

Claire Launay

PhD student

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Born on August 20, 1992



Education

- 2016–2020 **PhD in Applied Mathematics**, Université de Paris.
Discrete determinantal point processes and image processing. Supervisors : Bruno Galerne (Institut Denis Poisson) and Agnès Desolneux (Centre Borelli).
- 2015–2016 **Master of Mathematics, Computer Vision and Machine Learning**, ENS Paris Saclay, with highest honors.
- 2014–2015 **Master of Applied Mathematics**, Université Paris Descartes, with highest honors.
- 2012–2014 **Bachelor in Applied Mathematics**, Université Paris Descartes, with highest honors.
- 2010–2012 **Undergraduate studies**, Humanities and social science, Lycée Guist'hau, Nantes.
- 2010 **Baccalauréat**, Lycée Joachim du Bellay, Angers, with highest honors.

Research experience

Publications

- March 2020 Determinantal Point Processes for Image Processing, C. Launay, B. Galerne, A. Desolneux, preprint. Submitted to SIAM Journal on Imaging Sciences. [pdf]
- April 2019 Determinantal Patch Processes for Texture Synthesis, C. Launay, A. Leclaire, proceedings of GRETSI 2019. [pdf]
- Feb. 2018 Exact Sampling of Determinantal Point Processes without Eigendecomposition, C. Launay, B. Galerne, A. Desolneux. To appear in the Journal of Applied Probability (JAP 57.4, Dec. 2020). [pdf]
- Sept. 2017 Etude de la répulsion des processus pixelliques déterminantaux, A. Desolneux, B. Galerne, C. Launay, proceedings of GRETSI 2017. [pdf]

Talks and poster presentations

- March 2020 **Coen-Cagli Laboratory**, *Determinantal Point Processes for Image Processing*, (remotely) Einstein College of Medicine, New York, United States.
- Aug. 2019 **GRETSI Conference**, *Determinantal Patch Processes for Texture Synthesis*, Lille, France.
- May 2019 **SMAI Conference**, *Determinantal point processes and the patches of an images*, Guidel, France.
- April 2019 **IOP Seminar**, *Determinantal point processes and some applications to images*, Université de Bordeaux, France.
- March 2019 **Jean Leray laboratory Seminar**, *Determinantal point processes and some applications to images*, Université de Nantes, France.
- Nov. 2018 **Forum for young mathematicians**, *Determinantal pixel processes and repulsion*, Women and Mathematics, Orléans, France.

- Nov. 2018 **Mokaplan Seminar**, *Determinantal point processes and images: some applications*, INRIA, Paris, France.
- Nov. 2018 **Work group on Repulsive Point Processes**, *Determinantal point processes and images : some applications*, MAP5, Université Paris Descartes, Paris, France.
- Juin 2018 **SIAM Conference**, *Sampling in the space of image patches with determinantal point processes*, (poster), Bologna, Italy.
- Oct. 2017 **Welcome day for PhD students**, Fondation Sciences Mathématiques de Paris, Paris, France.
- Sept. 2017 **GRETSI Conference**, *Study of the repulsion in determinantal pixel processes*, (poster), Juan-les-Pins, France.
- May 2017 **Spring school MENAVO 2017 on Numerical methods and algorithms for computer vision**, *Study of the repulsion in determinantal pixel processes*, (poster), Albas, France.
- 2016–2018 **Image Processing Seminar**, (March 2017, Nov. 2017, Nov. 2018, March 2019), CMLA, ENS Cachan, France.

Research internship

- April–Sept. 2016 **Multi image dynamic range extension**, DxO Labs, 6 months, supervised by Wolf Hauser (DxO) and Julie Delon (MAP5).
 Prototype implementation of an High Dynamic Range (HDR) feature for the company's camera and software.

Teaching experience

- 2019–2020 **Temporary teacher and researcher**, (192 hours), for the courses of Prof. Nathael Gozlan (Introduction to probability) and Prof. Marcela Szopos (Mathematics and Arithmetics), Bachelor projects supervision, Université Paris Descartes.
- 2016–2019 **Teaching assistant**, (64 hours per year), for the courses of Prof. Annie Raoult, Prof. Florent Benaych-Georges and Prof. Marcela Szopos (Mathematics and Arithmetics), Bachelor projects supervision, Université Paris Descartes.

Scholarships

- 2016–2019 PhD fellowship from the program DIM RDM-IdF - Région Ile-de-France.
- 2014–2016 Master scholarship from the Paris Graduate School of Mathematics (PGSM) program, Fondation Sciences Mathématiques de Paris.

Miscellaneous

- PhD students representative in the MAP5 laboratory

Languages

- French Mother tongue
- English Fluent
- Spanish Basic

Computer skills

- Matlab, Python, \LaTeX
- Notions in R, C++

Hobbies

- Photography, Cooking
- Travels : Europe, Tanzania