

# Jérémie Quevillon

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## Research Interests

Particle Physics Beyond the Standard Model  
Phenomenology of the Higgs Boson  
TeV Scale Physics, Collider Phenomenology  
Effective Field Theory  
Dark Matter

## Education

- Sept 11–Sept 14 **Ph.D. in Physics** at the **University of Paris-Sud 11**.
- Sept 09–Aug 11 **Research Master in Physics** from **École Normale Supérieure de Lyon**.  
passed with upper first class honours, courses in Theoretical Physics.
- Sept 07–Aug 09 **Bachelor in Engineering** from **Ecole des Mines de Saint-Etienne**.  
passed with upper first class honours.
- Sept 05–Aug 07 Undergraduate Studies in Physics & Maths in **Classes préparatoires in Janson de Saily**.

## Research Experience

- Since Oct 17 **Chargé de recherche CNRS** (CRCN), Laboratoire de Physique Subatomique et de Cosmologie (Grenoble, France).
- Sept 17–Sept 18 **Guest position, DESY** (Hamburg, Germany). Work with **Christophe Grojean**.
- Sept 14–Sept 17 **Research associate**, Theoretical Particle Physics & Cosmology at **King's College London** (UK). Work in collaboration with **John Ellis**.
- Sept 11–July 14 **Ph.D. student**, Laboratoire de Physique Théorique at the **Univ. of Paris-Sud 11**.  
*"Higgs Physics Beyond the Standard Model"* supervised by **Abdelhak Djouadi**.
- Oct 12–Aug 13 Visitor at **CERN**, work with **Géraldine Servant** and **Luciano Maiani**.
- April 11–Aug 11 **Intern** at Laboratoire de Physique Théorique at the **Univ. of Paris-Sud 11** (France).  
*"Theoretical uncertainties on the production of the Higgs boson at the LHC"*  
supervised by **Abdelhak Djouadi**.
- April 10–Aug 10 **Intern** at **SLAC** (Stanford University, USA).  
*"Stleptons production at the next generation of lepton colliders"*  
supervised by **JoAnne L. Hewett**.
- April 09–Aug 09 **Intern** at **CERN** (Geneva, Switzerland).  
*"Supersymmetric Heavy Higgs Bosons at CLIC"* supervised by **Marco Battaglia**.

## Academic Teaching

- August 16      **Invited tutor at BUSSTEPP 2016 in Manchester**,  
monitoring exercise sessions.
- Sept 15        **Tutor at BUSSTEPP 2015 at King's College London**,  
monitoring exercise sessions (30 hours over 2 weeks, for 2nd year PhD students in the UK,  
many topics covered : String Theory, AdS-CFT, Cosmology, Lattice QCD, QFT, BSM physics).
- Sept 11–July 14    **Teaching assistant at the Univ. of Paris-Sud 11**.  
Lectures : Statistical Physics (third year of undergraduate education),  
9 lectures of 3 hours each during 3 years (plus exams preparation and marking).  
Problem and lab classes : Electromagnetism (replacement for 9 hours).  
Programation (third year of undergraduate education),  
16 hours of TD and 16 hours of TP per year during 3 years (plus exam marking).
- Sept 07–July 09    **Teaching assistant in Collège Terrenoire (ZEP), France**.  
Tutoring Mathematics in high school (Classe de 3ième, 2 hours per week during 2 years).

## Talks and Seminars

- “**Searching for New Physics Through Interference Effects**”, IIP, Natal, Brasil, 6th November 2017, *invited plenary talk*.
- “**The Fermi Theory of the 21st century**”, L2C, Montpellier, France, 6th April 2017, *invited seminar*.
- “**The Phenomenology of Decoupled New Physics in Effective Field Theory**”, LPSC, Grenoble, France, 29th March 2017, *invited seminar*.
- “**The Phenomenology of Decoupled New Physics in Effective Field Theory**”, IPNL, Lyon, France, 24th March 2017, *invited seminar*.
- “**Beyond the Standard Model Phenomenology**”, Higgs Center for Theoretical Physics, Edinburgh, UK, 1st March 2017, *invited seminar*.
- “**Supersymmetry in 5 dimensions**”, TPP, Sussex, UK, 20 February 2017, *invited seminar*.
- “**The Phenomenology of Decoupled New Physics with the SM EFT**”, ULB, Brussels, Belgium, 10 February 2017, *invited seminar*.
- “**The Fermi Theory of the 21st century**”, Royal Holloway, London, UK, 9 November 2016, *invited seminar*.
- “**Searching for new physics in scalar top-pair resonance**”, *Top2016*, Olomouc, Czech Republic, 19 September 2016, *invited plenary talk*.
- “**The Phenomenology of Decoupled New Physics**”, *Planck 2016*, Valencia, Spain, 23 May 2016.
- “**BSM interpretations**”, CMS workshop, Lyon, France, 19 January 2016, *invited plenary talk*.
- “**MSSM hh theory/phenomenology**”, workshop HH ATLAS, Orsay, France, 18 January 2016, *invited plenary talk*.
- “**The Universal One-Loop Effective Action**”, GDR-Terascale, Grenoble, France, 24 November 2015.
- “**The Universal One-Loop Effective Action**”, DAMTP, Cambridge, UK, 27 November 2015, *invited seminar*.
- “**The Universal One-Loop Effective Action**”, THEP group, Mainz, Germany, 27 October 2015, *invited seminar*.
- “**Fully covering the MSSM Higgs sector at the LHC**”, 25th International Workshop on Weak Inter-

actions and Neutrinos, Max-Planck-Institut Heidelberg, Germany, 9 June 2015, *invited talk*.

“**Fully covering the MSSM Higgs sector at the LHC**”, GDR-Terascale, CEA Saclay, France, 30 March 2015, *invited talk*.

“**Dark matter and gauge coupling unification in nonsupersymmetric SO(10) models**”, London Dark Matter Forum, London, UK, 3 March 2015, *invited seminar*.

“**Higgs Physics Beyond the Standard Model**”, TPPC King’s College, London, UK, 8 October 2014, *invited seminar*.

“**Constraints on BSM physics through the Higgs couplings**”, Frontiers of Fundamental Physics 2014, Marseille, France, 17 July 2014, *invited talk*.

“**Supersymmetric scenarios after the Higgs boson discovery**”, International School of Subnuclear Physics Erice 2014, Erice, Italy, 1 July 2014, *invited talk*.

“**High SUSY scale and a few-parameter description of the scalar sector**”, Moriond EW 2014, La Thuile, Italy, 21 March 2014.

“**The post-Higgs MSSM scenario**”, GDR-Terascale, Annecy, France, 28 October 2013, *invited talk*.

“**Habemus MSSM?**”, SUSY 2013, ICTP , Trieste, Italy, 27 August 2013, *invited talk*.

“**BSM Higgs Interpretation: Dark Matter & Hidden Sector**”, CERN, Genève, Switzerland, 18 July 2013, *invited talk*.

“**The hMSSM**”, LAL, Paris, France, 1 July 2013, *invited seminar*.

“**Supersymmetric heavy Higgses at the LHC**”, LPTHE, Paris, France, 7 June 2013, *invited seminar*.

“**Higgs-portal dark matter**”, International School Cargèse 2012, Cargèse, France, 30 August 2012.

“**Direct detection of Higgs-portal dark matter at the LHC**”, Higgs hunting, Paris, France, 20 July 2012, *invited talk*.

“**Implications of LHC searches for Higgs-portal dark matter**”, GDR-Terascale, Clermont-Ferrand, France, 24 April 2012, *invited talk*.

“**Jet Clustering in presence of  $\gamma\gamma$  background**”, CLIC09 Workshop, CERN, Geneva, Switzerland, 15 October 2009, *invited talk*.

“**Analysis of SUSY Heavy Higgs events at CLIC**”, Linear Collider physics/detector meeting, CERN, Geneva, Switzerland, 17 August 2009.

### Selected Summer schools, Conferences and Workshops

**LHC Chapter II: The Run for New Physics**, Natal, Brasil, 6–17 November 2017.

*13th workshop of the LHC Higgs Cross Section Working Group*, CERN, Geneva, Switzerland, 13–14 July 2017.

**Workshop Physics at TeV Colliders**, les Houches, France, 15–23 June 2017.

**UK HEP Forum 2016**, Abingdon, UK, 3-4 November 2016.

**HEFT 2016**, Copenhagen, Netherlands, 26–28 October 2016.

**Top2016**, Olomouc, Czech Republic, 19-23 September 2016.

**Planck 2016**, Valencia, Spain, 23–27 May 2016.

**GDR-Terascale**, Grenoble, France, 22–24 November 2015.

**Higgs Hunting 2015**, LAL, Orsay, France, 30 July– 1 August 2015.

**European Physical Society Conference on High Energy Physics 2015**, Vienna, Austria, 22–29 July 2015.

**WIN 2015**, Max-Planck-Institut, Heidelberg, Germany, 8–13 June 2015.

**GDR Terascale**, CEA Saclay, France, 30 March–1 April 2015.

**Hamburg Workshop on Higgs Physics**, DESY Hamburg, Germany, 22–24 October 2014.

**Higgs-mass precision calculations workshop**, DESY Hamburg, Germany, 20–22 October 2014.

**DISCRETE 2014**, King’s College, London, UK, 2–8 December 2014.

**Frontiers of Fundamental Physics 2014**, Faculty of Sciences of Aix Marseille University, Marseille, France, 15–18 July 2014.

*Status of theoretical understanding and of experimental power for LHC physics and beyond*, **International School of Subnuclear Physics Erice 2014**, Erice, Italy, 23 June–3 July 2014.

**Higgs Hunting 2014**, LAL, Orsay, France, 21–23 July 2014.

**GDR Terascale**, Ecole Polytechnique, France, 2–4 June 2014.

**Planck 2014**, Institut des Cordeliers, Paris, France, 26–30 May 2014.

**Rencontres de Moriond EW 2014**, La Thuile, Italy, 15–22 March 2014.

**GDR Terascale**, LAPP-LAPTh Annecy-le-vieux, France, 28–30 October 2013.

**SUSY 2013**, ICTP, Trieste, Italy, 26–31 August 2013.

**Higgs Hunting 2013**, LAL, Orsay, France, 25–27 July 2013.

*Physique au LHC, École de Gif 2012*, LAL, Orsay, France, 17–21 September 2012.

*Across the TeV frontier*, **International School Cargèse 2012**, Cargèse, France, 20 August–1 September 2012.

**Higgs Hunting 2012**, LAL, Orsay, France, 18–20 July 2012.

**GDR Terascale**, LPC Clermont, France, 23 April–25 April 2012.

**Higgs Hunting 2011**, LAL, Orsay, France, 28–30 July 2011.

*Neutrinos*, **Summer SLAC Institute 2010**, Menlo Park, USA, 2 August–13 August 2010.

**CLIC09 Workshop**, CERN, Geneva, Switzerland, 12 June–16 October 2009.

**CERN Summer School**, Geneva, Switzerland, 2 June–22 August 2009.

## Languages

French (native language), English (fluent), Spanish (good basis).

## Referee Activities & Other Responsibilities

Referee for JHEP, Phys. Lett. B, Nucl. Phys. B., JCAP, National Science Center (grant reviews, Poland).

Convener of the LHC Higgs Cross Section Off-shell Sub-working Group.

Responsible of the TPPC Seminars at King’s College London (2016-2017).

Local organizer of **DISCRETE 2014**, **BUSSTEPP 2015**, GDR workshop **The Strong CP Puzzle and Axions** (May 2018).

## References

1. John Ellis  
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2. Abdelhak Djouadi  
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