

Sara Lafia, Ph.D.

ICPSR Research Fellow • University of Michigan, Ann Arbor, MI

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Education

- Ph.D. in Geography** 2020
University of California, Santa Barbara, CA
Emphasis: Information Technology and Society
Dissertation: Designing for Serendipity: Research Data Curation in Topic Spaces
Committee: Werner Kuhn (Chair), James Frew, Kelly Caylor, and Daniel Montello
- B.S. in Urban Planning & B.S. in Geography - GIS (Valedictorian)** 2014
Kellogg Honors College at California State Polytechnic University, Pomona, CA

Appointments

- Postdoctoral Research Fellow** 2020 - present
ICPSR, University of Michigan, Ann Arbor, MI
- Graduate Student Researcher** 2014 - 2020
Center for Spatial Studies, University of California, Santa Barbara, CA
- Engineering Intern** 2017
Esri Research & Development, Arlington, VA
- Informatics Intern** 2016
National Center for Ecological Analysis and Synthesis, Santa Barbara, CA

Publications

Journal Articles

- Lafia, S., Kuhn, W., Caylor, K., & Hemphill, L. (2021). [Mapping Research Topics at Multiple Levels of Detail](#). *Patterns*, 100210.
- Lafia, S., & Kuhn, W. (2018). [Spatial Discovery of Linked Research Datasets and Documents at a Spatially Enabled Research Library](#). *Journal of Map & Geography Libraries*, 14(1), 21-39.
- Coggins, B. L., Lafia, S., & Torghabeh, B. V. (2018). [Dramatic Change in North Korea: Instability and Human Flight Propensity](#). *North Korean Review*, 14(1), 49-70.
- Lafia, S., Jablonski, J., Kuhn, W., Cooley, S., & Medrano, F. A. (2016). [Spatial Discovery and the Research Library](#). *Transactions in GIS*, 20(3), 399-412.

Conference Papers

Hervey, T., **Lafia, S.**, & Kuhn, W. (2020). [Search Facets and Ranking in Geospatial Dataset Search](#). In *11th International Conference on Geographic Information Science (GIScience 2021)*. Schloss Dagstuhl-Leibniz-Zentrum fuer Informatik.

Lafia, S., Last, C., & Kuhn, W. (2019). [Enabling the Discovery of Thematically Related Research Objects with Systematic Spatializations](#). In *14th International Conference on Spatial Information Theory (COSIT 2019)*. Schloss Dagstuhl-Leibniz-Zentrum fuer Informatik.

Lafia, S., Turner, A., & Kuhn, W. (2018). [Improving Discovery of Open Civic Data](#). In *10th International Conference on Geographic Information Science (GIScience 2018)*. Schloss Dagstuhl-Leibniz-Zentrum fuer Informatik.

Allen, C., Hervey, T., **Lafia, S.**, Phillips, D. W., Vahedi, B., & Kuhn, W. (2016). [Exploring the Notion of Spatial Lenses](#). In *International Conference on Geographic Information Science* (pp. 259-274). Springer, Cham.

Short Papers

Lafia, S., Xiao, J., Kuhn, W., & Hervey, T. (2019). [Talk of the Town: Discovering Government Data via Conversational Voice Assistants](#). In *14th International Conference on Spatial Information Theory (COSIT 2019)*. Schloss Dagstuhl-Leibniz-Zentrum fuer Informatik.

Golubovic, N., Krintz, C., Wolski, R., **Lafia, S.**, Hervey, T., & Kuhn, W. (2016). [Extracting Spatial Information from Social Media in Support of Agricultural Management Decisions](#). In *Proceedings of the 10th Workshop on Geographic Information Retrieval* (p. 4). ACM.

Lafia, S., & Staehli, L. (2016). [From Research Objects to Research Networks: Combining Spatial and Semantic Search](#). In *SDW@ GIScience* (pp. 35-40).

News and Reports

Lafia, S., & Kuhn, W. (2019). [Enabling the Spatial Discovery of Research Data in Libraries](#). In *US National Report. (US National Committee for the International Cartographic Association)*.

Selmann, K., **Lafia, S.**, Paul, D., James, S., Bloom, D., Rios, N., ... & Davis, E. (2018). [Georeferencing for Research Use \(GRU\): An Integrated Geospatial Training Paradigm for Biocollections Researchers and Data Providers](#). *Research Ideas and Outcomes*, 4, e32449.

Lafia, S. & Kuhn, W. (2017). [Opening Access to University Scholarship through Spatial Discovery](#). ESRI, ArcUser.

Presentations

Invited Talks

"[Measuring the Impacts of Curatorial Actions on Research Data Reuse](#)." LIBER Webinar. Online. 2020

"Designing for Serendipity: Supporting Data Discovery with Spatial Curation." ICPSR: Ann Arbor, Michigan 2020

"Discovering Spatial Data for Our Changing Earth." ESIP Summer Meeting. Tucson, Arizona 2018

Oral Presentations

"[Designing for Serendipity: Research Data Curation in Topic Spaces](#)." UCSB: Dissertation Public Defense 2020

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| "Enabling the Discovery of Thematically Related Research Objects." COSIT: Regensburg, Germany | 2019 |
| "Talk of the Town: Discovering Government Data." COSIT: Regensburg, Germany | 2019 |
| "Spatially Supported Thematic Discovery of Research Data." COSIT: Regensburg, Germany | 2019 |
| "Re-creating and Exploring Research Neighborhoods." FORCE11 Summer Institute: UCLA | 2019 |
| "Spatial Data Discovery at UCSB: Future Directions." Library Open Access Week: UCSB | 2018 |
| "Improving Discovery of Open Civic Data." GIScience: Melbourne, Australia | 2018 |
| "Discovering and Sharing Campus Scholarship." Center for Spatial Studies Lightning Talks: UCSB | 2017 |
| "Linking Geographic Footprints to Topic Spaces." Graduate Slam Competition: UCSB | 2017 |
| "From Research Objects to Research Networks." WAML: Stanford University | 2016 |
| "Spatial Discovery and the University Library." TGIS Session at ESRI User Conference: San Diego, CA | 2016 |
| "People and Places: Resource Discovery in a Library Context." AAG: San Francisco, CA | 2016 |
| "Degrees of Separation: Measuring Musicians and Places." Center for Spatial Studies: UCSB | 2016 |

Poster Presentations

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| " How Does Data Curation Impact Discovery? " ESIP Winter Meeting: Online | 2021 |
| " Measuring and Improving the Efficacy of Curation Activities in Data Archives. " RDA 16th Plenary: Online | 2020 |
| " Supporting Interdisciplinary Research Reviews with Multi-Level Topic Maps. " MIDAS 2020: Online | 2020 |
| "Mapping Research Topics at Multiple Levels of Detail." AIDR Symposium 2020: Online | 2020 |
| "Research Trajectories: Topic Models of UCSB Graduate Research." MAT EoYS: Santa Barbara, CA | 2017 |
| "Computing with Core Concepts of Spatial Information." COSIT: Santa Fe, New Mexico | 2015 |

Honors and Awards

Fellowships and Scholarships

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| ESIP Community Fellow : Earth Science Information Partners, Discovery Cluster | 2020 - present |
| Mellichamp Ph.D. Research Fellowship : UCSB 21st Century Global Dynamics | 2019 |
| Robert Raskin Scholarship : Earth Science Information Partners | 2018 |
| Jack & Laura Dangermond Graduate Fellowship : UCSB Department of Geography | 2017 - 2018 |
| Greater Research Opportunities Fellowship : U.S. Environmental Protection Agency | 2012 - 2014 |
| Prete Environmental Education Fellowship : Lyle Center for Regenerative Studies | 2012 - 2013 |

Awards

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| Best Paper of the Year Award: Journal of Map & Geography Libraries, Volume 14 | 2020 |
| Excellence in Teaching Award: UCSB Department of Geography | 2019 |
| Womxn/Hacks Hackathon Winner (Best Use of Google Cloud Platform): UCSB | 2019 |
| SAP + Esri Spatial Hackathon Finalist (Geo-machine learning): Esri DevSummit | 2018 |

Travel Grants

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| Jack & Laura Dangermond Travel Grants: UCSB Department of Geography | 2014 - 2019 |
| FORCE11 Scholarly Communication Institute Scholarship: UCLA | 2019 |
| Graduate Student Synthesis Workshop Invitation: National Socio-Environmental Synthesis Center | 2017 |
| DataONE Users Group Meeting Travel Grant: National Center for Ecological Analysis and Synthesis | 2016 |
| Google Geo for Higher Education Summit Invitation: Mountain View, CA | 2014 |

Research Experience

Research Fellow: ICPSR, University of Michigan 2020 - present

- Developing methods for tracking and quantifying the impact of secondary research data discovery and reuse

Graduate Student Researcher: UCSB Center for Spatial Studies 2016 - 2020

- Leveraged Esri's Open Data platform for mapping and linking research datasets to publications

Research Assistant: WhatEvery1Says (WE1S), UCSB Department of English (with Dr. Alan Liu) 2019

- Analyzed topic model quality and fitness for use to study humanities discourse in the media

Research Assistant: *global-e*, UCSB Department of Film and Media Studies (with Dr. Michael Curtin) 2019

- Designed interactive visualizations and supported publication of essays for an open access electronic journal

Engineering Intern: Esri Research & Development, Arlington, VA 2017

- Improved search for open public datasets in ArcGIS Hub through extension and application of an ontology

Research Assistant: UCSB Department of Political Science (with Dr. Bridget Coggins) 2017

- Developed a spatially explicit agent-based model simulating flight-risk based on environmental factors

Informatics Intern: NCEAS, Santa Barbara, CA 2016

- Extended an ontology enabling semantic metadata annotation and provenance tracking of ecological datasets

NASA DEVELOP Student Contractor: Jet Propulsion Laboratory, Pasadena, CA 2013

- Expedited the validation of damage proxy maps of natural disasters derived from radar data via a web tool

NSF-REU Summer Research Assistant: University of Nevada, Reno, NV 2012

- Collected and managed ecological field data in a spatial database; performed statistical analysis with SPSS

Teaching Experience

Research Mentor: Center for Spatial Studies, UCSB 2015, 2017, 2019

- Supervised development of a survey to assess web map usability for UCSB's interactive campus map
- Collaborated on design of a self-organizing map and network visualization of research publications
- Co-authored a workflow for spatial research data ingest in collaboration with UCSB librarians

Instructor of Record: Department of Geography, UCSB 2017 - 2018

- Developed course materials and delivered lectures for *Introduction to Geographic Information Systems* (28 students) and *Geography of California* (60 students), receiving excellent student evaluations for both courses

Workshop Co-Instructor: iDigBio Georeferencing Workshop, NCEAS (with Dr. Katja Selmann) 2016

- Developed training materials and sample data for a QGIS training workshop supporting collections managers

Discovery Seminar Co-Instructor: Department of Computer Science UCSB (with Dr. Chandra Krintz) 2015

- Introduced computer science students to GIS, designed learning activities, and facilitated guest lectures

Teaching Assistant: Department of Geography, UCSB 2014 - 2018

- Led sections for *Introduction to Geographic Information Systems*; *People, Place, and Environment*; *Analytical and Computer Cartography*; and *Geography of Surfing*, receiving excellent student evaluations for all courses

Academic Service

Earth Science Information Partnership (ESIP) Community Fellow: University of Michigan 2020 - present

- Organizing monthly teleconferences and biannual meeting sessions for the data discovery cluster

Manuscript Reviewer: JOSIS, IJDE, Semantic Web Journal 2018 - present

- Reviewing manuscripts as requested by editors on spatial data science and Semantic Web technology topics

Faculty Search Committee Graduate Representative: Environmental Data Science & GIS, UCSB 2017, 2019

- Reviewed candidate materials, supported invited candidate visits, and facilitated the graduate student vote

Meeting Co-organizer: Spatial Discovery Expert Meetings, Center for Spatial Studies 2015, 2017, 2019

- Co-organized agenda and session topics on spatial search at the intersection of libraries and GIS services

Graduate Student Association Representative: Associated Student Government, UCSB 2018 - 2019

- Served as an elected department representative and campus liaison for Geography graduate students

Workshop Co-organizer: Core Computations on Spatial Information at GIScience in Melbourne, Australia 2018

- Reviewed invited papers and talks, contributed to agenda, and moderated discussion of a half-day workshop

Graduate Student Representative: Associated Students Campus Bicycle Committee, UCSB 2017 - 2018

- Inventoried bicycle infrastructure and deployed an interactive web application for mapping campus projects

GIS Help Desk Consultant: Center for Spatial Studies, UCSB 2017

- Provided GIS research services and consultations for students, staff, and faculty from campus research units

Skills

Certifications

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| Certificate in College and University Teaching (CCUT) | 2020 |
| Summer Teaching Institute for Associates (STIA) | 2017 |

Languages

Python, R, Java, Javascript with HTML/CSS

English (native language), Spanish (proficient - reading, writing)

Software/OS

ArcGIS/Server, QGIS

Protégé, Processing

Affiliations

Association of American Geographers (AAG)

Association for Information Science and Technology (ASIS&T)

Association for Computing Machinery (ACM)

Earth Science Information Partners (ESIP)

Research Data Alliance (RDA)