Michele S. Zemplenyi

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SUMMARY

Biostatistician passionate about climate and energy issues with strong data science, leadership, and communication skills developed through research, consulting, teaching, and product management.

EDUCATION

Harvard University Cambridge, MA
Ph.D., Biostatistics 2015 - 2020

- Dissertation Topic: "Statistical Methods for Environmental Epidemiology"
- Statistical Learning & Data Science Poster Award, Joint Statistical Meetings 2019
- Science & Innovation Fellow, Environmental Training Grant Fellow (NIH)
- 2020 Harvard T. H. Chan Teaching Assistant Award

Harvard University Cambridge, MA
B.A., Statistics (Minor in Chemistry), summa cum laude, Phi Beta Kappa 2009 - 2013

- Hoopes Prize recipient for outstanding undergraduate thesis: "Design and Analysis of a Fractional Factorial Screening Experiment to Identify Small Molecule Inducers of Pancreatic β Cells"
- Awarded Certificate of Distinction in Teaching

WORK & LEADERSHIP EXPERIENCE

Urban Ocean Lab Brooklyn, NY
Project Manager & Research Fellow 8/2020 – Present

- Develop policy recommendations for climate action plans and coastal resiliency initiatives to promote ocean-based solutions to climate change and protect coastal cities from sea-level rise.

Voter Participation Center Washington, D. C.
Statistical Consultant 7/2020 – 9/2020

- Trained statistical models on voting history data to build a model targeting 50 million registered voters for 2020 election get-out-the-vote mailing campaigns.

Harvard Center for Climate, Health, and the Global Environment Boston, MA
Student Ambassador 1/2019 – 9/2020

- Co-authored an expert opinion submitted to the UK government on behalf of organizations petitioning the UK to strengthen the Clear Air Strategy in light of the Covid-19 pandemic.
- Presented opportunities for increased climate education and training at the School of Public Health.

Bloomberg-Harvard City Leadership Initiative Boston, MA
Covid-19 Recovery and Response Fellow 6/2020 – 8/2020

- Performed comparative research on best practices for monitoring the impacts of Covid-19, as well as policy recommendations to support the city of Helsinki's economic recovery.

Biostatistics Department, Harvard University Boston, MA
Graduate Researcher 6/2016 – 5/2020

- Developed high-dimensional regression techniques for analyzing the effects of air pollution on human health and researched optimal Bayesian experimental design methods for discovery of gene networks.

Biostatistics Student Consulting Center Boston, MA
President 1/2018 – 8/2020

- Managed and trained a team of 25 consultants who handled 150 inquiries / year from student researchers at Harvard Medical School and Harvard T. H. Chan School of Public Health.

Massachusetts Eye and Ear Boston, MA
Statistician 5/2019 – 12/2019

- Performed statistical analyses to evaluate the effectiveness of eye imaging procedures in detecting glaucoma progression and predicting optic disc hemorrhage.

New England Journal of Medicine Boston, MA
Statistical Consultant 1/2018 – 9/2019

- Performed analyses to screen clinical trials for possible violations of randomization.

Applied Predictive Technologies Arlington, VA
Associate Product Manager 8/2013 – 7/2015

- Led two engineering teams by creating product requirements to meet clients' needs and deadlines.
- Designed software features, dashboards, and implemented new data visualization and modeling tools.

TEACHING EXPERIENCE

Biostatistics Department, Harvard University Boston, MA
Teaching Assistant 9/2016 – 5/2019

- Recipient of 2020 Harvard T. H. Chan School Teaching Assistant Award
- Courses: Design and Monitoring of Adaptive Clinical Trials, Basics of Statistical Inference, Statistical Genetics, Statistical Consulting, Principles of Clinical Trials

StatStart Summer Program Boston, MA
Organizer & Teacher 5/2018 - 7/2018, 5/2019 - 6/2019

- Revised curriculum, organized logistics, and taught summer program for underrepresented high school students in STEM.

SELECTED PUBLICATIONS

Zemplenyi M, et al. Function-on-Function Regression for the Identification of Epigenetic Regions Exhibiting Windows of Susceptibility to Environmental Exposures. (2021). To appear in *Annals of Applied Statistics*; pre-print: https://arxiv.org/abs/1912.07359.

Ratanawongphaibul K, Tsikata E, **Zemplenyi M**, Lee H, Margeta MA, Ondeck CL, Kim J, Pan BX, Petrakos P, Coleman AL, Yu F, de Boer JF, Chen TC. (2021). Earlier detection of glaucoma progression using high-density 3D spectral-domain OCT optic nerve volume scans. *Ophthal. Glaucoma.* doi.org/10.1016/j.ogla.2021.03.010.

Zhong J, Karlsson O, Wang G, Li J, Guo Y, Lin X, **Zemplenyi M**, Sanchez-Guerra M, Trevisi L, Urch B, Speck M, Liang L, Coull BA, Koutrakis P, Silverman F, Gold DR, Wu T, Baccarelli AA. (2017). B vitamins attenuate the epigenetic effects of ambient fine particles in a pilot human intervention trial, *PNAS*. 114(13):3503-3508.

SKILLS & AFFILIATIONS

Technical: R, Matlab, Linux computing. Experience with Python, Github, Amazon Web Services, SQL, Stata.
Affiliations: American Statistical Association, Union of Concerned Scientists Science Network, Harvard Graduate Student Science Policy Group