

Morgane Pierre-Jean

PhD student

Looking for a postdoctoral position in biostatistics

Education

- 2011–2012 **Master of Science (MSc) in Statistics (with honours)**, *University of Rennes 1*, Rennes, France, Dual degree in conjunction with studies at ENSAI (option OFPR): additional education focused on scientific research.
Graduation: 2012
- 2009–2012 **Master of Science (MSc) in Statistics equivalent (“Diplôme d’ingénieur”)**, *ENSAI : National School for Statistics and Information Analysis*, Rennes (Bruz), France, Specialization: Biostatistics.
Graduation: 2012
- 2006–2009 **Bachelor of Science (BSc.) in Mathematics equivalent (with high honours)**, *University of Rennes 1*, Rennes, France.
Graduation : 2009

PhD thesis (*defense scheduled in late 2016*)

- Title Development of statistical methods for the DNA copy number analysis in cancerology
- Supervisor Pierre Neuvial
- Laboratory Laboratoire de Mathématique et de Modélisation d'Evry
- Description Segmentation methods, fused lasso, dynamic programming, kernel methods
Performance assessment of segmentation methods
Cancer studies, archetypal analysis, deconvolution
DNA copy number studies, triple-negative breast cancer, Whole Exome Sequencing

Master thesis

- Title Segmentation methods of DNA copy number in cancer samples
- Supervisor Pierre Neuvial
- Laboratory Laboratoire de Mathématique et de Modélisation d'Evry
- Description Joint segmentation of DNA copy number using Group fused Lasso.

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🌐 <http://www.math-evry.cnrs.fr/members/mpierrejean/welcome>

Experience

- 2012–2013 **Research engineer**, *Lille 2 University*, Lille, joint work with Alain Célisse, Guillemette Marot and Guillem Rigaill.
Change-point detection jointly in the DNA copy number and the allelic ratio in tumor cells with kernel methods
- Summer 2011 **Applied statistical engineer internship**, *OPTUMInsigh*, Uxbridge (UK).
Regression model on healthcare cost data including study cost treatment

Publications

- Morgane Pierre-Jean, Guillemette Marot, Rigaill Guillem, and Alain Celisse. Non parametric DNA copy number segmentation using kernel methods, In preparation.
- Morgane Pierre-Jean, Guillem Rigaill, and Pierre Neuvial. Performance evaluation of DNA copy number segmentation methods. *Briefings in bioinformatics*, 16(4):600–615, 2015.

Seminar and communication

- Nov 2016 **Non parametric DNA copy number segmentation using kernels**, poster at *Statistical Analysis of Massive Genomic Data*, Evry.
- Apr 2015 **Non parametric DNA copy number segmentation using kernels**, *Statistics and Genomics Seminar*, UC Berkeley (USA), invited by Sandrine Dudoit.
- Jan. 2015 **Non parametric DNA copy number segmentation using kernels**, poster at *SMPGD (Statistical Methods for Post-Genomic Data)*, München.
- June. 2013 **Package R jointSeg: Segmentation de données génomiques en cancérologie**, *2èmes Rencontres R*, Lyon.
- May. 2013 **Change-point detection with kernel methods : application to DNA copy number signals**, *45èmes journées de la SFDS*, Toulouse.
- Jan. 2013 **Joint segmentation of total DNA copy number and allelic ratios in cancer samples**, *SMPGD (Statistical Methods for Post-Genomic Data)*, Amsterdam.
- Nov. 2012 **Segmentation de données génomiques en cancérologie**, *Journée Annuelle du groupe Biopharmacie et Santé de la SFDS*, Paris.

Software

- Jan. 2013 **Package R jointseg**, *This package implements functions to quickly segment multivariate signals into piecewise constant profiles and a framework to generate realistic copy-number profiles. A typical application is the joint segmentation of total DNA copy numbers and allelic ratios obtained from Single Nucleotide Polymorphism (SNP) microarrays in cancer studies.*, https://r-forge.r-project.org/R/?group_id=1562.

Computer skills

- General software Latex, Word, Excel, PowerPoint

Statistical software R, WINBugs, SAS, SPAD, SPSS
Programming languages C, Java, Python, langage SQL

Languages

French **Mother tongue**
English **Advanced** *TOEIC 755/990 May 2010*
Spanish **Elementary**
Italian **Elementary**
LPC **Cued speech** *system of communication used with and among deaf or hard of hearing people*

Teaching

2014-2016 **Parametric Statistics**, *Descriptive statistics, Maximum likelihood, Inference, Confident intervals*, 1st year of Engineer school, ENSIIE.
Evry
2013-2015 **Démarche Statistique 1**, *Descriptive statistics, Tests*, Master 1 mention SGO, University of Evry.
2013-2015 **Démarche Statistique 2**, *Tests, Linear models*, Master 1 mention SGO, University of Evry.
2013-2014 **Probabilité et Statistique**, *Gaussian, Binomial and Poisson distributions*, Licence 2 mention Informatique, University of Evry.