Nicholas Giangreco

Date of preparation: July 8th 2019

Birth date:	July 15th, 1992
Birth place:	Buffalo New York
Citizenship:	United States of America
Email Address:	nick.giangreco@gmail.com
Links:	Github Linkedin ORCID nickg.bio
Programming Languages:	R, Python, Bash, SQL, Java
Programming Strategies:	Parallelization (e.g. doParallel/joblib), Out-of-memory computation (e.g. Dask), Distributed Computing (e.g. Spark)
Web design:	Plotly (Dash & Shiny), HTML, CSS, Bootstrap library
Team/Project Management:	Teamwork, Slack, Asana, Basecamp, Slite, Gitlab, Gitter, DropBox, Google apps
Formatting:	LaTeX, Markdown, Jupyter Notebooks, Rmarkdown, Microsoft and Apple Office Suite

EDUCATION

August 2016 - Present PhD Candidate, Systems Biology; Columbia University, New York City, NY

PhD advisor: Nicholas Tatonetti

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

Minor: Philosophy

WORK EXPERIENCE

June 2019 - August 2019 Regeneron Genetics Center; TerryTown, NY

Clinical informatics group

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

Computational biology intern

August 2014-May 2019 National Human Genome Research Institute; Bethesda, MD

Principal Investigator: Dr. Laura Elnitski

Trainee 2014-2016

Special Volunteer 2016-2019

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

- **Nicholas P. Giangreco**, Barry Fine, Nicholas P. Tatonetti. cohorts: A Python package for clinical 'omics data management. bioarxiv
- Benjamin S Glicksberg, Boris Oskotsky, Phyllis M Thangaraj, **Nicholas Giangreco**, Marcus A Badgeley, Kipp W Johnson, Debajyoti Datta, Vivek A Rudrapatna, Nadav Rappoport, Mark M Shervey, Riccardo Miotto, Theodore C Goldstein, Eugenia Rutenberg, Remi Frazier, Nelson Lee, Sharat Israni, Rick Larsen, Bethany Percha, Li Li, Joel T Dudley, Nicholas P Tatonetti, Atul J Butte, PatientExploreR: an extensible application for dynamic visualization of patient clinical history from electronic health records in the OMOP common data model, Bioinformatics, , btz409, https://doi.org/10.1093/bioinformatics/btz409
- Benjamin S Glicksberg, Boris Oskotsky, **Nicholas Giangreco**, Phyllis M Thangaraj, Vivek Rudrapatna, Debajyoti Datta, Remi Frazier, Nelson Lee, Rick Larsen, Nicholas P Tatonetti, Atul J Butte, ROMOP: a light-weight R package for interfacing with OMOP-formatted electronic health record data, JAMIA Open, Volume 2, Issue 1, April 2019, Pages 10–14, https://doi.org/10.1093/jamiaopen/ooy059
- 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

- CUIMC Data Science Club
  - President
  - Manage club budget
  - Organize and direct activities and outreach portfolio to support and promote the skills of biomedical scientists at CUIMC
- Innovative Medicine Interest Group @ CUIMC
  - 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 social engagement events.
    - Network and connect with NYC-wide 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 graduate biomedical scientists.
- Columbia Graduate Counncil
  - Treasurer
    - Manage 40 thousand dollar budget for Columbia inter-school activities.
- 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.

MENTORING, TUTORING, and WRITING

- Nicholas Giangreco. “The Importance of being Open”. *PHDISH* January 9th 2019.
- 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 Tatonetti Lab
      - “Drugs with sex-linked risk for adverse drug reactions”
- 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

- CSHL Biological Data Science meeting November 2018.
- 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.
  - See 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 North-East 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-.