic, enthusiastic, organized, rigorous, perseverant, open-minded, internationally minded

## HOBBIES

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foreign languages and cultures (study of Russian language in an association), **sports** (track and field, rugby, touch rugby in a club), **music** (piano, wind instruments), **science and innovations**, **science popularization**, **travelling**

## PUBLICATIONS

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- **The Wiskott-Aldrich syndrome protein contributes to the assembly of the LFA-1 nanocluster belt at the lytic synapse**  
R. Houmadi, D. Guipouy, J. Rey-Barroso, Z. Vasconcelos, J. Cornet, M. Manghi, N. Destainville, S. Valitutti, S. Allart, L. Dupré. *Cell Rep.* **22**, 979 (2018)

- **A rational for mesoscopic domain formation in biomembranes**  
N. Destainville, M. Manghi, J. Cornet. Review article, *Biomolecules* **8**, 104 (2018)

## ATTENDED SCHOOLS OR CONFERENCES

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February 2020: **Oral communication** and participation in the **Biophysical Society Annual Meeting** (San Diego, 5 days)

July 2019: **Oral communication** and **poster presentation** at the **EBSA Biophysics Congress** (Madrid, 5 days)

May 2019: **Poster presentation** in the NanoX Days workshop, **poster award** (INSA, Toulouse, 2 days)

March 2019: Attendance in the workshop **Demystifying machine learning for Microscopists** (INSERM, Toulouse, 1 day)

November 2018: **Poster presentation** and participation in the symposium **Multidisciplinarity for the benefit of nanotechnology** (INSA, Toulouse).

September 2018: Participation in the **EMBO summer school Physics of integrated biological systems** (Cargèse, 11 days), **Oral communication and poster session**

June 2018: Participation in the school **Médiation scientifique en informatique** (SIF, Toulouse, 3 days)

June 2018: **Oral communication** and participation in the **EBSA workshop Membrane and lipid-protein interactions** (Montpellier, 6 days)

March 2018: **Oral communication** in the conference **In silico Biology: Simulating processes from embryogenesis to morphogenesis** (Mathematics, computer science and biology, CIMI, IRIT, Toulouse)

## AWARDS

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July 2019: **SFB bursary** to take part in the **EBSA Biophysics Congress** (Madrid, 5 days)

May 2019: **Best poster award** in the NanoX Days workshop (INSA, Toulouse, 2 days)

## TEACHING ACTIVITIES

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2018-2019: **Physics** for first year student in Life Science **L1 Sciences de la Vie** (optics, radioactivity, fluid dynamics) - 54h

**Statistical Physics** computer works for third year Physics students **L3 Physique** - 16h

2017-2018: **Physics** for first year student in Life Science **L1 Sciences de la Vie** (optics, radioactivity, fluid dynamics) - 64h

## SCIENTIFIC OUTREACH ACTIVITIES

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2018-2019: **Initiation sessions to programming** for kids with the association *Compagnie du Code*

(Scratch, Blockly, Thymio robots, THINGZ, AppInventor)

October 2018 and 2019: Participation in **Fête de la Science** in Université Paul Sabatier, workshops about surface tension and machine learning for middle and high school students

April - June 2018: **Projet ASTEP** (Accompagnement en Sciences et Technologies à l'École Primaire), 6 sessions with 8-year-old pupils, science awareness, discovery of scientific professions, project of initiation to algorithmic and programming with pedagogical robots