

Timothy O'Donnell

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- EDUCATION** **Brown University**, Providence, RI
Bachelor of Science in Mathematics & Computer Science Sep 2005 – May 2009
- EXPERIENCE** **Institute for Genomics & Multiscale Biology**, Mount Sinai School of Medicine. New York, NY.
Technology Specialist in Jeff Hammerbacher's Lab Jan 2014 – present
- Research projects include machine-learning models for peptide-MHC binding affinity prediction, a novel somatic variant caller, and a study of chemotherapy-induced neoantigens
 - Involved in fund raising, grant writing, and lab management
- D.E. Shaw Research**, New York, NY
Associate Research Scientist Aug 2009 – Jan 2014
- Studied the structural basis of antibody affinity maturation
 - Developed a distributed system for analyzing the world's longest molecular dynamics simulations
- Google, Inc.**, Mountain View, CA
Software Engineering Intern, Google Base May 2007 – Sep 2007
Implemented a data quality improvement in Google's project to extract structured data from the web
- Amie, Inc.**, Providence, RI
Technical Lead May 2006 – Dec 2007
Hired and led a team of software engineers to create a music marketplace. This product evolved into Songza, acquired by Google in 2014
- JOURNAL PUBLICATIONS** Timothy O'Donnell*, Arun Ahuja, Jacki Novik, Alexandra Snyder, Jeff Hammerbacher. "Chemotherapy weakly contributes to neoantigen burden in ovarian cancer," In preparation. Aug 2016.
- Xu, H.*, Schmidt, A. G.*, O'Donnell, T.*, Therkelsen, M. D., Kepler, T. B., Moody, M. A., Haynes, B. F., Liao, H.-X., Harrison, S. C. and Shaw, D. E. "Key mutations stabilize the antigen-binding conformation during affinity maturation of a broadly neutralizing influenza antibody lineage," *Proteins: Structure, Function, and Bioinformatics*, Apr 2015.
- * equal contributions
- Schmidt, A. G., Xu, H., Khan, A. R., O'Donnell, T., Khurana, S., King, L. R., ... Shaw, D. E., Harrison, S. C. "Preconfiguration of the antigen-binding site during affinity maturation of a broadly neutralizing influenza virus antibody," *Proceedings of the National Academy of Sciences of the United States of America*, Jan 2013.
- CONFERENCE ABSTRACTS** A. Rubinsteyn, I. Hodes, T. O'Donnell, S. F. Mondet, J. P. Finnigan, P. Friedlander, R. Sabado, N. Bhardwaj and J. Hammerbacher "Computational pipeline for a personalized genomic vaccine trial" Abstract A022. Proceedings of the Second CRI-CIMT-EATI-AACR International Cancer Immunotherapy Conference. Sep 2016.
- Alex Rubinsteyn, Timothy O'Donnell, Nandita Damaraju, Jeffrey Hammerbacher "Predicting Peptide-MHC Binding Affinities With Imputed Training Data" 2016 ICML Workshop on Computational Biology; doi: 10.1101/054775 Jun 2016.
- Tim O'Donnell, Arun Ahuja, Alexandra Snyder, Jeff Hammerbacher "Probing the increase in neoantigen burden at recurrence in ovarian cancer" 13th Cancer Immunotherapy (CIMT) annual meeting 2015 May 2016.
- Tim O'Donnell, Alexandra Snyder, B. Arman Aksoy, Jeff Hammerbacher "Does platinum therapy impact somatic mutation burden?" Keystone Symposium on Cancer Immunotherapy Jan 2016.
- Theodore Pak, Timothy O'Donnell, Andrew Kasarskis "Automated Identification of Emerging Drug Resistance by Retrospective Mining of Electronic Medical Records" Abstract No. 170. ID Week 2015 Aug 2015.
- Arun Ahuja, Ryan Williams, Tim O'Donnell, Jeff Hammerbacher "Validating a New Somatic Mutation Caller Using TCGA Data," Abstract No. 18. TCGA Fourth Annual Scientific Symposium, May 2015.