

Adam Roberts

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- RESEARCH INTERESTS** Algorithms, statistical modeling, graph theory, and software engineering – primarily with applications to genomics and the efficient analysis of high-throughput sequencing data.
- EDUCATION**
- University of California, Berkeley** Aug 2009 – Present
Berkeley, CA
PhD in Computer Science, Expected Graduation: May 2013
Advisor: Lior Pachter
- University of North Carolina, Chapel Hill** Aug 2003 – May 2007
Chapel Hill, NC
BS in Computer Science, BA in Mathematics,
Minor in Physics/Astronomy
GPA: 3.98/4.0
- SELECTED PUBLICATIONS**
- A Roberts** and L Pachter. (2011). RNA-Seq and find: entering the RNA deep field. *Genome Medicine*, 3(74).
- A Roberts**, H Pimentel, C Trapnell, L Pachter. (2011). Identification of novel isoforms in annotated genomes using RNA-Seq. *Bioinformatics*, 27(17).
- A Roberts**, C Trapnell, J Donaghey, JL Rinn, and L Pachter. (2011). Improving RNA-Seq expression estimates by correcting for fragment bias. *Genome Biology*, 12(3).
- R Bradley, **A Roberts**, M Smoot, J Juvekar, C Dewey, I Holmes, and L Pachter. (2009). Fast Statistical Alignment. *PLoS Computational Biology*, 5(5).
- A Roberts**, F Pardo-Manuel, W Wang, L McMillan, and D Threadgill. (2007). The polymorphism architecture of mouse genetic resources elucidated using genome-wide resequencing data: implications for QTL discovery and systems genetics. *Mammalian Genome*, 18(6-7).
- A Roberts**, L McMillan, W Wang, J Parker, I Rusyn, and D Threadgill. (2007). Inferring missing genotypes in large SNP panels using fast nearest-neighbor searches over sliding windows. *ISMB 2007*, 23(13)
- WORK EXPERIENCE**
- Life Academy High School** – Oakland, CA Aug 2007 – May 2009
Taught 4 sections of high school mathematics as primary instructor in an undeserved community with Teach For America.
- Cuberis** – Durham, NC July 2006 – Jan 2007
Developed custom invoicing, payroll, and reporting software for web design company.
- Montaldo's** – Charlotte, NC Jan 2005 – Aug 2005
System administrator for multiple retail locations. Developed custom inventory, invoicing, and reporting software.

RESEARCH
EXPERIENCE

UC Berkeley – Berkeley, CA Jan 2010 – Present
*Research Assistantship with Professor Lior Pachter.
Improved existing RNA-Seq analysis tool (Cufflinks) and developed new,
streaming RNA-Seq expression analysis software package (eXpress).*

UC Berkeley – Berkeley, CA May 2009 – Aug 2009
*Research Assistantship with Professors Yun Song and Satish Rao.
Studied genomic assembly tools and re-wrote Velvet in Python.*

UC Berkeley – Berkeley, CA May 2008 – Aug 2008
*Research Assistantship with Professor Lior Pachter.
Developed Java GUI and web applet for FSA.*

UNC-CH – Chapel Hill, NC Nov 2005 – May 2007
*Research Assistantship with Professors Leonard McMillan and Wei Wang.
Developed fast SNP imputation method (NPUTE).*

SOAR Telescope – La Serena, Chile Aug 2004 – Dec 2004
*Burch Field Research Seminar with Professors Gerald Cecil and Wayne
Christiansen of UNC-CH.*

TEACHING
EXPERIENCE

UC Berkeley – Berkeley, CA
• TA for QB3 “Python Programming Boot Camp” Fall 2011

UC Berkeley – Berkeley, CA
• GSI for MCB 247 – Genome Project Lab Fall 2011

LIFE Academy High School of Health and Biosciences – Oakland, CA

- 3 Periods of 9th Grade Algebra (~20 students each) 2007-2008 SY
- 1 Period of Mixed-Grade Advisory (~20 students) 2008-2009 SY
- 1 Period of 10th Grade Geometry (~20 students)
- 3-week full day “Fractals and Photography” course May 2009
(~25 students) May 2010
Co-Instructor: Steven Miller
- 3-week full day “Video Game Programming” course May 2008
(~15 students)

HONORS AND
AWARDS

- NSF Graduate Research Fellowship Program 2009
- Symantec Innovative Teacher of the Year (Bay Area) 2008
- Amgen Teaching Fellowship 2007
- Accepted into Teach For America Bay Area Corps 2007
- Graduated with Highest Honors from UNC-CH 2007
- Barry M. Goldwater Scholarship 2007
- UNC-CH Dean’s List – All Semesters

TECHNICAL
SKILLS

C++, Python, Unix, R, Java, JavaScript, Visual Basic, Assembly, Verilog