

# Daniel F. Simola

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## Education

- University of Pennsylvania**, Philadelphia, Pennsylvania Dec 2009
- **Ph.D. in Biomedical Graduate Studies: Genomics and Computational Biology**
  - Thesis: Evolution of Genome-wide Gene Regulation in the Budding Yeast Cell-division Cycle
  - Advisor: Junhyong Kim, Ph.D.
- Dartmouth College**, Hanover, New Hampshire Jun 2003
- **B.A. in Computer Science, with High Honors; Minor in Genetics, Cell, and Developmental Biology**
  - Thesis: Discovery, Visualization, and Analysis of Gene Regulatory Sequence Elements in Genomes
  - Senior advisor: Bob Gross, Ph.D.
- St. Joseph's Preparatory School**, Philadelphia, Pennsylvania Jun 1999

## Experience

- Postdoctoral researcher**, laboratory of Junhyong Kim Oct 2009–present
- Sequencing and analysis of budding yeast genomes using next-generation sequencing technology
- Researcher**, computational & experimental, laboratory of Junhyong Kim 2005–2009
- Processed over 500 production-quality glass slide microarrays for yeast gene expression analysis
  - Developed protocols for processing microarrays and sizing of yeast cells with a Coulter counter
  - Generated software suites for analysis of yeast gene expression and genome sequence data
  - Supervisor of undergraduate student in experimental work Jun–Dec 2007
- Teaching Assistant**, Principles of Genomics and Computational Biology Spring 2008, 2009
- Generated homework assignments, graded exams, held office hours, and led review sessions
- Laboratory Rotations**
- Dendritic hotspots of translational activity, James Eberwine, Ph.D. Winter 2005
  - Transcription factor expression dynamics in yeast, Junhyong Kim, Ph.D. Summer/Fall 2004
  - Expression analysis of mouse presynaptic transmission genes, Maja Bucan, Ph.D. Spring 2004
- Designer & Webmaster**, powercold.com, PowerCold Corporation 2004–present
- Computer Teacher**, Julian Krinsky Summer Camp, Haverford College, PA Summer 2002
- Taught computer focus and game programming courses to students aged 12–18
  - Focused on Java, HTML, hardware, networking, Adobe Photoshop, and game programming
- Database Technology Assistant**, 3-Dimensional Pharmaceuticals, Exton, PA Fall 2001
- Built field parser utility with PL/SQL to facilitate Oracle data migration
  - Performed data mining on and restructuring of large chemical/biological database

## Achievements

- University of Pennsylvania Computational Genomics Training Grant** 2005–2007
- Two-year grant for training in the field of Computational Genomics
- Dartmouth College Class of 1939 Scholarship** 1999–2003
- Given annually by Dartmouth College Alumni for academic achievement and athletic ability

## Skills

### Laboratory Techniques

- **Cell & molecular:** Next-generation genome sequencing analysis, spotted cDNA microarray processing, PCR, nucleic acid isolation, Sanger sequencing, spectrophotometry, electrophoresis, cloning, yeast culturing and transformation
- **Microscopy:** light, confocal, fluorescence, and two-photon

### Languages

- **Human:** Proficient (but rusty) in Spanish, Latin, and Attic Greek
- **Computer:** Python, C/C++/Obj-C, Java, Perl, HTML/CSS, JavaScript, LISP, ML, SQL, Prolog, MIPS assembly

**Bicycle mechanic:** road, trail, and mountain bicycles

## Interests

- **Cycling:** University of Pennsylvania Cycling Team 2006–2008
- **Rowing:** St. Joseph's Prep and Dartmouth College lightweight rowing teams 1996–2001
- **Web & computer interface design; photography:** dfsimola.com