

# URSZULA CZERWINSKA

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## EDUCATION

### Doctorate in bio-mathematics (ongoing)

Center for Interdisciplinary Research (CRI), Paris Descartes

2015

### Master of Science

Interdisciplinary Approaches to Life Sciences (AIV) Center for Interdisciplinary Research (CRI), Paris Diderot  
Grades: 16.82/20 **summa cum laude** 1<sup>st</sup>/12

2013

### Double Bachelor of Science

Biology-Mathematics in UPMC, Paris VI Grades:  
14.04/20 **cum laude**

2013

### Exchange Student

National University of Singapore, Singapore Grades:  
3.45/5.0

2010

### Matura

French-Polish Bilingual High School, Warsaw, Poland Grades:  
94.44%/100% **summa cum laude**

## LANGUAGES

Polish	native
English	fluent
French	fluent
Spanish	communicative
Russian	basic

## COMPETENCES

Systems biology  
Computational biology  
Cancer Immunology  
Programming  
Data Science

## RESEARCH EXPERIENCE

2015-

PhD candidate Institute Curie, Paris Descartes, Center for Interdisciplinary Research  
**Unsupervised deconvolution of bulk omics profiles: methodology and application to characterize the immune landscape in tumors**

Systems biology, systems immunology, complex systems

### Internships

2015

Paris Descartes University, Paris metro **microbiome study** (3,5 months)

Microbiology

Pasteur Institute, Systems biology lab. **Biomarker discovery of dengue disease** (4,5 months)

Computational biology

2014

iGEM competition. Paris Bettencourt team. **Human skin microbiome engineering** (4 months)

Synthetic biology

Institut Curie, Computational Systems Biology of Cancer team. **Data-driven layout of biological networks** (5 months)

Systems biology

2013

Montpellier University II, Systems Biology and Statistical Physics lab, **Mechanistic model of Syk protein kinase and its downstream pathways** (2 months)

Systems biology

2012

CNRS Roscoff, Bioinformatic analysis in Marine Biology group. **Development of a GUI for the raw mass spectrometry data through the plaPorm Galaxy.org** (1 month)

Bioinformatics

## PUBLICATIONS

Paula Michea, Floriane Noël, Eve Zakine, **Urszula Czerwinska**, (...) Vassili Soumelis. "Adjustment of dendritic cells to the breast-cancer microenvironment is subset specific" *Nature Immunology*. 1. (2018)

**Czerwinska, Urszula**, et al. "Application of Independent Component Analysis to Tumor Transcriptomes Reveals Specific and Reproducible Immune-Related Signals." *International Conference on Latent Variable Analysis and Signal Separation*. Springer, Cham, 2018.

Azencott, Chloé-Agathe, et al. "The inconvenience of data of convenience: computational research beyond post-mortem analyses." *Nature Methods* 14.10 (2017): 937-938. Collaborators: (...) **Czerwinska U** (...).

Kairov, Ulykbek, Laura Cantini, Alessandro Greco, Askhat Molkenov, **Urszula Czerwinska**, Emmanuel Barillot, and Andrei Zinovyev. "Determining the optimal number of independent components for reproducible transcriptomic data analysis." *BMC genomics* 18, no. 1 (2017): 712.

Naldi, Aurélien, Romain M. Larive, **Urszula Czerwinska**, Serge Urbach, Philippe Montcourrier, Christian Roy, Jérôme Solassol, Gilles Freiss, Peter J. Coopman, and Ovidiu Radulescu. "Reconstruction and signal propagation analysis of the Syk signaling network in breast cancer cells." *PLoS computational biology* 13, no. 3 (2017): e1005432.

Beal, Jacob, et al. "Reproducibility of Fluorescent Expression from Engineered Biological Constructs in E. coli." *PloS one* 11.3 (2016): e0150182. (as **iGEM Interlab study contributor**)

**Czerwinska, Urszula** et al. "DeDaL: Cytoscape 3 app for producing and morphing data-driven and structure-driven network layouts." *BMC systems biology* 9.1 (2015): 1.

Gildas Le Corguillé, Pierre Pericard, **Urszula Czerwinska**, (...) Christophe Caron. A Small Step into Galaxy, a Faster Pace for Metabolomics. Galaxy Community Conference 2013, Oslo (Talk).

## CONFERENCES

**LVA ICA signal deconvolution and latent variables conference**, 2018, Guilford, UK - poster presentation, shout-out talk

**RECOMB** 2018, conference, Paris, France - poster, volunteering

**Data Science Summer School**, 2017, l'Ecole Polytechnique, France – poster

**Young Researchers in Life Science** conference, 2017, Paris, France – talk

**ISMB conference**, 2017, Prague, Czech Republic, poster

**ICSB conference**, 2016, Barcelone, Spain, poster

**ISMB Conférence**, 2016, Orlando, Florida, USA – oral presentation, poster – poster prize, travel grant

**Apligoogle workshop** 2016, Luchon, France, - talk

**Conférence Internationale Francophone sur l'Extraction et la Gestion des Connaissances**, Atelier de Grand Graphs et Informatique, 2016, Reims, France - talk

**BEEsy Conférence**, 2015, Grenoble, France – poster prize, talk, travel grant

**iGEM convention**, 2014, Boston, MA, USA - best application award, Art & Design award, gold medal – as a part of Paris Bettencourt team

**Dresden Summer School in Systems**, 2013, Dresden, Germany – 2<sup>nd</sup> award in computational modelling competition, travel grant

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## SELECTED ATTENDED COURSES DURING Ph.D. (2015-2018)

### GRADUATE SCHOOL COURSES

Public speaking - Scientific Presentations  
Scientific writing  
Managing scientific collaborations  
Typesetting for Scientists  
Extended Scientific literacy (7 days)

### OTHER

Disruptive Technologies and Public Policy, SciencesPo Paris (54 hours/1 semester)  
Python course, HackinScience (7 days)  
Systems Immunology, ENS IBENS,  
Elevator pitch, Training Unit, Institut Curie  
Certificate of Business and Administration, Paris Cité Sorbonne (1 month)  
Scientific Integrity, Training Unit, Institut Curie  
Big data, Big data course, Turin, Italy (1 month)

### ONLINE

MOOC Machine Learning Stanford Coursera by Andrew Ng  
MOOC Data Science Essentials by Microsoft EdX

### OTHER EXPERIENCE

- 2018 **Teaching** – « Mission enseignement », Pharmacology Faculty of Paris Descartes, Statistics, IT and Mathematics to 2nd and 5th year students
- 2017 **Data Science Club founder** and manager at the Center of Interdisciplinary Research, networking and communication
- 2016 **Blogging** – conference field reports for PLOS Computational Biology Blog  
**Public speaking** 2<sup>nd</sup> jury award et audience award in a professional pitch at PhD Talent fair
- 2015 **Data Science Ambassador** at Pivigo, Data science hub, London: networking and communication as @UlaLaParis  
**Start-up co-founder** - Eco-Smart Solutions at accelerator L'Open Lab, Paris. Developing probiotic cleaners
- 2014 **General Secretary of an association Open Science School** - Innovative education for high schools  
**Tutoring in computational Biology** - Licence FdV 2nd year  
**Volunteering: event animator** - Pint of Science, Paris, **community manager**: administrator of the Facebook page  
**Communication and networking**: article writing, events and workshops organization at WAX-science, Association for science without stereotypes, Paris, France