

Matthew M. Carter

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Education

Stanford University, Stanford, CA **2018 - present**
Ph.D. Student, Department of Microbiology and Immunology (GPA: 3.93/4.00)

Cornell University, Ithaca, NY **2010 - 2014**
B.S. in Biological Engineering, *cum laude*, (GPA: 3.69/4.00)

Employment and Research Experience

Rotation Student **September 2018 - Present**
Department of Microbiology and Immunology, Stanford University, Stanford, CA
Laboratory of Professor KC Huang

- Rapid characterization of microbial communities using phenotypic profiling.

Department of Genetics, Stanford University, Stanford, CA
Laboratory of Professor Ami Bhatt

- Constructing a bacterial GWAS pipeline for identifying genetic determinants of antibiotic resistance.

Research Associate **March 2017 - April 2018**
Technology Development Group, Caribou Biosciences, Inc., Berkeley, CA

- *In silico* discovery and biochemical validation of a novel Type VI-D CRISPR system.

Bioinformatics Programmer **August 2014 - March 2017**
Computational Biology Group, Caribou Biosciences, Inc., Berkeley, CA

- Quantification of DNA repair outcomes at CRISPR-Cas9 mediated double stranded breaks using next-generation sequencing.

Summer Intern **May 2013 - August 2013**
Caribou Biosciences, Inc., Berkeley, CA

- *In silico* prediction of CRISPR-Cas9 off-target activity in the human genome.

Undergraduate Researcher **2011 - 2014**
Department of Chemical Engineering, Cornell University, Ithaca, NY
Laboratory of Professor Julius Lucks

- Visualization of *in silico* RNA secondary structure predictions.

Fellowships and Awards

Stanford Graduate Fellowship Program, Smith Fellowship (2018-present)

Kessler Fellowship (2013)

Carol Winter and Charles Mund Scholar (2013)

Service

Microbiology and Immunology Faculty Seminar Committee (2019-2020)

Publications (2)

PS Cameron*, CK Fuller*, PD Donohoue, BN Jones, MS Thompson, **MM Carter**, S Gradia, B Vidal, E Garner, EM Slorach, E Lau, LM Banh, AM Lied, LS Edwards, AH Settle, D Capurso, V Llaca, S Deschamps, M Cigan, JK Young, AP May (2017). "Mapping the genomic landscape of CRISPR-Cas9 cleavage." *Nature Methods*, 14(6), pp. 600-606.

M van Overbeek*, D Capurso*, **MM Carter**, MS Thompson, E Frias, C Russ, JS Reece-Hoyes, C Nye, S Gradia, B Vidal, J Zheng, GR Hoffman, CK Fuller, AP May (2016). "DNA Repair Profiling Reveals Nonrandom Outcomes at Cas9-Mediated Breaks." *Molecular Cell*, 63(4), pp.633-646.

Issued Patents (7)

Andrew P. May, Rachel E. Haurwitz, Jennifer A. Doudna, James M. Berger, **Matthew M. Carter**, Paul Donohoue. Compositions and methods of nucleic acid-targeting nucleic acids. **US9260752**, Feb 2016; **US9410198**, Aug 2016; **US9725714**, Aug 2017; **US9803194**, Oct 2017; **US9809814**, Nov 2017; **US9909122**, Mar 2018; **10125361**, Nov 2018.

Patent Applications (2)

Matthew M. Carter, Paul D. Donohoue. Novel CRISPR-associated (Cas) protein. **US20180282715**, Oct 2018.

Matthew M. Carter, Megan van Overbeek, Andrew P. May. Directed nucleic acid repair. **US20170058272**, Mar 2017.