

# Auriane Canesse

*PhD student at McGill University*

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## Research and Teaching Experience

- Present  **$W\gamma\gamma$  cross-section measurement**, *McGill university – ATLAS collaboration*, Montréal, Canada, Measurement of the  $pp \rightarrow W\gamma\gamma$  differential cross section with ATLAS run 2 data .  
Supervisor: Prof. Brigitte Vachon
- Present **IFF contact**, *ATLAS collaboration*, ATLAS Standard Model group contact person in the Isolation and Fakes Forum (IFF) group.
- 2018 **Spark chamber detector**, *McGill university*, Montréal, Canada, Reparation of the spark chamber: a cosmic muon detector used mostly for outreach.  
With Prof. Thomas Brunner
- 2017-2018 **ATLAS Qualification Task**, *McGill university – ATLAS collaboration*, Montréal, Canada, Implementattion of the Gaussian Sum Filter (GSF) algorithm in the electron High Level Trigger chain.  
Supervisor: Dr. Fernando Monticelli & Prof. Brigitte Vachon
- Fall 2017 **Teaching Assistant**, *McGill University*, Montréal, Canada, PHYS257: Experimental methods 1.
- 2016 – 2017 **Master Thesis**, *Center for Cosmology, Particle Physics and Phenomenology (CP3), Université catholique de Louvain (UCL), CMS collaboration*, Louvain-la-Neuve, Belgium , Data analysis in the framework of a Two Higgs Doublet Model (2HDM) - Optimisation of binning and background subtraction methods in the search for  $H \rightarrow ZA$  in the llbb topology .  
Supervisor: Prof. Christophe Delaere
- 2016 **Research Student**, *DESY Summer Student Program, CMS collaboration*, Hamburg, Germany, Study of sensitive variables for the search of  $t\bar{t}$ + Dark Matter associated production in the dileptonic channel.  
Supervisors: Dr. Kelly Beernaert, Dr. Alexander Grohsjean and Prof. Christian Schwanenberger
- 2015 – 2017 **Physics Teacher**, *Kotangente*, Louvain-la-Neuve, Belgium, Member of an association giving weekly tutoring in Maths and Physics to university students.
- 2015 **Research Student**, *CP3 Summer Student Program*, Louvain-la-Neuve, Belgium, Study of cosmic rays with a muon detector: wiring of the detector, voltage tests, search of light leakage, data acquisition and processing.  
Supervisor: Prof. Eduardo Cortina Gil

2014 – 2015 **Mission to Mars UCL**, *Mars Desert Research Station*, Utah, USA, Simulation of an astronaut mission on Mars; experiment in Geophysics: mapping of the ground magnetic susceptibility.  
Crew Geologist & Health and Security Officer

## Outreach Experience

- 2018–2019 **Physics outreach coordinator**, *Montréal, Canada*, Coordinator for the 2018-2019 academic year, in charge of expanding the department's outreach activities [↗](#).  
With Prof. Nik Provas
- 2019 **Public talk on Superconductivity**, *McGill university*, Montréal, Canada, The Secrets of Quantum Levitation: Superconductivity and its Application [↗](#).
- 2019 **Superconductivity & levitation module**, *McGill university*, Montréal, Canada, Development of a new outreach module on superconductivity for an high school audience including building a Möbius strip magnet track for levitation demo [↗](#).
- since 2018 **ATLAS masterclass**, *Montréal, Canada*, Organization of the ATLAS masterclass event at McGill (yearly event) [↗](#).
- 2017, 2018 **McGill open house**, *Montréal, Canada*, Volunteer and coordination of the ATLAS group participation (lab visits, demos, poster presentation).

## Educational background

- Present **PhD in Particle Physics**, *McGill University*, Montréal, Canada.
- 2015 – 2017 **Master in Particle Physics**, *Université catholique de Louvain (UCL)*, Louvain-la-Neuve, Belgium, (expected).
- 2013 – 2015 **Bachelor in Physics**, *UCL*, Louvain-la-Neuve, Belgium, avec Distinction.
- 2012 – 2013 **Classe préparatoire MPSI**, *Lycée Janson de Sailly*, Paris, France, French equivalent to a first year of undergraduate studies in Sciences & Engineering. Option "MPSI": Mathematics, Physics and Engineering.
- 2012 **Baccalauréat Général série Scientifique**, *Lycée Français Jean Monnet*, Brussels, Belgium.

## Honours, Awards and Distinctions

- 2019 – 2021 **PBEEE scholarship**, *FRQNT*, Bourses d'excellence pour étudiants étrangers.
- 2019 **Graduate Mobility Award**, *McGill University*.
- 2019 **NSERC Ambassador Award**, *Natural Sciences and Engineering Research Council of Canada (NSERC)*.
- 2019 **Departmental Travel Award**, *McGill Physics department*.
- 2018 **Award for Equity & Community Building**, *McGill University*, group category with the Women in Physics Committee.
- 2018 **Graduate Mobility Award**, *McGill University*.

- 2016 **Bourse d'échange Mercator**, *Fonds d'aide à la mobilité étudiante (FAME) de la Fédération Wallonie-Bruxelles*.
- 2012 **Prix de la Vocation scientifique et technique des filles**, *French Ministry of Education*.

## Interests and personal engagement

- 2018–2019 **MGAPS president**, Montréal, Canada, McGill The Graduate Association of Physics Students mandate is to foster community and to represent graduate physics students at McGill University in all affairs of the Physics Department.
- Present **Women in Physics (WiP)**, Montréal, Canada, The WiP committee advocates for more diversity in physics. This includes raising awareness about diversity issues in the physics community, advocating for the use of best practices and making physics more accessible to underrepresented groups.
- 2015-2017 **Kot-à-Projet "Kotangente"**, Louvain-la-Neuve, Belgium, Member of a student association providing weekly tutoring in Maths and Physics and organising punctual social/vulgarization events.  
Treasurer (2016-2017) and Physics TA