



SESYNC Feedbacks

News from the National Socio-Environmental Synthesis Center

POSTDOCTORAL FELLOWS | New Researchers Join

SESYNC Welcomes New Cohort of Postdocs

SESYNC is pleased to welcome Ophélie Couriot as the Center's newest Postdoctoral Fellow. Ophélie started at the Center just last week, joining fellow postdocs Fushcia-Ann Hoover, Merle Eisenberg, and James Knighton, who started earlier this fall, as the Center's newest cohort of Postdoctoral Fellows. Read below to learn more about our new postdocs and their areas of research.

Dr. Ophélie Couriot's research focuses on the behavioral response of wildlife, in terms of movement, to spatiotemporal changes in the environment and how this will affect individual fitness and, thereby, population dynamics.

During her PhD, she studied how human and natural intraseasonal changes in the environment affect movement of two large lowland herbivores across Europe, roe and red deer. In particular, she aimed to understand the mechanisms of movement of these two species to maximize access to food resources while avoiding risk exposure in a changing environment. [Read more.](#)



Dr. Ophélie Couriot

Dr. Fushcia-Ann Hoover is a social-ecological urban hydrologist focused on exploring the intersections of urban stormwater hydrology, green infrastructure and ecosystem services informed by environmental justice theory.

During her National Academies' postdoc at the Environmental Protection Agency (Cincinnati), she studied the relationship between ecosystem services and green infrastructure with Dr. Matt Hopton. Now at SESYNC in collaboration with Dr. Sara Meerow (Arizona State University), their work focuses on building ways to incorporate equity into stormwater management planning. [Read more.](#)

Project: "[Green and Just](#)"



Dr. Fushcia-Ann Hoover



Dr. Merle Eisenberg

Dr. Merle Eisenberg is a late antique, medieval, and environmental historian who investigates how people responded to the end of the Roman Empire to shape their communities and create new medieval states. His research projects range from analyzing how rulers issued laws to build frameworks for their states to case studies of how climate change has affected pre-modern localities. [Read more.](#)

Project: "[The Making of a Pandemic](#)"

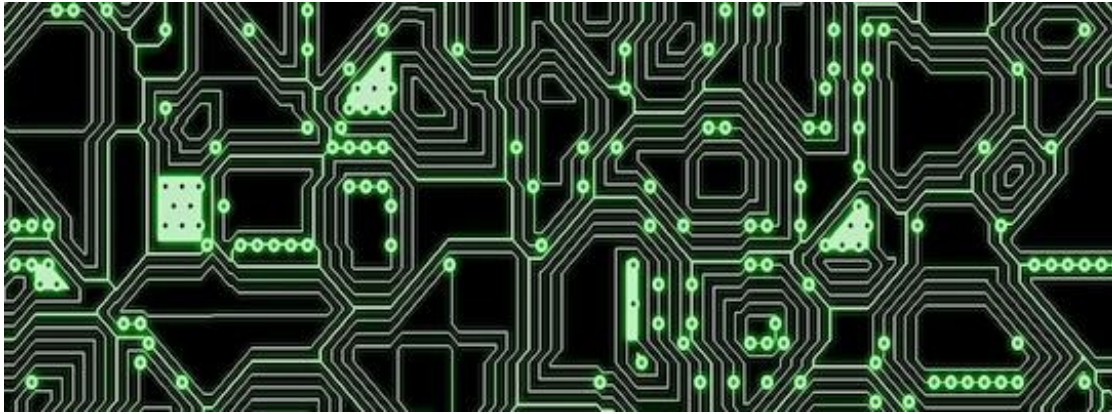
Dr. James Knighton is a registered Professional Engineer (PE) with a PhD in Environmental Engineering from Cornell University and an M.A. in Environmental Studies from the University of Pennsylvania. His research centers on how regional forests cover and synoptic-scale atmospheric mechanisms of extreme rainfall drive flooding risks. Prior to his PhD, he worked as a PE for eight years in the nuclear industry and government performing risk analysis for power generation facilities and urban environments. [Read more.](#)

Project: "[Flood Memory and Uncertainty](#)"



Dr. James Knighton

SESYNC is accepting applications for the [Socio-Environmental Postdoctoral Fellowship Program](#) through **November 8, 5 p.m. ET.** [Apply now.](#)



Three Common Data Questions

A SESYNC Data Scientist shares some common data questions and helpful resources.

By Rachael Blake

The Data Science team at SESYNC supports the synthesis research of interdisciplinary teams addressing pressing socio-environmental questions. As such, we field many questions related to data throughout the research process, and some topics are commonly discussed. We'll share three of those here.

1. How do I write a data management plan?

Funding agencies are increasingly requiring applicants to submit plans for data management during their proposed projects. With proper planning and preparation throughout the project, you can save yourself time down the road. See our [blog post](#) for further discussion.

2. How do I acquire online data?

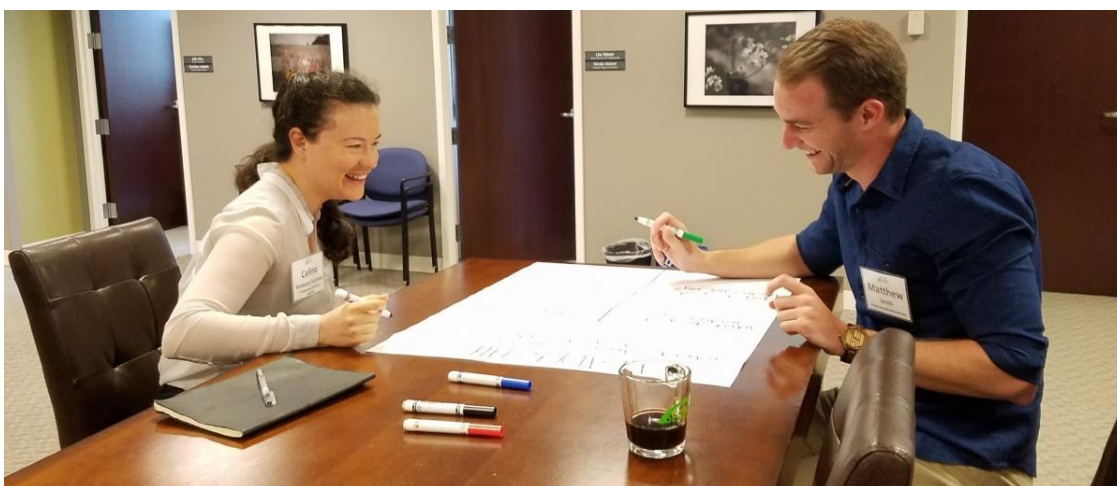
Data may be available online in many different forms. How you can acquire that data depends on the format in which the data are presented, and methods might include scraping (reading data from a website), using a web service or application program interface (API), or using a package with an API wrapper (code that uses the API). See our [lesson in Python](#) to learn more.

3. What's the difference between git, GitHub, and GitLab?

You've realized that managing changes to code and data is critical for collaboration in today's research environment, but how do you version your code? Git is a popular version control system, but is it the same as GitHub and GitLab? Check out our [FAQ page](#) on this topic for more info.

Learn more about SESYNC's [cyberinfrastructure services](#).

GRADUATE LEADERSHIP WORKSHOP | New Opportunity



New Opportunities for Graduate Students

The first workshop will be held this January in Annapolis, Maryland.

By Alaina Gallagher

SESYNC's Graduate Student Research Program began in 2013, with a focus on fostering interdisciplinary science among graduate students who were participating in a few team-based Graduate Pursuits. Fast forward to 2019, and SESYNC's graduate program has now hosted 7 graduate-oriented workshops and funded 28 Graduate Pursuit teams, with another cohort of teams underway as of fall 2019. Such significant growth in just a few years has demonstrated the need to expand synthesis opportunities designed specifically for graduate students.

To address this need, SESYNC is developing a set of workshops that will further build graduate students' capacity for interdisciplinary and socio-environmental science and teach them the skills needed to lead an interdisciplinary team. The goal of these events will be to expand students' understanding in key areas of interdisciplinary and S-E science; expose them to key skills through hands on activities; and give them key opportunities to network with peers outside of their disciplines. [Read full article here.](#)

[Learn more](#) about the first workshop, "Graduate Leaders in Socio-Environmental (S-E) Synthesis Workshop," or [apply here](#) by **November 15, 2019**.

SEMINAR | Reconsidering Antonine Plague's Effects



Modern Insights into Plagues of Old

For a historical epidemiologist, recycled narratives can impede updating history with modern scientific findings.

By Lauren White

One less commonly known plague of antiquity is the Antonine Plague (165-190 Common Era

[CE]). According to some historians, the Antonine Plague spanned the entire Mediterranean region, killing between 10-50% of the Roman Empire. The Roman Emperor, Lucius Verus, and his co-regent Marcus Aurelius are two of this epidemic's purported victims. Some historians even assert that it crippled the Roman military, leading to the end of Pax Romana.

In his recent **seminar** at the National Socio-Environmental Synthesis Center (SESYNC), historical epidemiologist, Professor Tim Newfield, counters this "maximalist" or extreme interpretation of the Antonine Plague with a more nuanced argument. He asserts that this epidemic was not the mass source of mortality as has been previously described. As an Assistant Professor in the Department of History at Georgetown University, **Newfield** uses collaborative and interdisciplinary approaches to bring new evidence into discussions of the deep past (1st millennium CE). [Read full article here.](#)

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Join the conversation about interdisciplinary science by connecting with SESYNC (@SESYNC) on [Facebook](#), [Twitter](#), [LinkedIn](#), and [Youtube](#)! Follow us to learn about all our latest opportunities, events, and announcements.



Also, be sure to check out this [recent episode](#) of the [Finding Sustainability Podcast](#), featuring [SESYNC Director Margaret Palmer](#), speaking on "Stream ecology, applied service, and directing SESYNC."



SESYNC is #NSFfunded through a grant to the University of Maryland. Let us help you get the word out. Tag your SESYNC-related research [#NSFfunded!](#)



NEW PUBLICATIONS | SESYNC in the Journals

"Impacts of Mainstream Hydropower Development on Fisheries and Human Nutrition in the Lower Mekong." Published in *Frontiers in Sustainable Food Systems* by Christopher D. Golden and colleagues, including former SESYNC postdoc Jessica A. Gephart, as part of the Pursuit [Fisheries and Food Security](#).

"Context matters: influence of organizational, environmental, and social factors on civic environmental stewardship group intensity." Published by Michelle L. Johnson and colleagues, including former SESYNC postdoc Dexter H. Locke, in *Ecology and Society*.

"Wildfire recovery as a "hot moment" for creating fire-adapted communities ." Published in the *International Journal of Disaster Risk Reduction* by Ronald L. Schumann, Miranda Mockrin, and colleagues, as part of the Pursuit [Linked socio-environmental responses to destructive wildfire: Are wildfires 'hot moments' for transformative adaptation?](#)

"A comprehensive approach to analyzing community dynamics using rank abundance curves." Published in *Ecosphere* by former SESYNC postdoc Meghan L. Avolio and colleagues.

"Eight grand challenges in socio-environmental systems modeling." Published in *Socio-Environmental Systems Modelling* by Sondoss Elsayah and colleagues after the Workshop [Use of socio-environmental systems modeling in actionable science: State-of-the-art, open challenges and opportunities](#).

"Bridging sustainability science, earth science, and data science through interdisciplinary education." Published in *Sustainability Science* by Deanna Pennington and colleagues as part of the Pursuit [Understanding, Teaching, & Employing Model-Based Reasoning in Socio-Environmental Synthesis \(EMBeRS\)](#).

"Urban legacies: Aquatic stressors and low aquatic biodiversity persist despite implementation of regenerative stormwater conveyance systems." Published in *University of Chicago Press Journals* by SESYNC Director Margaret Palmer and colleagues.



The Story of Urban Water Management Transitions

Looking to lessons from the past to inform the future.

Cities face increasing threats to water supplies, but how can they transition towards more sustainable water management? Rapid urbanization, population growth, regulatory frameworks, and multiple competing demands combine to complicate the ability for urban water managers to guarantee future water supplies. [Read the full article.](#)

This is part of our ongoing series to share our most popular stories from the SESYNC research archives.

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1 Park Place, Suite 300, Annapolis, MD 21401
410.919.4810