

# Michael Dumelle

Website: [michaeldumelle.github.io](https://michaeldumelle.github.io)

E-mail: [Dumelle.Michael@epa.gov](mailto:Dumelle.Michael@epa.gov)

## EDUCATION

### Oregon State University, Corvallis, Oregon

- Ph.D. in Statistics, 2020
  - Dissertation Title: A Linear Mixed Model Framework to Spatio-Temporal Random Processes using the Separable and Product-Sum Covariance Structures
  - Advisors: Claudio Fuentes & Alix Gitelman
  - Committee Members: Alec Kowalewski, Lisa Madsen, Jay Ver Hoef, Charlotte Wickham, & Harry Yeh
- Graduate Minor in Risk and Uncertainty Quantification in Marine Science, 2019
- M.S. in Statistics, 2016

### California Polytechnic State University, San Luis Obispo, California

- B.A. in Political Science, 2014

## EMPLOYMENT

### United States Environmental Protection Agency (USEPA) 2020 - Present

- Mathematical Statistician for the Freshwater Ecology Branch of USEPA's Office of Research and Development in Corvallis, Oregon

## RESEARCH

### Journal Publications

- **Dumelle, Michael.**, Ver Hoef, Jay. Fuentes, Claudio., & Gitelman, Alix. 2020. A Linear Mixed Model Formulation for Spatio-Temporal Random Processes with Computational Advances for the Separable and Product-Sum Covariances. *In Review*. [Download Preprint PDF](#) [Visit GitHub Repository](#)
- Mattox, Clint., **Dumelle, Michael.**, Kowalewski, Alec., McDonald, Brian., & Gould, Micah. 2020. Reducing Anthracnose on an Annual Bluegrass Putting Green with Frequent Applications of a Soil Surfactant and Hollow-tine Aerification. *Agronomy Journal*. [Download PDF](#) [Visit GitHub Repository](#)
- Mattox, Clint., **Dumelle, Michael.**, McDonald, Brian., Gound, Micah., Olsen, Connor., Schmid, Chas, & Kowalewski, Alec. 2020. Comparing Rates of Minearal Oil, Sulfur, and Phosphorous Acid on Microdochium Ptach Suppression, Green-Cover Percentage, and Turfgrass Quality. *Accepted to Agronomy Journal*. [Visit GitHub Repository](#)
- Mattox, Clint., **Dumelle, Michael.**, McDonald, Brian., Gound, Micah., Olsen, Connor., Braithwaite, Emily., & Kowalewski, Alec. 2020. Suppression of Microdochium Patch Using Rotations of Mineral Oil, Sulfur, and Phosphorous Acid. *Accepted to Agronomy Journal*. [Visit GitHub Repository](#)
- **Dumelle, Michael.**, Lamb, Jesse F., Jacobson, Kym., Hunsicker, Mary., Morgan, Cheryl., Burke, Brian., & Peterson, William. 2020. Captuing Copepod Dynamics in the Northern California Current Using Sentinel Stations. *In Review*. [Visit GitHub Repository](#)

### Proceedings and Technical Reports Publications

- Walsh, Kenneth C., **Dumelle, Michael.**, & Williams, Katy. (2020). Tracking Student Engagement with OER Resources and Homework. *Physics Educational Research Conference 2019 Proceedings*. [Download PDF](#) [Visit GitHub Repository](#)
- Ko, Harrison., Mayfield, Will., **Dumelle, Michael.**, Yeh, Harry., Fuentes, Claudio., & Restrepo, Juan. Efficient Estimates of Uncertainties in Tsunami Inundation Forecasts. *Eleventh U.S. National Conference on Earthquake Engineering*. [Download PDF](#) [Visit GitHub Repository](#)

## Presentations

- 2020. A Linear Mixed Model Formulation for Spatio-Temporal Random Processes with Computational Advances for the Separable and Product-Sum Covariances. ASA Oregon Chapter Winter 2020 Meeting. Contributed Presentation. [Download PDF](#) [Visit GitHub Repository](#)
- 2019. Adjusting Standard ANOVA Methods to Account for Heterogeneous Variances with an Application to Turfgrass Management. ASA, CSSA and SSSA International Annual Meetings. Contributed Presentation. [Download PDF](#) [Visit GitHub Repository](#)
- 2019. A Mixed Model Approach to the Product-Sum Spatio-Temporal Covariance Function with Computational Advances. Joint Statistical Meetings. Contributed Poster. [Download PDF](#) [Visit GitHub Repository](#)

## Software

- **Dumelle, Michael.** & Burke, Brian. (2020). *sentinelstat: An R Package for Computing Summary Statistics with a Sentinel Station*. Github: [Visit GitHub Repository](#)  
CRAN: coming soon

## Grants

- National Science Foundation Research Traineeship, \$ 34,000, 2016.

## PROFESSIONAL Society Memberships

AFFILIATIONS	• American Statistical Association	2018 - Present
	• WNAR Branch of the International Biometric Society	2019 - Present
	• American Society of Agronomy	2019 - Present
	• Crop Science Society of America	2019 - Present
	• Soil Science Society of America	2019 - Present

## Service

- |  |                |
|--|----------------|
| • ASA Oregon Chapter Representative                      | 2020 - Present |
| • Member of EPA's PESD Diversity and Inclusion Committee | 2020 - Present |