

# JACQUELINE R.M.A. MAASCH

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## EDUCATION

2019 – Present | **Master of Computer & Information Technology**  
**University of Pennsylvania**, Philadelphia, PA, USA  
Department of Computer & Information Science | School of Engineering & Applied Science  
GPA 3.95/4.0 — Interdisciplinary Innovation Fellow — Reproducible Research Fellow

2016 | **Bachelor of Arts**  
**Smith College**, Northampton, MA, USA  
Major Anthropology, Minor Environmental Science & Policy  
GPA 3.97/4.0 — Summa Cum Laude — Phi Beta Kappa — Sigma Xi

## PROFICIENCIES & PROJECTS

*Proficient* Java – R –  $\text{\LaTeX}$  | *Actively Learning* C – Python – JavaScript – Bash  
*R projects* **sanzo** CRAN package ↗ – Rectal swabs for *Giardia*  $D_x$  ↗ – *Giardia* epi in rural Niger ↗

*Coursework (G)* Algorithms; Data Structures; Software Development; Discrete Math; Computer Systems Programming; Hardware. (*UG*) Human Genetics; Primate Evolution; Molecular Biosciences; Statistics.

## RESEARCH EXPERIENCE

05.2020 – Present | **Computational Researcher**  
**School of Engineering & Applied Science | Perelman School of Medicine**  
**University of Pennsylvania, Philadelphia, PA, USA**  
*PI: Dr. César de la Fuente.* The Machine Biology Group integrates synthetic biology and artificial intelligence to computerize biological systems and devise novel therapies.

10.2017 – 07.2019 | **Research Associate & Project Lead**  
**Soil-Transmitted Helminth Research Group**  
**Smith College Department of Biological Sciences, Northampton, MA**  
*PI: Dr. Steven A. Williams.* Gates Foundation reference laboratory investigating the molecular biology and diagnosis of agents causing neglected tropical diseases (NTDs).

11.2016 – 05.2017 | **Next-Generation Sequencing Technician**  
**Biology Research & Development Team**  
**PathoQuest, Paris, France**  
*PI: Dr. Éric Cabannes.* Institut Pasteur spin-out developing blood-based metagenomic NGS assays for the clinical diagnosis of viral and bacterial pathogens.

02.2016 – 09.2017	<b>Molecular Diagnostic Technician</b> <b>Massachusetts General Hospital Human Genetics Unit</b> <b>Laboratory for Molecular Medicine, Cambridge, MA, USA</b> <i>PI: Dr. Heidi Rehm.</i> Harvard-affiliated CLIA laboratory providing clinical diagnostics for genetic diseases and personalized medicine research support for the Broad Institute.
06.2014 – 12.2015	<b>Undergraduate Research Assistant</b> <b>Cornell University Department of Plant Breeding &amp; Genetics</b> <b>Collaborative Crop Research Program, Ithaca, NY, USA</b> <i>PI: Dr. Rebecca Nelson.</i> Gates and McKnight Foundation funded laboratory investigating plant pathology, genomics-assisted crop breeding, soil science, and agroecology.

## HONORS & GRANTS

- 2020** Reproducible Research Fellowship, Open Knowledge Foundation & Alfred P. Sloan Foundation
- 2020** GAPSA-Provost Fellowship for Interdisciplinary Innovation, University of Pennsylvania
- 2016** Summa Cum Laude (highest honors – 1% of graduating class), Smith College Class of 2016
- 2015** Phi Beta Kappa, Junior Inductee (3% of senior class), Zeta of Massachusetts Chapter
- 2014** Schulz Foundation Travel Grant for Student Research, Biological Sciences
- 2014** Margaret A. Walsh Grantham Summer Research Fellowship, Biological Sciences

## PUBLICATIONS & PRESENTATIONS

- 2020** **Maasch J**, Arzika AM, Cook C, Lebas E, Pilotte N, Grant JR, Williams SA, Keenan JD, Lietman TM, Aiemojoy K. Rectal swabs as an alternative sample collection method to bulk stool for the real-time PCR detection of *Giardia duodenalis*. *American Journal of Tropical Medicine & Hygiene*. [↗](#)
- 2020** Benjamin-Chung J, Pilotte N, Ercumen A, Grant JR, **Maasch J**, Gonzalez AM, Ester AC, Arnold BF, Rahman M, Haque R, Hubbard AE, Luby SP, Williams S, Colford JM. Comparison of multi-parallel qPCR and double-slide Kato-Katz for detection of soil-transmitted helminth infection among children in rural Bangladesh. *PLOS Neglected Tropical Diseases* 14(14): e0008087. [↗](#)
- 2020** Hasegawa M, Pilotte N, Kikuchi M, Means AR, Papaioakovou M, Gonzalez AM, **Maasch J**, Ikuno H, Sunahara T, Ásbjörnsdóttir K, Watson JL, et al. What does soil-transmitted helminth elimination look like? Results from a targeted molecular detection survey in Japan. *Parasites and Vectors* 13(6). [↗](#)
- 2019** Pilotte N, **Maasch J**, Easton AV, Dahlstrom E, Nutman TB, Williams SA. Targeting a highly repeated embryonic DNA sequence for improved real-time PCR-based detection of *Ascaris* infection in human stool. *PLOS Neglected Tropical Diseases* 13(7): e0007593. [↗](#)
- 2019** **Maasch J**, Arzika AM, Cook C, Lebas E, Pilotte N, Grant JR, Williams SA, Keenan JD, Lietman TM, Aiemojoy K (presenter). Rectal swabs for molecular detection of *Giardia duodenalis*. *Proceedings from the Annual Meeting of the American Society of Tropical Medicine and Hygiene*. National Harbor, MD.
- 2018** Pilotte N (presenter), **Maasch J**, Easton AV, Dahlstrom E, Nutman TB, Williams SA. Improved molecular detection of *Ascaris lumbricoides* utilizing an embryonic sequence for assay design. *Proceedings from the Annual Meeting of the American Society of Tropical Medicine and Hygiene*. New Orleans, LA.