

# AnnaMelnykova



## Personal info

Born on 28.02.1994 in  
Kiev, Ukraine  
Nationality: Ukrainian

## Contacts

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## Languages

Russian, Ukrainian  
(mother tongues)  
English (fluent)  
German (advanced)  
French (intermediate)

## Programming

R, Python, MatLab  
L<sup>A</sup>T<sub>E</sub>X, Markdown  
Linux

## Intro

Currently I am a PhD student in University of Cergy-Pontoise. My thesis is devoted to statistical methods for stochastic diffusions with a degenerate variance coefficient, which are often encountered in modeling of neuronal activity. In particular, I am interested in parametric inference for fully- and partly observed processes, approximation schemes and hypothesis testing.

I also enjoy the numerical part of my work, doing my best to write fast, human-readable and reproducible code. Small collection of my experiments is gathered on my GitHub account.

## Education

- 2017–2020 **PhD student** in Mathematics Université de Cergy-Pontoise (France)  
**Subject:** Statistics for Neuroscience  
**Supervisors:** Eva Löcherbach (Université de Cergy-Pontoise), Adeline Samson (Université Grenoble Alpes)  
 Financially supported by LABEX MME-DII.
- 2016–2017 **M.Sc.** in Statistics Université Grenoble Alpes (France)  
**Thesis:** Parametric estimation techniques in hypoelliptic ergodic diffusions  
**Supervisor:** Adeline Samson (Université Grenoble Alpes)  
 Financially supported by IDEX scholarship
- 2014–2016 **M.Sc.** in Mathematics National Technical University of Ukraine "Kyiv Polytechnic Institute" (Ukraine)  
**Thesis:** Asymptotic behaviour of solutions of SDEs  
**Supervisor:** Oleg Klesov (NTUU "KPI")
- 2015–2016 **Exchange student** in Wirtschaftsmathematik (Fin. Math.) University of Ulm (Germany)  
 Financially supported by Baden-Württemberg Stiftung.  
 During my stay I was also employed by University of Ulm as a teacher assistant ("Studentische Hilfskraft") at the undergraduate course "Höhere Mathematik I für Physiker".
- 2010–2014 **B.Sc.** in Mathematics National Technical University of Ukraine "Kyiv Polytechnic Institute" (Ukraine)

## Schools & Internships

- 07-08/2018 **CEMRACS 2018** (summer school + 5 weeks research session) Luminy, France  
 Numerical and mathematical modeling for biological and medical applications: deterministic, probabilistic and statistical descriptions.
- 12/2017 **Winter School on Deterministic and Stochastic models in Neuroscience** UPS, Toulouse, France  
 Mean field models, neural field equations, numerical methods or kinetic models of neuronal networks
- 02-07/2017 **Master Thesis Internship** Laboratoire Jean Kuntzmann, Grenoble, France  
 Statistics for hypoelliptic ergodic diffusions  
**Supervisor:** Adeline Samson (Université Grenoble Alpes)
- 08/2015 **Summer School "AACIMP" (Machine Learning track)** Kiev, Ukraine  
 Basics of computer vision, natural language processing etc.
- 11-12/2014 **Internship in TAS Insurance Group** Kiev, Ukraine  
 Actuarial science, risk modelling, compound interest rates

## Talks

June 2018	<b>Parametric inference for multidimensional hypoelliptic diffusion</b> DynStoch 2018, Porto, Portugal	International workshop
May 2018	<b>Parametric inference for multidimensional hypoelliptic diffusion</b> 50èmes Journées de Statistique, Paris Saclay	National conference

## Publications

1. A. Melnykova "Parametric inference for multidimensional hypoelliptic diffusion with full observations" (preprint, available on ArXiv)

## Personal interests

Alpine skiing • Swimming • Hiking • Literature • Northern mythology