Stephen Beckett, Ph.D.

Research Scientist II

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Areas of focus: marine microbial ecology, virus-microbe ecology and evolution, biophysics, epidemic dynamics, network structure and dynamics of complex systems.

Research skills: mathematical modelling and data science, network analysis, spatial dynamics & time series analysis, data visualization & mapping, development of interactive data dashboards.

Professional Preparation

2022-Present **Research Scientist II**
School of Biological Sciences, Georgia Institute of Technology
PI: Dr. Joshua Weitz

2019-2022 **Research Scientist I**
School of Biological Sciences, Georgia Institute of Technology
PI: Dr. Joshua Weitz

2015-2019 **Postdoctoral Fellow**
School of Biological Sciences, Georgia Institute of Technology
PI: Dr. Joshua Weitz

2011-2015 **Ph.D. Biological Sciences**
Biosciences, University of Exeter
Thesis advisor: Dr. Hywel Williams
Thesis: Nestedness and modularity in bipartite networks

2011 **Research Intern**
Computational Ecology and Environmental Science, Microsoft Research Cambridge.
PI: Dr. Matthew Smith

2010-2011 **MRes Mathematics in the Living Environment**
University of York

2007-2010 **BSc (Hons) Geography and Mathematics**
University of Leeds

Honours and Awards

2018 Climate Change Fellow at *Georgia Institute of Technology.*

2013 Travel grant from the *Society of General Microbiology* to attend Autumn conference.

2011-2015 Research & Knowledge Transfer PhD studentship from the *University of Exeter*.

2010-2011 Partially funded masters studentship from *Natural Environment Research Council*.

Funding

9/21/2022-9/20/2023	Centers for Disease Control and Prevention: Mathematical Modeling – COVID-19 Mathematical Modeling of Healthcare Impact and Capacity- Georgia Institute of Technology (Weitz, PI & **Beckett, Aim Lead**, $300,000)
10/1/2021-3/15/2022	Rockefeller Foundation Covid-19 Event Risk Assessment Deployment (Weitz, PI & **Beckett Co-PI**, $50,371)

Publications (* = Joint lead authors, † = undergraduate research mentee)

1. Sinclair A.H., Taylor M.K., Davidson A., Weitz J.S., **Beckett S.J.**, Samenez-Larkin G.R. Scenario-Based Messages on Social Media Motivate COVID-19 Information Seeking. (2023) *Journal of Applied Research in Memory and Cognition.* DOI: 10.1037/mac0000114.
   Associated material: https://doi.org/10.17605/OSF.IO/MBH9W.
2. **Beckett S.J.**, Brandel-Tanis F.A., Nguyen Q.†, Chande A.T., Rishishwar L., Andris C., Weitz J.S. localcovid19now: processing and mapping COVID-19 case data at subnational scales. (2023) *Journal of Open Source Software 8(81):* 4898. DOI: 10.21105/joss.04898.
   Associated code: https://github.com/sjbeckett/localcovid19now.
3. Sinclair A.H., Taylor M.K., Weitz J.S., **Beckett S.J.**, Samenez-Larkin G.R. Reasons for Receiving or Not Receiving Bivalent COVID-19 Booster Vaccinations Among Adults — United States, November 1–December 10, 2022. (2023) *MMWR Morbidity and Mortality Weekly Report* 72(3): 73–75. DOI: 10.15585/mmwr.mm7203a5.
4. Muratore D., Boysen A.K., Harke M.J., Becker K.W., Casey J.R., Coesel S.N., Mende D.R., Wilson S.T., Aylward F.O., Eppley J.M., Vislova A., Peng S., Rodgriguez-Gonzalez R.A., **Beckett S.J.**, Armbrust E.V., DeLong E.F., Karl D.M., White A.E., Zehr J.P., Van Mooy B.A.S, Dyhrman S.T., Ingalls A.E., Weitz J.S. (2022) Complex Marine Microbial Communities Partition Metabolism of Scarce Resources Over the Diel Cycle. *Nature Ecology & Evolution* 6: 218-229. DOI: 10.1038/s41559-021-01606-w.
5. Gibson G., Weitz J.S., Shannon M.P., Holton B., Bryskin A., Liu B., Sieglinger M., Coenen A.R., Zhao C., **Beckett S.J.**, Bramblett S., Williamson J., Farrell M., Ortiz A., Abdallah C.T., García A.J. (2022) Surveillance-to-Diagnostic Testing Program for Asymptomatic SARS-CoV-2 Infections on a Large, Urban Campus in Fall 2020. *Epidemiology* 33: 209–216. DOI: 10.1097/EDE.0000000000001448.
   Associated code: https://github.com/jsweitz/gtcovid_fa20_spr21_analytics.
6. Lopman B.A., Shioda K., Nguyen Q.†, **Beckett S.J.**, Siegler A.J., Sullivan P.S., Weitz J.S. (2021) A framework for monitoring population immunity to SARS-CoV-2. *Annals of Epidemiology* 63: 75-78. DOI: 10.1016/j.annepidem.2021.08.013.
   Associated code: https://github.com/quannguyenminh103/Covid19-Population-Level-Immunity.
   Associated website: https://popimmunity.biosci.gatech.edu/.
7. Mruwat N., Carlson M.C.G., Goldin S., Ribalet F., Kirzner S., Hulata Y., **Beckett S.J.**, Shitrit D., Weitz J.S., Armbrust E.V., Lindell D. (2021) A single-cell polony method reveals low levels of infected *Prochlorococcus* in oligotrophic waters despite high cyanophage abundances. *The ISME Journal* 15: 41-54. DOI: 10.1038/s41396-020-00752-6.
8. Chande A., Lee S., Harris M., Nguyen Q.†, **Beckett S.J.**, Hilley T., Andris C., Weitz J.S. (2020) Real-time, interactive website for US-county-level COVID-19 event risk assessment. *Nature*

Human Behaviour 4: 1313-1319. DOI: 10.1038/s41562-020-01000-9.
Associated code: https://github.com/appliedbinf/covid19-event-risk-planner
Associated website: https://covid19risk.biosci.gatech.edu/.

9. Weitz J.S., **Beckett S.J.**, Coenen A.R., Demory D., Dominguez-Mirazo M., Dushoff J., Leung C-Y., Li G., Măgălie A., Park S.W., Rodgriguez-Gonzalez R.A., Shivam S., Zhao C.Y. (2020) Modeling Shield Immunity to Reduce COVID-19 Epidemic Spread. *Nature Medicine* 26: 849-854. DOI: 10.1038/s41591-020-0895-3.
Associated code: https://github.com/WeitzGroup/covid_shield_immunity.
10. Benedetto B., Coenen A.R., **Beckett S.J.**, McGillicuddy Jr. D.J., Weitz J.S., Karl D.M. (2019) The ecological and biogeochemical state of the North Pacific Subtropical Gyre is linked to sea surface height. *Journal of Marine Research* 77: 215-245. DOI: 10.1357/002224019828474241.
Associated code: https://github.com/duebi/mesoHot.
11. Talmy D., **Beckett S.J.**, Taniguchi D.A.A., Brussaard C.P.D., Weitz J.S., Follows, M.J. (2019) An empirical model of carbon flow through marine viruses and microzooplankton grazers. *Environmental Microbiology* 21(6): 2171-2181. DOI: 10.1111/1462-2920.14626.
12. Talmy D.*, **Beckett S.J.***, Zhang A.B.†, Taniguchi D.A.A., Weitz J.S., Follows M.J. (2019) Contrasting Controls on Microzooplankton Grazing and Viral Infection of Microbial Prey. *Frontiers in Marine Science* 6:182. DOI: 10.3389/fmars.2019.00182.
13. **Beckett S.J.**, Weitz J.S. (2018) The Effect of Strain Level Diversity on Robust Inference of Virus-Induced Mortality of Phytoplankton. *Frontiers in Microbiology* 9:1850. DOI: 10.3389/fmicb.2018.01850.
Associated code: https://github.com/sjbeckett/DilutionMethod-ViralLysisEstimation.
14. Weitz J.S., **Beckett S.J.**, Brum J.R., Cael B.B., Dushoff J. (2017) Lysis, lysogeny and virus–microbe ratios. *Nature* 549(7672): E1–E3. DOI: 10.1038/nature23295.
Associated code: https://github.com/WeitzGroup/VMR-Lysis-Lysogeny-v3.
15. **Beckett S.J.**, Weitz J.S. (2017) Disentangling niche competition from grazing mortality in phytoplankton dilution experiments. *PLOS one* 12(5): e0177517. DOI: 10.1371/journal.pone.0177517.
Associated code: https://github.com/sjbeckett/DilutionMethod-NicheCompetition.
16. **Beckett S.J.** (2016) Improved community detection in weighted bipartite networks. *Royal Society Open Science* 3: 140536. DOI: 10.1098/rsos.140536.
Associated code: https://github.com/sjbeckett/weighted-modularity-LPAwbPLUS.
17. Cowley L.A., **Beckett S.J.**, Chase-Topping M., Perry N., Dallman T.J., Gally D.L., Jenkins C. (2015) Analysis of whole genome sequencing for the *Escherichia coli* O157:H7 typing phages. *BMC Genomics* 16: 271. DOI: 10.1186/s12864-015-1470-z.
18. **Beckett S.J.**, Boulton C.A., Williams H.T.P. (2014) FALCON: a software package for analysis of nestedness in bipartite networks. *F1000Research* 3: 185 [v1 ;ref status: indexed, http://f1000r.es/3z8]. DOI: 10.12688/f1000research.4831.1.
Associated code: https://github.com/sjbeckett/FALCON.
19. Watts A.J.R., Lewis C., Goodhead R.M., **Beckett S.J.**, Moger J., Tyler C.R., Galloway T.S. (2014) Uptake and retention of microplastics by the shore crab *Carcinus maenas*. *Environmental Science & Technology* 48(15): 8823-8830. DOI: 10.1021/es501090e.

20. **Beckett S.J.**, Williams H.T.P. (2013) Coevolutionary diversification creates nested-modular structure in phage-bacteria interaction networks. *Interface Focus* 3: 20130033. DOI: 10.1098/rsfs.2013.0033.

Publications in Progress

1. **Beckett S.J.***, Demory D.*, Coenen A.R., Casey J.R., Dugenne M., Follett C.L., Connell P., Carlson M.C.G., Hu S.K., Wilson S.T., Muratore D., Rodriguez-Gonzalez R.A., Peng S., Becker K.W., Mende D.R., Armbrust E.V., Caron D.A., Lindell D., White A.E., Ribalet F., Weitz J.S. Diel population dynamics and mortality of Prochlorococcus in the North Pacific Subtropical Gyre. *In review*.
   Preprint: https://doi.org/10.1101/2021.06.15.448546.
   Associated material: https://doi.org/10.5281/zenodo.7388552.
2. Sinclair A.H., Taylor M.K., Brandel-Tanis F., Davidson A., Chande A.T., Rishishwar L., Andris C., Adcock R. A., Weitz J.S., Samenez-Larkin G.R., **Beckett S.J.** Real-time Interventions Counteract COVID-19 Risk Misestimation in the United States. *In revision*.
   Preprint: https://doi.org/10.31234/osf.io/v8tdf.
   Associated material: https://doi.org/10.17605/OSF.IO/MBH9W.
3. **Beckett S.J.**, Dominguez-Mirazo, M., Lee, S., Andris C., Weitz J.S. Spread of COVID-19 through Georgia, USA. 2020. Near-term projections and impacts of social distancing via a metapopulation model. *Report*.
   Preprint: https://doi.org/10.1101/2020.05.28.20115642.
   Associated code: https://github.com/sjbeckett/MAGEmodel_covid19_GA.

Software

2021 **localcovid19now:** processing and mapping COVID-19 case data at subnational scales.
Repository: https://github.com/sjbeckett/localcovid19now
Language: R
Description: Visualize recent COVID-19 case data across the globe (Beckett et al., 2023).

2014 **weighted-modularity-LPAwbPLUS:** Improved community detection in weighted bipartite networks
Repository: https://github.com/sjbeckett/weighted-modularity-LPAwbPLUS
Languages: Julia, MATLAB, Octave, R
Description: Quantifying modularity in weighted bipartite networks (see Beckett, 2016)

2013 **FALCON:** a software package for analysis of nestedness in bipartite networks
Repository: https://github.com/sjbeckett/FALCON
Languages: MATLAB, Octave, R
Description: Assessing nestedness in bipartite networks, described in Beckett et al. 2014.

Presentations

2023 **Ocean microbial ecology seminar, University of Tennessee, Knoxville.** *Knoxville, TN.*
Seminar: Modeling virus impacts across systems: from marine microbial communities to COVID-19.

2023 **The Serrapilheira/ICTP-SAIFR Training Program in Quantitative Ecology.** *São Paulo, Brazil.*
Oral presentation: Applying quantitative principles to develop public facing tools for COVID-19.

2021 **Aquatic Viral Workshop 10.** *Virtual/Kyoto (Japan).*
Oral presentation: Viral lysis, grazing and unaccounted Prochlorococcus losses in diel population dynamics in the NPSG.

2021 **Models of Infectious Disease Agent Study Network Annual Meeting: 2021.** *Virtual.*
Poster presentation: Regional risk assessments: bringing actionable information to locales.

2020 **Simons Collaboration on Ocean Processes and Ecology Annual Meeting 2020.** *Virtual.*
Poster presentation: Viral lysis, grazing and unaccounted Prochlorococcus losses revealed in diel population dynamics in the North Pacific Subtropical Gyre.

2020 **Oceanography department seminar, Louisiana State University**. *Virtual/Baton Rouge, LA.*
Invited speaker: Modeling virus impacts across systems: from marine microbial communities to COVID-19.

2020 **Biology department seminar, University of Illinois at Chicago.** *Chicago, IL.*
Invited speaker: Quantifying the ecological relevance of grazing and viral lysis in marine microbial communities.

2020 **Centre for Microbial Dynamics and Infection seminar** *at Georgia Tech*
Oral presentation: Quantifying the ecological relevance of grazing and viral lysis in marine microbial communities.

2020 **Physics of Living Systems seminar** *at Georgia Tech.*
Oral presentation: Quantifying the ecological relevance of grazing and viral lysis in marine microbial communities.

2020 **Ocean Sciences Meeting 2020.** *San Diego, CA.*
Poster presentation: A day in the life of Prochlorococcus: Diel ecological oscillations of cyanobacteria, viruses and grazers in the North Pacific Subtropical Gyre.

2019 **Marine Biological Association seminar.** *Plymouth, UK*
Invited speaker: Computational Marine Microbiology: Linking cellular interactions to population dynamics and ecosystem function.

2019 **Simons Collaboration on Ocean Processes and Ecology Annual Meeting 2019**. *NYC, NY.*
Poster presentation: Estimating Prochlorococcus loss rates in north Pacific surface waters associated with viruses, grazers and “other”.

2018 **Simons Collaboration on Ocean Processes and Ecology Annual Meeting 2018.** *NYC, NY.*
Invited speaker and additional poster presentation: Diel with it: Data-model comparisons of diel ecological oscillations around station ALOHA.

2018 **5th Postdoctoral Research Symposium** *at Georgia Tech.*
Oral presentation: Viral Lysis vs. Grazing: Perspectives on Phytoplankton Mortality.

2018 **Aquatic Viral Workshop 9**. *Lincoln, NE.*
Oral presentation: Viral Lysis vs. Grazing: Perspectives on Phytoplankton Mortality.

2018 **Ocean Sciences Meeting.** *Portland, OR.*
Poster presentation: The Effect of Strain Level Diversity on Inference of Grazing and Viral-Induced Mortality.

2018 **Suddath Symposium: The Chemical Ecology of Microbiome Interactions**. *Atlanta, GA.*
Poster presentation: Mortality in a bottle: nonlinear feedbacks and biases when inferring viral-induced lysis of plankton.

2017 **Marine Biological Association & SAHFOS seminar.** *Plymouth, UK.*
Invited speaker: Quantifying the ecological relevance of viral lysis in complex microbial communities.

2017 **Simons Collaboration on Ocean Processes and Ecology Annual Meeting 2017**. NYC, NY.
Poster presentation: Mortality in a bottle: nonlinear feedbacks and biases when inferring viral-induced lysis of plankton.

2017 **Microbial Dynamics seminar** *at Georgia Tech.*
Invited speaker: Estimating viral impacts on marine phytoplankton.

2017 **ASLO 2017 Aquatic Sciences Meeting.** *Honolulu, HI.*
Oral presentation: Robustness and biases in estimating viral-induced plankton mortality.

2016 **Simons Collaboration on Ocean Processes and Ecology Annual Meeting 2016.** *NYC, NY.*
Poster presentation: Theoretical ecology at sea: interpreting mortality rate measurements.

2016 **NAKFI conference: Discovering the Deep Blue Sea: Research, Innovation, Social Engagement.** *Irvine, CA.*
Poster presentation: Competition, diversity and disease: implications for plankton mortality rates.

2016 **3rd Postdoctoral Research Symposium** *at Georgia Tech.*
Poster presentation: Towards Modifying the Modified Dilution Method: Robustness and Biases in Estimating Viral-induced Plankton Mortality.

2016 **School of Biology retreat.** *Helen, GA.*
Poster presentation: Towards Modifying the Modified Dilution Method: Robustness and Biases in Estimating Viral-induced Plankton Mortality.

2016 **Viruses of Microbes 2016.** *Liverpool, UK.*
Poster presentation: Towards Modifying the Modified Dilution Method: Robustness and Biases in Estimating Viral-induced Plankton Mortality.

2016 **Aquatic Viral Workshop 8.** *Plymouth, UK*
Oral presentation: Towards Modifying the Modified Dilution Method: Robustness and Biases in Estimating Viral-Induced Plankton Mortality.

2015 **Simons Collaboration on Ocean Processes and Ecology Annual Meeting 2015.** *NYC, NY.*
Poster presentation: Diel or no diel? Effectiveness of the dilution method for determining host mortality rates due to viruses.

2015 **Living systems: from interaction patterns to critical behavior.** *Venice, Italy.*
Oral presentation: Can coevolution drive phage-bacteria network structure?

2014 **Student Conference on Complexity Sciences.** *Brighton, UK.*
Oral presentation: The usage of nestedness for the analysis of bipartite networks.

2013 **Disease Group Seminar**. *University of Exeter (Penryn campus), Penryn, UK.*
Invited speaker: Coevolved nestedness and modularity in model phage-bacteria infection networks.

2013 **Mathematical Models in Ecology and Evolution.** *York, UK.*
Oral presentation: Coevolved Nestedness and Modularity in model Phage-Bacteria Infection Networks.

2013 **Uncertainty in Interaction Networks.** *Bath, UK.*
Poster presentation: Coevolved nestedness and modularity in phage-bacteria infection networks.

2013 **Cambridge Networks Day.** *Cambridge, UK.*
Poster presentation: Coevolved nestedness and modularity in phage-bacteria infection networks.

2013 **Modelling Biological Evolution 2013: Recent Progress, Current Challenges and Future Directions**. *Leicester, UK.*
Poster presentation: Coevolved nestedness and modularity in phage-bacteria infection networks.

2012 **Viruses of Microbes 2012.** *Brussels, Belgium.*
Poster presentation: Towards trait-based models for aquatic virology.

Teaching

Lecturing

2023 **The Serrapilheira/ICTP-SAIFR Training Program in Quantitative Ecology.** *São Paulo, Brazil.*
Quantitative Foundations of Ecological and Evolutionary concepts. Two week course to 30 Brazilian undergraduate/masters students on concepts and modeling for ecology, evolution and epidemics.

2019, 2018, 2017 **Foundations of Quantitative Biosciences** (course lead: Joshua Weitz).
Georgia Institute of Technology.
Guest lectures on:
* Predator-prey dynamics and evolutionary ecology
* Evolutionary ecology and adaptive dynamics

2018 **Special Topic: Physics of Living Systems** (course lead: Daniel Goldman).
Georgia Institute of Technology.
Guest lectures on:
* Predator-prey dynamics and evolutionary ecology

Workshop Instructor

2021, 2020 Quantitative Biosciences Workshop on Epidemic modeling. *Georgia Institute of Technology.*

Professional development

2023 How does code and science get published?, for The Serrapilheira/ICTP-SAIFR Training Program in Quantitative Ecology. *São Paulo, Brazil.*

2019 Inside the peer review process, for the Quantitative Biosciences Graduate Program. *Georgia Institute of Technology.*

Teaching assistant

2012-2015 Multiple courses including “Introduction to Ecology” and “Modelling for Biosciences”. *University of Exeter.*

Mentorship

Undergraduate students

2021-2023 **Caitlin Cheung,** *Undergraduate Researcher in Biomedical Engineering*
Data-driven insights to impacts of COVID-19 across county scales in the USA; and estimating temporal evolution of risk with respect to testing; and focus on interpreting wastewater surveillance data.

2020-2023 **Quan Nguyen,** *Undergraduate Researcher in Chemical & Biomolecular Engineering*
Developing interactive dashboards focused on COVID-19 population-level immunity; and COVID-19 risk assessment analysis across multiple countries. Research published in *Nature Human Behaviour* & *Annals of Epidemiology.* Quan is now pursuing a PhD at U.Penn.

2019-2020 **Robert Morgan,** *Undergraduate Researcher in Biological Sciences*
Visualization of and interactive tutorials for ecological models. Supported Robert in applying for a President’s Undergraduate Research Awards at Georgia Tech.

2017-2018 **Adam Zhang**, *Undergraduate Researcher in Mathematics*
Research contributed to the manuscript: “Contrasting controls on microzooplankton grazing and viral infection of microbial prey”. Adam completed a Data Science Internship at UPS and is now an Applied AI manager at Optimal Dynamics.

Graduate students

2022-Present **Raunak Dey,** *PhD student in Physics*
Model-data integration and inference in ecological communities.

2018-2019 **GuanLin Li,** *PhD in Quantitative Biosciences*
Timeseries inference and evolutionary dynamics of virus-microbe systems. GuanLin is now a Quantitative Researcher at China Securities Co., Ltd.

2017-2019 **Daniel Muratore**, *PhD in Quantitative Biosciences*
Microbial oceanographic modelling, game-theory and time-series data analysis. Daniel is now a Complexity Postdoctoral and Omidyar Fellow at the Sante Fe Institute.

2016-2021 **Ashley Coenen**, *PhD in Physics*
Inferring ecological virus-host community structures from population dynamics. Ashley is now a Business Analyst and Data Scientist at NRG Energy.

2016-2017 **Charles Wigington**, *PhD in Bioinformatics*
Quantifying relationships of oceanic virus-to-microbe ratios. Charles is now a Data Scientist at Insulet Corporation.

2015-2018 **Shengyun Peng**, *PhD in Bioinformatics*
Investigating virus-host infection from single cell and genomic perspectives. Shengyun is now a Data Scientist with Adobe.

Professional Activities and Service

Conference Organisation

Co-convenor and moderator at *2018 Ocean Sciences Meeting* for the session: *A Matter of Life and Death: The Role of Microbial Interactions in Mediating Biogeochemical Cycles*. Co-lead with David Talmy (UTK), Kyle Mayers (SOTON) and Elizabeth Harvey (UGA). Portland, USA (2018).

Organiser for the *4th Postdoctoral Research Symposium at Georgia Tech.* Acquired $8,500 in funds for awards to outstanding presenters, organised sessions, reviewed abstracts and coordinated the symposium. I also convened the symposium. Atlanta, USA (2017).

Memberships

Association for the Sciences of Limnology and Oceanography (ASLO); Models of Infectious Disease Agent Study (MIDAS); International Society for Viruses of Microorganisms (ISVM)

Scientific peer review

Reviewer for: Applied Network Science, Axios Review, BMJ Open, Communications Biology, Concurrency & Computation: Practice & Experience, Current Opinion in Systems Biology, Diversity, Ecology Letters, eLife, Europhysics Letters, Evolutionary Bioinformatics, FEMS Microbiology Ecology, Frontiers in Genetics, Frontiers in Marine Science, IEEE Access, IEEE Transactions on Computational Social Systems, Journal of Biological Physics, Journal of Intelligent & Fuzzy Systems, Knowledge and Information Systems, Limnology and Oceanography, Methods in Ecology and Evolution, Molecular Ecology, Nature Communications, Network Science, Oikos, Physica A: Statistical Mechanics and its Applications, PLOS Computational Biology, PLOS ONE, Scientific Reports, The American Naturalist, The ISME Journal, Viruses.

Laboratory Experience

- *Mortality Workshop*. Technion - Israel Institute of Technology, Haifa, Israel (Sept., 2019). Part of a team investigating mortality of *Prochlorococcus* by viruses and grazers *in vitro (hosted by lab of Prof. Debbie Lindell)*.

Outreach

- Collaborative work contributing to COVID-19 population level immunity dashboards to show how natural infections and vaccinations contribute to herd immunity (implementation ongoing).
- Collaboration with Mary Wang (Georgia Tech.) and Science.Art.Wonder to promote science through art. December 2020-March 2021. Science.Art.Wonder Showcase. Artwork: “Us”.
- Collaborative work contributing to interactive COVID-19 event risk map dashboards for mapping risk in regional areas across multiple countries (implementation ongoing).
- Interactive data dashboard of COVID-19 metrics in Georgia as an interactive Rshiny app.
- Data Visualisations of COVID-19 spread in Georgia, showing time-lapses for recorded cases and deaths. April 2020.
- Hosted the science communication Twitter account @biotweeps (audience of over 18,000) for a week in March 2019, where I talked about modelling and marine viruses.
- Collaboration with Emily Madsen (Georgia Tech.) and Science.Art.Wonder to promote science via art. December 2018-April 2019. Atlanta Science Festival and Clough Art Crawl. Artwork: “Submerged” and “Through a Different Model”.
- Collaboration with ceramic sculptor RJ Sturgess (Georgia State) and Science.Art.Wonder to promote science through art at the Atlanta Science Festival. December 2017 - March 2018. Artwork: “Delicate Balance” and “Phage studies 1-3”.

- Educator supporting a massive open online course (MOOC) run by the University of Exeter and FutureLearn titled "*Climate Change: Challenges and Solutions*". Engaged with learners online and via weekly feedback videos. 2014.
- Run "Phage on toast" where I occasionally blog about my research and research experiences. Over 1000 visitors from 64 countries. (2013 – present).

Media

- **Beckett S.J.**, Weitz J.S. 2020. Georgia's Reopening Depended on Missing Data. *Slate* (Medical Examiner column). May 2020.

Press

- **Courier Post:** Holiday shopping in-person this year? Here are some ways to lower COVID risk
- **RStudio:** Communicating with 8 Million People through Shiny
- **Montana Public Radio:** How Risky Are Holiday Gatherings? Here's What Health Experts Say About COVID-19
- **WOGX Orlando:** Interactive map shows your risk of catching COVID-19 at an event
- **WABAY-TV Green Bay:** Interactive tool helps you understand risk factor of a gathering
- **WDAF-TV Kansas City:** Thanksgiving plans this year may be changing due to COVID-19
- **WHBQ-TV Memphis:** Researchers develop risk calculation tool for COVID-19 exposure
- **KSNV News 3 Las Vegas:** Tool shows risk of catching COVID-19 in group settings
- **KADN News15, Lafayette & Acadiana:** COVID-19 Risk Assessment Map
- **MetroLab/Government Technology:** Mapping Tool Visualizes COVID Risk of Different-Size Events. October 2020 Innovation of the month.
- **Business Insider:** A 'cuckoo' graph with no sense of time or place shows how Georgia bungled coronavirus data as it reopens
- **WABE:** Social Distancing Reduced Virus Spread By 50% In Georgia, Study Finds
- **GaTech College of Sciences:** Science Inspiring Art

Other Service

- Judge at the *15th Annual Undergraduate Research Spring Symposium*, Georgia Tech. Atlanta, USA (2021).
- Reviewer for President's Undergraduate Research Awards at Georgia Tech. Atlanta (2019).
- Judged at the *12th Annual Undergraduate Research Spring Symposium*, Georgia Tech. Atlanta, USA (2017).
- Lead GitHub demonstrations within the Weitz group at Georgia Tech to improve and aid the production of reproducible computational science (2015, 2016).
- Assisted with the Exeter Climate Change Exhibit at *Transformational Climate Science* conference. Exeter, UK (2014).
- Session chair at *Mathematical Models in Ecology and Evolution*. York, UK (2013).

References

Prof. **Joshua Weitz,** Clark Leadership Chair in Data Analytics
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, Charles Blaise Pascal International Chair of Excellence
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