

# Yunlong Jiao

Chinese nationality  
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## Education

PhD in Bioinformatics, [Center for Computational Biology](#), Doctoral School of Engineering Sciences, [MINES ParisTech](#), Paris, France, supervised by Prof. [Jean-Philippe Vert](#), obtained September 2017

**Dissertation:** "Rank-based Molecular Prognosis and Network-guided Biomarker Discovery for Breast Cancer"

MSc with highest mention in Mathematics for Life Sciences, [Department of Mathematics](#), [Université Paris-Sud \(Paris XI\)](#), Orsay, France, supervised by Prof. [Christophe Giraud](#), obtained July 2013

BSc with Honors in Mathematics and Applied Mathematics, [Department of Special Class for the Gifted Young](#), [University of Science and Technology of China \(USTC\)](#), Hefei, China, obtained July 2012

## Professional Experience

Nov 2017 – Present	Postdoctoral research scientist at <a href="#">Wellcome Centre for Human Genetics</a> and <a href="#">Department of Statistics</a> , <a href="#">University of Oxford</a> , Oxford, UK, working with Prof. <a href="#">Mark McCarthy</a> and Prof. <a href="#">Chris Holmes</a>
Mar 2016 – Jun 2016	Research intern at <a href="#">Department of Computational Genomics</a> , <a href="#">Centro de investigación Príncipe Felipe (CIPF)</a> , Valencia, Spain, advised by Prof. <a href="#">Joaquin Dopazo</a> <b>Title:</b> "Signaling Pathway Activities Improve Prognosis for Breast Cancer"
Apr 2015 – Jun 2015	Data analyst intern at Department of System Integration and Product Care, <a href="#">Roche Diagnostics GmbH</a> , Penzberg, Germany, working with Dr. <a href="#">Stefan Kobel</a> <b>Title:</b> "Failure State Prediction for Automated Analyzers for Analyzing a Biological Sample"
Apr 2013 – Jul 2013	Research intern at <a href="#">Center for Computational Biology</a> , <a href="#">MINES ParisTech</a> / <a href="#">Institut Curie</a> / <a href="#">INSERM, U900</a> , Paris, France, advised by Prof. <a href="#">Jean-Philippe Vert</a> <b>Title:</b> "Post-hoc Analysis on Competition-based Breast Cancer Prognosis Modeling"
Dec 2011 – Jun 2012	Undergraduate Scientific Research Practice intern at <a href="#">Academy of Mathematics and Systems Science (AMSS)</a> , <a href="#">Chinese Academy of Sciences</a> , Beijing, China, supervised by Prof. <a href="#">Min Chen</a> <b>Title:</b> "Credit Rating Migration: Models and Analysis"

## Awards & Distinctions

Sep 2013 – Sep 2016	Early Stage Researcher Fellowship in <a href="#">Machine Learning for Personalized Medicine</a> , a Marie Curie Initial Training Network, funded by the European Union within the 7th Framework Programme
Nov 2013	2nd place in <a href="#">DREAM 8 NIEHS-NCATS-UNC Toxicogenetics Challenge</a> , an international bioinformatics competition, with E. Bernard, E. Scornet, V. Stoven, T. Walter and J.-P. Vert
Sep 2012 – Aug 2013	Master scholarship from <a href="#">Fondation Mathématique Jacques Hadamard (FMJH)</a> , Orsay, France
Dec 2011 – May 2012	Undergraduate Scientific Research Practice Funding from <a href="#">Chinese Academy of Sciences</a> , Beijing, China (total of 1000 winners nationwide)
Aug 2011	Honorable Mention of 2nd <a href="#">S.-T. YAU College Student Mathematics Contest</a> in Probability and Statistics (top 15 nationwide)
Dec 2010 – Jul 2012	Selected into "Hua Loo-Keng" Elite Program in Mathematics, a <a href="#">USTC-AMSS</a> joint training program

## Skills

Programming: skilled with R, C/C++, Bash, adequate with MATLAB, Python

Language: Chinese (native), English (proficient with certified CEFR level C2), French (conversational)

## Research

### Working Papers and Preprints

**Jiao, Y.** and Vert, J.-P. (2017b). Network-based wavelet smoothing for analysis of genomic data. Under preparation.

**Jiao, Y.**, Hidalgo, M. R., Çubuk, C., Amadoz, A., Carbonell-Caballero, J., Vert, J.-P., and Dopazo, J. (2017). Signaling pathway activities improve prognosis for breast cancer. Submitted. bioRxiv preprint bioRxiv-132357.

**Jiao, Y.** and Vert, J.-P. (2017a). The Kendall and Mallows kernels for permutations. *IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*, PP(99):1–1. In press. HAL preprint HAL-01279273.

### Published Papers

Bernard, E., **Jiao, Y.**, Scornet, E., Stoven, V., Walter, T., and Vert, J.-P. (2017). Kernel multitask regression for toxicogenetics. *Molecular Informatics*, 36(10):1700053. bioRxiv preprint bioRxiv-171298.

**Jiao, Y.**, Korba, A., and Sibony, E. (2016a). Controlling the distance to a Kemeny consensus without computing it. In Balcan, M. F. and Weinberger, K. Q., editors, *Proceedings of the 33rd International Conference on Machine Learning (ICML)*, volume 48 of *Proceedings of Machine Learning Research (PMLR)*, pages 2971–2980, New York, New York, USA. PMLR.

Eduati, F., Mangravite, L., Wang, T., Tang, H., Bare, J., Huang, R., Norman, T., Kellen, M., Menden, M., Yang, J., and **NIEHS–NCATS–UNC DREAM Toxicogenetics Collaboration** (2015). Prediction of human population responses to toxic compounds by a collaborative competition. *Nature Biotechnology*, 33(9):933–940.

**Jiao, Y.** and Vert, J.-P. (2015). The Kendall and Mallows kernels for permutations. In Blei, D. and Bach, F., editors, *Proceedings of the 32nd International Conference on Machine Learning (ICML)*, volume 37 of *Proceedings of Machine Learning Research (PMLR)*, pages 1935–1944, Lille, France. PMLR.

### Patents and Patent Applications

**Jiao, Y.**, Vert, J.-P., Heinemann, F., Dahlmanns, S., and Kobel, S. (2016b). Failure state prediction for automated analyzers for analyzing a biological sample. Pending European patent filed by Roche Diagnostics GmbH, F. Hoffmann–La Roche AG, December 2016.

### Software

**kernrank** — R package implementing kernel functions and kernel methods for analyzing rank data, publicly available on GitHub, **author and maintainer**.

**kmr** — R implementation of a kernel multitask regression algorithm to solve simultaneously several regression problems, publicly available on GitHub, **co-author** with J.-P. Vert.