

# GEORGE SIVULKA

Stanford University - Physics and Mathematical & Computational Science B.Sc. Candidate

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## HONORS & SPECIAL ACCOMPLISHMENTS

## DATE / LOCATION

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NASA's New York City Research Initiative (NYCRI) Achievement Award	August 2014
COMSOL Multiphysics Conference 2015 Best Poster by Popular Choice Award	October 2015
• Research nominated by computational simulation experts from around the world	
Bausch + Lomb Honorary Science Award	September 2015
Department of Energy's National Science Bowl	
• NYC Regional Champion; Nationwide Finalist (Top 10) at Nationals	May 2015
3.93 First Semester GPA (19 units out of a 20 unit maximum course load)	December 2016

## SCHOOL EXTRACURRICULAR ACTIVITIES

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Stanford Student Space Initiative Member	September 2016
• Structural Aerospace and Avionics for Rocketry and High Altitude Balloons	
CS + Social Good Member	September 2016

## RELEVANT SKILLS

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Programming - Java, C++	
• Data Analysis - MATLAB, R, JavaScript - d3.js	Since 2014
• Web Development - JavaScript, HTML5, CSS3	Since 2009
Simulation Technologies - COMSOL Multiphysics (RF and Fluid Dynamics Modules)	Since 2014

## WORK/RESEARCH EXPERIENCE

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<b>NASA Goddard Space Flight Center</b>	New York, NY
<u>Research Intern</u>	Summers of 2014 & 2015

*Subsurface Imaging of Electromagnetically Semi-Penetrable Hazardous Objects*

Project Responsibilities:

- Creation and manipulation of COMSOL Multiphysics simulations
  - Specifically Electromagnetic Wave Simulations in the RF Model
- Vector Mathematics and Analysis in MATLAB
  - Helmholtz Equation, Plane Wave Equation, Finding Scattering Width Cross Section
- Scientific Presentation and Writing

Related Press:

- *Passion for Data Science Fuels One Student's Hunger to Change World*  
↳ <http://www.regis.org/article.cfm?id=5030>
- *COMSOL Conference 2015 Boston Award Winners*  
↳ <https://www.comsol.com/blogs/comsol-conference-2015-boston-award-winners/>

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<b>Mount Sinai Medical System</b>	New York, NY
<u>Data Analyst/Research Assistant</u>	Sept 2014 - August 2016

*Bioinformatics Analysis: Visualizing Transmission Patterns of Clostridium Difficile*

Project Responsibilities:

- Programming multi-platform data visualizations in D3.js
  - Analyzing and outlining disease transmission pathways
  - Quantifying said transmission routes to target negligent caretakers and reduce infection risk

## Columbia University Astrophysics

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<u>Research Assistant</u>	New York, NY
↳ <i>The Diverse Evolutionary Paths of Simulated High-z Massive, Compact Galaxies to <math>Z = 0</math></i>	(212) 854-3257
Project Responsibilities:	Summer of 2015

- Analyzed large dark matter halo and galactic evolution datasets in MATLAB
- Identify, search for, and prove correlation between datasets