

# Nicholas Rossi

<http://rossidata.com>

nicholas.rossi2@gmail.com | 612.747.5891

## EDUCATION

### GRADUATE

**PHD : BOSTON UNIVERSITY**

2019 | Boston, MA

Molecular Biology, Cell Biology & Biochemistry

### UNDERGRADUATE

**BS : UNIVERSITY OF MINNESOTA**

2008 | Minneapolis, MN

Microbiology

## SKILLS

### DATA SCIENCE AND STATISTICS

Python (numpy, scipy, pandas) •

Information theory • Time-Series Analysis

• Synthesis of Analytic and Computational Methods • Forecasting (ARIMA, LSTM) •

hypothesis testing • classifiers

Ex: [tinyurl.com/y7n9rrdn](http://tinyurl.com/y7n9rrdn)

Ex2: [tinyurl.com/y7evxrjv](http://tinyurl.com/y7evxrjv)

### LANGUAGES

Professional:

English • French

Functional:

Mandarin • Bambara

### MISCELLANEOUS

Programmable microcontrollers (arduino, Drone controllers) • Amateur Electronics •

Data Journalism • Wikipedia Animation

Contributor

## AWARDS

2016:

Chateaubriand STEM Fellow

2014:

First in Class: UVM Computer Science Fair

## RESEARCH

### THE DUNLOP LAB (SYSTEMS BIOLOGY) | GRADUATE STUDENT

September 2013 – Present | Boston University (Boston, MA)

- **Leveraged molecular biology** to engineer living cells with genomic integrations, CRISPRi, multi-color fluorescent reporter plasmids and optogenetics
- **Wrote clean, reusable Python code** and shell-scripts for use throughout the lab and on the computing cluster
- **Built statistical models** to better understand complex non-linear biological data

Ex: [Rossi et. al 2017](#)

### THE WALCZAK LAB (PHYSICS) | CHATEAUBRIAND VISITING FELLOW

September 2016 – December 2016 | Ecole Normale Supérieure (Paris, France)

- **Derived analytical solutions** to probabilistic biological systems
- **Explored the biological design space** with computational and statistical tools

Ex: [Rossi et. al 2018](#)

## DEVELOPMENT

### ROSSIDATA | FREELANCE DATASCIENTIST

2016 – Present

- **Scraped, parsed and analyzed data** from a variety of sources in different fields
- **Made effective, beautiful information visualizations** using Python, R and the Adobe Creative suite.
- **Engineered front-end interfaces** with JavaScript (Vanilla, D3.js), HTML and CSS

<https://github.com/NicholasARossi>

### PEACE CORPS | SCIENCE EDUCATOR & CURRICULUM DEVELOPER

Jul 2008 – July 2011 | Lanfiera, Burkina Faso & Bamako, Mali

- **Developed hands-on curriculum** for teaching the scientific method and French as a foreign language to students
- **Taught Biology and Math** to classes of 160 students, across 5 different grades

## PUBLICATIONS

### 2017 PLOS COMPUTATIONAL BIOLOGY

Customized Regulation of Diverse Stress Response Genes by the Multiple Antibiotic Resistance Activator MarA

Nicholas A. Rossi, Mary J. Dunlop

### 2018 CELL SYSTEMS

Making Waves with Synthetic Oscillators

Nicholas A. Rossi, Mary J. Dunlop

### 2018 PLOS COMPUTATIONAL BIOLOGY

Active degradation of MarA controls coordination of its downstream targets

Nicholas A. Rossi, Thierry Mora, Aleksandra M. Walczak, Mary J. Dunlop

### SUBMITTED

Forecasting when cells die during antibiotic exposure using stochastic gene expression

Nicholas A. Rossi, Imane El Meouche, Mary J. Dunlop

<https://www.biorxiv.org/content/early/2018/12/13/494161>