

Nicholas Giangreco

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Links:	Github LinkedIn ORCID nickg.bio
Programming Languages:	Frequent: R, Python, Bash, SQL; Previously: Java
Team/Project Management:	Teamwork, Slack, Asana, Basecamp, Slite, Gitlab, Gitter, DropBox, Google apps
Web design:	Plotly (Dash & Shiny), HTML, CSS, Bootstrap library
Formatting:	LaTeX, Markdown, Jupyter Notebooks, Rmarkdown, Microsoft and Apple Office Suite

EDUCATION

2021 (expected) PhD Candidate, Systems Biology; Columbia University, New York City, NY

PhD advisor: Nicholas Tatonetti

Research Areas: Translational Bioinformatics, Clinical proteomics, Biomarker Discovery, Systems Biology, Systems Pharmacology, Pediatric Drug Safety

Courses: Deep Sequencing, Translational Bioinformatics, Computational Genomics, Statistical Inference, How to Make a Drug, Molecular Pharmacology, Statistical Thinking for Data Science and Analytics (Columbia edX)

2010-2014 BS, Biochemistry; University of Rochester, Rochester, NY

Minor: Philosophy

WORK EXPERIENCE

July 2018 - September 2018 Genetic Intelligence Inc; New York, NY

Genomics start-up

Computational biology intern

2014-Present National Human Genome Research Institute; Bethesda, MD

Principal Investigator: Dr. Laura Elnitski

- Molecular events during tumorigenesis of murine ovarian tumor subtypes differing in deletion of tumor suppressor genes.
- RNA sequencing, DNA methylation sequencing, and their integration.

Trainee 2014-2016

Special Volunteer 2016-Present

FELLOWSHIPS AND AWARDS

- Best contribution in methodological research at the OHDSI 2018 Symposium for Pediatric Drug Safety poster.
- Columbia Diversity Fellowship.
- Department of Systems Biology Merit Fellowship.
- Donald Charles Award, University of Rochester Department of Biology.
- Fulbright Fellowship Alternate 2013-2014: Sweden, Molecular Modeling, "Novel Antibody-SpA Complex Modeling".
- Travel Award to 9th Student Council and ISMB/ECCB conference 2013 Berlin, Germany.

PUBLICATIONS

- Castillero E., Ali Z., Akashi H., **Giangreco N.**, Wang C., Ji R., Zhang X., Kheysin N., Park J., Hegde S., Patel S., Stein S., Cuenca C., Leung D., Homma S., Tatonetti N., Topkara V., Takeda K., Colombo P., Naka Y., Sweeny L., Schulze C., George I. Structural and Functional Cardiac Profile after Prolonged Duration of Mechanical Unloading: Potential Implications for Myocardial Recovery. *American Journal of Heart and Circulation Physiology*, article in press
- Sarah Kim-Hellmuth, Matthias Bechheim, Benno Puetz, Pejman Mohammadi, Yohann Nedelec, **Nicholas Giangreco**, Jessica Becker, Vera Kaiser, Nadine Fricker, Esther Beier, Peter Boor, Stephane Castel, Markus M. Noethen, Luis B. Barreiro, Joseph K. Pickrell, Bertram Mueller-Myhsok, Tuuli Lappalainen, Johannes Schumacher, Veit Hornung. Genetic regulatory effects modified by immune activation contribute to autoimmune disease associations *Nature Communications*, 8 (266): 1-10.
- **Giangreco N.**, Petrykowska H., Scott A., Margolin G., Gotea V., Cho K. R., and Elnitski L. Inactivation of *Arid1a* drives aberrant epigenetic traits in a mouse model of *Apc/Pten* defective ovarian endometrioid tumors. (*in preparation*)

Peer-Reviewed Publications on Pubmed

POSTERS AND SOFTWARE

- **Nick Giangreco** and Nicholas Tatonetti. Using precision pharmacovigilance to detect developmentally-regulated adverse drug reactions: a case study with antiepileptic drugs. poster github
- **Nick Giangreco** and Nicholas Tatonetti. Using precision pharmacovigilance to detect and evaluate antiepileptic drug associated adverse reactions in pediatric patients. poster
- **Nick Giangreco** and Nicholas Tatonetti. cohorts. github
- **Nick Giangreco**. Scan2CNV. OMICSTools
- **Giangreco N**, Zorn E, Chen E et al. Identification of novel primary graft dysfunction biomarkers using exosome proteomics [version 1; not peer reviewed]. F1000Research 2017, 6:2080 (poster) (doi: 10.7490/f1000research.1115115.1)
- **Giangreco N** and Lezon T. Alternative conformation prediction of Vibrio Cholerae concentrative nucleoside transporter. F1000Posters 2013, 4:776 (poster).

Leadership and Management Experience

- CUMC Data Science Club
 - Founder and President
 - Manage club budget
 - Organize and manage activities and outreach portfolio
 - Organize and manage hackathons for biomedical scientists at CUMC.
- Innovative Medicine Interest Group @ CUMC
 - Member of Leadership Board.
 - * Organize career panels and technical talks bringing entrepreneurs in the NYC-area to CUIMC.
- Health Tech Assembly
 - Medical outreach representative.
 - * Organize and plan events.
 - * Network and connect with entrepreneurs and professionals.
- Graduate Student Organization at Columbia University Irving Medical Center
 - Finance Chair
 - * Organize budget and oversee a multi-thousand dollar activities portfolio.
 - * Assess and disseminate travel scholarships to PhD-level biomedical scientists.
- MLSociety
 - Leader on NYC Chapter Leadership Board
 - Organize and execute Kaggle competition efforts.
 - Plan and attend community events
- NYC MeetUps
 - New York Artificial Intelligence in Healthcare Society
 - * Co-organizer
 - * Attend and engage in public discourse on a wide range of topics such as AI & Society, AI & Healthcare, and economic impact by AI.
 - * Facilitate group engagement, AI study groups, and group organization.
 - * Consultant on Meetup projects and initiatives.
 - Data Storytelling
 - * Monthly lectures by data scientists and managers from private companies presenting stories and narratives using visualizations and interactive methods on diverse sources of data.
 - Statistical programming
 - * Monthly seminars by data scientists, engineers and analysts using novel and statistically rigorous methods applied within academic and company research teams mainly using the R programming language.
 - * Collaborate with community members producing programming solutions, such as solutions for *R for Data Science* by Hadley Wickham.

MENTORING, TEACHING, AND TUTORING

- Undergraduate Mentoring:
 - Payal Chandak, Columbia University
 - * Provide guidance and instruction in biomedical data science and research training.
 - * Provided guidance and mentoring for summer 2018 research internship in the Tattonetti Lab
 - “Drugs with sex-linked risk for adverse drug reactions”
- Leader of CUMC Data Science Group
 - Lead discussions, facilitate group project work, and organize monthly hackathons on processing, analyzing, and visualizing data in R.
- Curiology tutor
 - Managed and co-led science experiments with NIH fellows for middle school students in Washington D.C.
- College Bound tutor
 - Facilitated completion of homework assignments in STEM for Washington D.C. high school students.
- Genetics Study Group Leader, Center for Excellence in Teaching and Learning, University of Rochester.

CONFERENCES AND HACKATHONS

- OHDSI 2018 Symposium
- New York Genome Center NCBI-Style Hackathon
 - Project lead for developing data science notebooks and web application interfacing with drug safety data.
 - Code is in SafeDrugs github repository.
- Intelligent Systems in Molecular Biology, July 2018
- Second Northeast Computational Health Summit, April 2018
- American Heart Association Scientific Sessions 2017, poster presentation *Giangreco et al. 2017*.
- NCBI Hackathon @ New York Genome Center June 2017.
- NCBI Hackathon @ NCBI March 2017.
- CSHL Biological Data Science meeting October 2016.
- JHU DaSH Hackathon September 2015.
- ISMB/ECCB conference @ Berlin, Germany July 2013, poster presentation *Giangreco et al. 2013*.

TALKS AND PANELS

- “Intro to Bioinformatics and How to Analyze Brain Tissue with Data Science”. Invited presentation at NYC Medical Research and Bioinformatics Group. November 2018. Presentation link.
- Medical Research Career Panelist, Minds Matter NYC, June 2018
- Standardized and Reproducible Analysis Enables Identification of Novel Primary Graft Dysfunction Biomarkers using Exosome Proteomics, Second Northeast Computational Health Summit 2018, April 2018.
- “Tools, Libraries and Analyses in Biomedical Data Science”, New York Healthcare Artificial Intelligence Society, December 2017.
- “Doing Science with Big Data”, Late Night Science, Columbia University Neuroscience Outreach, December 2017.
- “AI, Life Sciences, and Big Data”, New York Healthcare Artificial Intelligence Society, August 2017. Presentation link.
- NIDDK Undergraduate Step-Up Judge, NIH, Bethesda MD, August 2015.

PROFESSIONAL MEMBERSHIPS

- American Heart Association, 2017-.
- American Medical Informatics Association, 2017-.
- International Society of Computational Biology, 2013-2014 & 2017-.