Abel Sapirstein

SETH BONDER SCHOLAR | NDSEG FELLOW | OPERATIONS RESEARCH PHD CANDIDATE

✉ asapirstein3@gatech.edu | in abel-sapirstein

Education

Georgia Institute of Technology
DOCTOR OF PHILOSOPHY IN OPERATIONS RESEARCH *advised by Dr. Lauren N. Steimle*

Atlanta , GA
Expected Spring 2027

Harvey Mudd College
BACHELOR OF SCIENCE IN MATHEMATICAL AND COMPUTATIONAL BIOLOGY *with Distinction*

Claremont, CA
May 2021

Publications

ACCEPTED JOURNAL PUBLICATIONS

Paving the Way for More Accessible Cancer Care in Low-Income Countries with Optimization *with* Lauren Steimle *of Georgia Tech and* Mathieu Dahan *of Georgia Tech. accepted at Healthcare Management Science*, pre print available at https://optimization-online.org/?p=30217

Sapirstein, A. , Steimle , L.N., Stefan, D.C. Expanded Access To Cancer Care With Cost-Awareness: An Optimization Modeling Analysis of Rwanda, *JCO GO* 10,doi: 10.1200/GO.24.00022

Fang, W., Bell, C.M., **Sapirstein, A**., Asami, S., Leeper, K., Zack, D.J., Ji, H., and Kalhor, R. (2022). Quantitative fate mapping: A general framework for analyzing progenitor state dynamics via retrospective lineage barcoding. *Cell* 185, 4604-4620.e32. 10.1016/j.cell.2022.10.028.

Haugen CE, Ishaque T, **Sapirstein A**, Cauneac A, Segev DL, Gentry S. Geographic disparities in liver supply/demand ratio within fixed-distance and fixed-population circles. *Am J Transplant*. 2019 Jul;19(7):2044-2052. doi: 10.1111/ajt.15297.

UNDER REVISION/REVIEW

Teaching Statistics Using Facility Location Modeling: A Course-based Undergraduate Research Experience *with* Lauren Steimle, Tuba Ketenci, Kate Williams *and* Laura Williams *of Georgia Tech. major revision* at *INFORMS Transactions on Education*, pre print available at https://optimization-online.org

Incidence of Dementia in Norway: Model Based Results *with* Geir Godager *of University of Oslo and* Geir Selbæk *of the Norwegian National Centre for Ageing and Health.* under review at *Public Health*.

WORKING PAPERS - *available upon request*

A Mathematical Model for Optimizing Systems of Risk-Appropriate Maternal Care *with* Lauren Stemile *and* Meghan Meredith *of Georgia Tech.* Target submission: March 2026

Shared Solutions: Modeling Cooperative Strategies for Dementia Care Across Norway *with* Lauren Stemile *of Georgia Tech and* Geir Godager *of University of Oslo.* Target submission: June 2026

Honors & Awards

Seth Bonder Scholarship for Applied Operations Research in Health Services - ***National Award***	October 2025
Thos and Claire Muller PhD Student Fellowshi *- at Georgia Intstitute of Technology*	October 2025
National Defense Science and Engineering Graduate Fellowship (NDSEG) - ***National Award***	July 2023 - June 2026
National Science Graduate Research Fellowship Program *(declined for NDSEG)* - ***National Award***	July 2023 - June 2026
George Family Fellowship *- at Georgia Institute of Technology*	AY 2023-24, 2024-25
Thomas J. Watson Fellowship *(accepted 2022)* - ***National Award***	Academic Year 2022-2023
Ernst and Young HCC Scholar *at Georgia Institute of Technology*	Academic Year 2021-2022
INFORMS Student Scholarship *-* ***National Award***	October, 2020
Summer Research Fellowship *at Harvey Mudd College*	May 2020 - August 2020
SCIAC All-Academic Team *in Southern California Interscholastic Athletic Conference*	2018, 2019, 2020
CSCA Academic All-American *College Swim Coaches Association , Honorable Mention*	2019 and 2020
National Merit Scholarship *at Harvey Mudd College* - ***National Award***	August 2017- May 2021

Relevant Teaching Experience

CURE Development Lead and Guest Lecturer   Spring 2025

ISYE 3770 - PROBABILITY AND STATISTICS

- Designed a course-based undergraduate research experience (CURE) integrated into an introductory statistics course.
- Created and delivered 5 course lectures and 5 separate multi-week assignments to 60 non-major students
- Resulted in four students newly pursuing further studies in operations research

Outreach Instructor   AY 2024, 2025

H. MILTON STEWART SCHOOL K-12 OUTREACH PROGRAM

- Developed and delivered hands-on workshop for high school students, introducing mathematical modeling in real-world context
- Delivered on three separate occasions to $\sim$ 300 students
- Distributed teaching materials and notes on request to four local high schools

Guest Lecturer   January 2023

ISYE 6320 - PUBLIC IMPACT APPLICATIONS OF OPERATIONS RESEARCH

- Invited lecture for a Ph.D-level course on health and public sectors applications for operations research with 20 students.
- Developed and delivered hands-on tutorial on modeling geographic access to healthcare facilities in low-income countries
- Explained key challenges in healthcare access and differences across low-income and high-income contexts.

Presentations

IMSI Advances in Quantitative Healthcare, Optimizing Systems of Risk-Appropriate Maternal Care	February 2026
INFORMS, Paving the Way for More Accessible Cancer Care	October 2025
ASHE-Con, Model Based Dementia Incidence: A Norwegian Case Study	June 2025
IISE, Designing Tertiary Cancer Services Under Burden Uncertainty	May 2025
UiO HELED Seminar, Spatial Trends in Projected Norwegian Dementia Incidence	November 2024
INFORMS, Designing Tertiary Cancer Services Under Burden Uncertainty	October 2024
INFORMS, Improving Equity In Access Through Network Design: A Case Study Of Rwanda	October 2023
INFORMS Healthcare, Improving Equity In Healthcare: A Case Study Of Specialist Cancer Care In Rwanda	July 2023
University of Oslo, Modeling Optimal System Expansion : Tertiary Cancer Care in Rwanda	December 2022

Leadership & Service

Student Liaison, Health Applications Society, INFORMS	September 2024- September 2026
Participant, WiscProf: Future Faculty in Engineering Workshop	May 2025
Vice President, Georgia Tech INFORMS Student Chapter	Academic Year 2024-2025
Justice, Georgia Tech Graduate Student Government	September 2023- September 2025

Other Relevant Experience

Health Policy Reform @ Ministry of Health of Chile   *Santiago, Chile*

VISITING RESEARCHER - *During T.J. Watson Fellowship*   *March 2023 - July 2023*

- Health Policy Reform Team, lead by BERNARDO MARTORELL GUERRA
- Working with team to ensure universal access to primary care across public and private sectors
- Spanish NLP based initial recommendation to improve consistency and efficacy of primary care patient triage
- Wrote white paper to automate appointment scheduling, leading the way for better system utilization

HELED @ University of Oslo   *Oslo, Norway*

VISITING GRADUATE STUDENT - *During T.J. Watson Fellowship*   *November 2022 - February 2023*

- Department of Health Economics and Management, with Geir Godager
- Semi-Markov modeling of age specific dementia incidences across Norway
- Integrated limited country-specific observational data with longitudinal registry to generate consistent estimates
- Our estimates were within the range of previous multi-year observational studies in northern Europe

IGHER @ University of Global Health Equity   *Kigali, Rwanda*

Research Fellow - *During T.J. Watson Fellowship*   *August 2022 - November 2022*

- Institute for Global Health Equity Research, lead by Cristian Stefan
- Modeling system expansions to improve access to tertiary cancer care
- Formulated and solved a joint facility location and network design problem using satellite data
- Focused on the efficacy of unconventional ways to improve access, including road surface improvements