

# Amélie Trotignon

*Postdoc in Mathematics*

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Born on Sep. 2, 1993, French

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## Education

- 2019–... **PostDoc**, *Institute for Algebra, Johannes Kepler Universität, Linz.*  
Under the supervision of Manuel Kauers, professor at Johannes Kepler Universität.  
PostDoc supported by the Austrian Science Fund (FWF) grant FWF05004.
- 2016–2019 **PhD - Lattice Walks in Cones: Combinatorial and Probabilistic Aspects**, *Simon Fraser University and Université François-Rabelais, Burnaby and Tours.*  
Under the supervision of Marni Mishna, professor at Simon Fraser University in Burnaby and Kilian Raschel, CNRS researcher at the Université de Tours.  
Defended on December 6, 2019. Jury: M. Bousquet-Mélou, N. Bruin, F. Chyzak, I. Kurkova, C. Lecouvey, M. Mishna, K. Raschel, W. Woess.
- 2016 **Agrégation de Mathématiques - Mathematics French competition to teach in high school.**
- 2016 **Master de mathématiques approfondies - Master's degree in Mathematics**, *Université François-Rabelais, Tours.*  
Mention Bien - With high honors
- 2014 **Licence de mathématiques - Bachelor's degree in Mathematics**, *Université François-Rabelais, Tours.*  
Mention Très Bien - With highest honors

## Award

- 2018 Spring **Graduate Fellowship**, *Simon Fraser University, Mathematics Department.*  
\$6500

## Dissertations

- 2016 **Writing of a dissertation "Discrete harmonic functions in the quarter plane and the three-quarter plane"**, *Université François-Rabelais, Tours.*  
Under the supervision of Kilian Raschel, CNRS researcher at the Université de Tours
- 2015 **Writing of a dissertation "Walks with small steps in the quarter plane"**, *Université François-Rabelais, Tours.*  
Under the supervision of Kilian Raschel, CNRS researcher at the Université de Tours
- 2014 **Writing of a dissertation "Galton-Watson process"**, *Université François Rabelais, Tours.*  
Under the supervision of Kilian Raschel, CNRS researcher at the Université de Tours

## Publications

### Published paper

- 2020 May **3D positive lattice walks and spherical triangles**, *with Benjamin Bogosel, Vincent Perrollaz and Kilian Raschel.*  
*Journal of Combinatorial Theory, Series A* **172**(105189) 1–47
- 2019 Aug. **On Walks Avoiding a Quadrant**, *with Kilian Raschel.*  
*Electronic journal of Combinatorics* **26**(P3.31) 1–34

## Preprints

- 2020 Jun. **On the nature of four models of symmetric walks avoiding a quadrant**, *with Thomas Dreyfus*.  
22 pages, arXiv:2006.02299
- 2019 Jun. **Discrete harmonic functions in the three-quarter plane**.  
26 pages, arXiv:1906.08082

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## Conferences attended and talks

### Invited Conference Talks

- 2020 Feb. 25 **Journée du séminaire différentiel**, *Inria*, Saclay.  
Talk: Discrete harmonic functions in the three-quarter plane
- 2020 Feb. **DART X**, *CUNY Graduate Center*, New-York.  
10-14 Talk: Discrete harmonic functions in the three-quarter plane
- 2020 Jan. **Joint Mathematics Meetings**, *Colorado Convention Center*, Denver.  
15-18 AMS Special Session on Analytic and Probabilistic Combinatorics  
Talk: Walks in the three-quarter plane
- 2019 Mar. **Probability PhD student seminar**, *Université de Montpellier*, Montpellier.  
14-17 Talk: Marches dans trois quarts de plan
- 2019 Feb. **Journées de combinatoire de Bordeaux**, *LaBRI*, Bordeaux.  
11-13 Talk: Walks in the three quarter plane.
- 2018 Nov. 15 **PhD student day of IDP**, *Université d'Orléans*, Orléans.  
Talk: Marches dans les trois quarts de plan : une approche analytique
- 2018 Mar. 31 **Pacific Northwest Combinatorics Day**, *University of Washington*, Seattle.  
Talk: Simple Walks in the Quadrant: An Analytic Approach
- 2017 Sep. **Lattice walks at the Interface of Algebra, Analysis and Combinatorics**, *Banff International Research Station*, Banff.  
17-22 Talk: Simple Walks in the Three Quarter Plane

### Conference Talks

- 2019 May **Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM)**,  
27-31 *Simon Fraser University*, Vancouver.  
Talk: Walks avoiding a quadrant
- 2018 Nov. **18e Forum des Jeunes Mathématiciennes et Mathématiciens (Forum Young Mathematicians)**, Orléans.  
28-30 Talk: Marches aléatoires discrètes et biologie des populations
- 2018 May **Young Probabilists and Statisticians 2018**, Oléron.  
14-18 Talk: Walks Avoiding a Quadrant: An Analytic Approach
- 2017 Aug. 15 **SFU Symposium on Mathematics & Computation**, *Simon Fraser University*, Burnaby.  
Poster: Simple Walks Avoiding a Quadrant

### Seminar Talks

- 2020 Jun. 15 **Webinaire équations fonctionnelles et interactions**, France.  
Talk: Fonctions harmoniques discrètes dans les trois-quarts de plan
- 2020 May 11 **GT Combinatoire Énumérative et Algébrique**, *LaBRI*, Bordeaux.  
Talk: Discrete harmonic functions in the three-quarter plane
- 2020 Apr. 2 **Seminar Algebra and Discrete Mathematics**, *Institut for Algebra - Johannes Kepler Universität*, Linz.  
Talk: Discrete harmonic functions in the three-quarter plane
- 20120 Mar. **Séminaire de probabilités**, *Université de Lorraine*, Nancy.  
26 Talk: Marches dans les trois quarts de plan
- 2019 Oct. 25 **SFB-Colloquium**, *Technische Universität*, Wien.  
Talk: Walks in the three-quarter plane

- 2019 Oct. 24 **Seminar Algebra and Discrete Mathematics**, *Institut for Algebra - Johannes Kepler Universität, Linz*.  
Talk: Walks in the three-quarter plane
- 2019 Sep. 18 **Probability theory seminar**, *Institut Fourier - Université de Grenoble, Grenoble*.  
Talk: Marches dans les trois quarts de plan
- 2019 Mar. 26 **Combinatorics and number theory seminar**, *Institut Camille Jordan - Université Lyon 1, Lyon*.  
Talk: Marches dans les trois quarts de plan
- 2018 Jun. 5 **Analysis Seminar**, *IRMA - Université de Strasbourg, Strasbourg*.  
Talk: Marches dans les trois quarts de plan : une approche analytique
- 2018 Apr. 12 **Graduate Seminar (Grad Social)**, *Simon Fraser University, Burnaby*.  
Talk: Walks Avoiding a Quadrant
- 2017 Sep. 12 **Discrete Math Seminar**, *Simon Fraser University, Burnaby*.  
Talk: Simple Walks in the Three Quarter Plane
- 2017 Apr. 28 **PhD Student Seminar**, *Université François-Rabelais, Tours*.  
Talk: Marches dans le quart de plan

### Conference and Workshop Attendance

- 2019 May 27-31 **Canadian Discrete and Algorithmic Mathematics Conference (CanaDAM)**, *Simon Fraser University, Vancouver*.  
Student volunteer support to help the organization
- 2018 Jul. 8-20 **48th Probability Summer School**, Saint-Flour.
- 2018 Jun. 25-29 **Probabilities Days**, *Université de Tours, Tours*.  
Organization
- 2018 May 28-June 1 **Algebra, Arithmetic and Combinatorics of Differential and Difference Equations**, *CIRM, Marseille*.
- 2017 Jun. 5-30 **PIMS-CRM Summer school in probability**, *University of British Columbia, Vancouver*.
- 2016 Dec. 14-16 **Tours à grands pas**, *Université François-Rabelais, Tours*.

### Teaching

- 2019 Summer **Teaching Assistant in the Calculus Workshop**, *Simon Fraser University, Burnaby*.  
MATH 150-152-251
- 2019 Spring **Exercices sessions teacher in Mathematics - Chargée de TD en Mathématiques**, *Université François-Rabelais, Tours*.  
First Year Students, parcours Réussir Ma Licence en Quatre Ans
- 2018 Fall **Exercices sessions teacher in Statistics - Chargée de TD en Statistiques**, *Université François-Rabelais, Tours*.  
Second Year Students in Biology
- 2018 Spring **Teaching Assistant in the Calculus Workshop**, *Simon Fraser University, Burnaby*.  
MATH 150-151-152-251
- 2017 Fall **Sessional Instructor in Calculus - Cours magistral en Calculus**, *Simon Fraser University, Burnaby*.  
MATH 150 (250 students)
- 2017 Summer **30h International Teaching Assistants Seminar**, *Simon Fraser University, Burnaby*.
- 2017 Spring **Exercices sessions teacher in Analysis - Chargée de TD en Analyse**, *Université François-Rabelais, Tours*.  
First Year Students in Mathematics

2016 Fall **Exercises sessions teacher in Statistics - Chargée de TD en Statistiques**,  
*Université François-Rabelais*, Tours.  
Second Year Students in Biology

2013 Fall **Tutoring 1<sup>st</sup> year students**, *Université François-Rabelais* , Tours.

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## Skills

Computing Latex, Maple, Basic knowledge of Python, Basic knowledge of Scilab, Notion of R  
Language French (native language), English (fluent)  
Basic knowledge of German