Rachel Hannah Tao

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EDUCATION

Columbia University, Mailman School of Public Health, New York, NY   *April 2021*

Master of Public Health (MPH), Epidemiology, Certificate in Applied Biostatistics and Data Science

GPA: 3.9 Dean's Scholarship Merit Award Recipient

Thesis (in progress): Source-specific effects of $PM_{2.5}$ pollution on emergency-department visits for myocardial infarction

Columbia University, Columbia College, New York, NY   *May 2016*

Bachelor of Arts (BA), Environmental Biology

GPA: 3.6 **Thesis:** Differences in Water-Use for Plant Species on New York Green Roofs

SKILLS

Programming languages and tools: R (intermediate+), SAS (intermediate), Git (basic)

Databases: MS Access (basic), SQL (to learn this semester),

Visualization and formatting: R ggplot2 (intermediate+), LaTeX (basic), QGIS (basic)

Languages: English (fluent/native), French (intermediate proficiency), Mandarin (basic proficiency)

PUBLIC HEALTH EXPERIENCE

Department of Environmental Health Sciences, Mailman School of Public Health, New York, NY

Research Analyst   *June 2020 - Present*

- Collaborate with diverse 9-person team of epidemiologists, biostatisticians, and computer scientists for development of novel machine learning methods to assess environmental mixtures as health exposures
- Apply PCA and other dimensionality-reduction methods to evaluate novel method, Principal Component Pursuit
- Analysis of 2 EPA air pollution datasets up to 2400 observations in size as well as emergency department admissions data for more than 6000 myocardial infarction events in NYC

Citizen Public Health Literacy (CIPHER)   *June 2020 - Present*

Community Needs Assessment and Outreach Task Group Member

- Outreach with 7 community-based organizations (CBOs) to address emerging needs from COVID-19, including connecting seniors to health resources, solutions for outdoor youth physical activity & community fridges for food security
- Develop grant writing and application strategy with two participating CBOs including applications to the New York Foundation and the Manhattan Community Awards Program
- Review 6 lessons as part of online public health curriculum for accuracy and cultural competence

RELEVANT EXPERIENCE

Department of Pediatrics, Columbia University Irving Medical Center, New York, NY   *May 2017-June 2019*

Research and Fellowship Coordinator

- Coordinated study subject visits for 3 studies and maintained data and regulatory information for ongoing research
- Editorial assistance for 6 manuscripts, 3 abstracts, and 1 NIH grant proposal (publications list below)
- Managed fellowship application process and documented research accomplishments of 7 fellows for program reporting
- Provided support to clinical staff as a Medical Scribe for up to 20 patients per week

RELEVANT EXPERIENCE (continued)

Greenbelt Native Plant Center, NYC Department of Parks and Recreation   *August-December 2016*

Research Analyst

- Designed and managed greenhouse experiment to measure water use in 48 plant species commonly used on green roofs
- Analyzed data in R to detect species-level differences in water use and created data visualizations to communicate results
- Recommended 18 species for green roofs in the form of a research report to NYC Department of Parks and Recreation

TEACHING AND MENTORSHIP

Department of Biostatistics, Mailman School of Public Health New York, NY   *September 2020 – December 2020*

Teaching Assistant, Applied Regression I

Provide feedback on students' course deliverables, hold weekly office hours, and lead coding tutorials in SAS

Crime Victims Treatment Center, New York, NY   *October 2018 – October 2020*

Mentor for Crisis Counselor Trainees

Volunteer Rape Crisis and Domestic Violence Counselor at Mount Sinai West and Morningside Emergency Departments

PUBLICATIONS (co-author)

Weiner A, Cowell A, McMahon DJ, **Tao R**, Zitsman J, Oberfield SE, Fennoy I. The effects of adolescent laparoscopic adjustable gastric band sleeve gastrectomy on markers of bone health and bone turnover. Clinical Obesity, 2020.

Pereira-Eshraghi CF, Chiuzan C, Zhang Y, **Tao RH**, McCann M, Neugut D, Printz A, Fennoy I, Cree-Green M, Oberfied SE, Sopher AB. Obesity and insulin resistance, not polycystic ovary syndrome, are independent predictors of bone mineral density in adolescents and young women. Horm Res Paediatr, 2020; 1-7.

Baer TG, Agarwal S, Chen S, Chiuzan C, Sopher AB, **Tao R**, Hassoun A, Shane E, Fennoy I, Oberfield SE, Vuguin PM. Deficits in bone geometry in growth hormone-deficient prepubertal boys revealed by high-resolution peripheral quantitative computed tomography. Horm Res Paediatr, 2019;92(5)293-301.

Witchel SF, Burghard AC, **Tao RH**, Oberfield SE. The diagnosis and treatment of PCOS in adolescents: an update. Current Opinion 2019;31(4):562-569.

Oberfield SE, **Tao R,** Witchel SF. Present knowledge on the etiology and treatment of adrenarche. Pediatric Endocrinol Rev 2018;15(3):244-254.

Ibañez L, Oberfield SE, Witchel S…**Tao R**, …Lee PA. An International Consortium Update: Pathophysiology, diagnosis, and treatment of polycystic ovarian syndrome in adolescence. Horm Res Paediatr, 2017;88(6):371-395.

OP-ED

Tao R. Opinion: A side effect of COVID-19 could be weaker civil liberties. City Limits, July 4, 2020.