

# Sergio Rey

San Diego State University  
Center for Open Geographical Science  
5500 Campanile Drive  
San Diego, CA 92182-4493

Phone: (619) 594-5437  
Email: [srey@sdsu.edu](mailto:srey@sdsu.edu)  
Homepage: <https://geography.sdsu.edu>

## Education

- 1994 Ph.D. Geography, University of California, Santa Barbara.
- 1988 M.A. Geography, University of California, Santa Barbara.
- 1985 B.S. Environmental Science, The Richard Stockton College of New Jersey.

## Honors and Awards

- 2023 Fellow, American Association for the Advancement of Science.
- 2017 David Boyce Award for Service to Regional Science. North American Regional Science Council.
- 2016 Elected Fellow, Regional Science Association International.
- 2016 Research Award, University Consortium for Geographic Information Science.
- 2015 Outstanding Service Award, Spatial Analysis and Modeling Specialty Group, Association of American Geographers.
- 2015 Fellow, Western Regional Science Association.
- 2014 President, Western Regional Science Association.
- 2007- Fellow, Spatial Econometrics Association.
- 1999-00 Faculty Fellow. Center on Computational Science and Engineering. San Diego State University.
- 1998 Geoffrey J.D. Hewings Distinguished Young Scholars Award. North American Regional Science Council.

## Academic Appointments

- Founding Director, Center for Open Geographical Science, San Diego State University
- Professor, Department of Geography, San Diego State University

## Prior Academic Appointments

- 2017-22 Founding Director, Center for Geospatial Sciences, University of California, Riverside
- 2017-22 Professor, School of Public Policy, University of California, Riverside
- 2017-22 Cooperating Faculty Member, Department of Computer Science and Engineering, University of California, Riverside
- 2008-17 Professor, School of Geographical Sciences and Urban Planning, Arizona State University

2007-08 Chair, Department of Geography, San Diego State

2006-08 Co-director, Center For Earth Systems Analysis Research (CESAR), Department of Geography, San Diego State University

2005-08 Director, Regional Analysis Laboratory (REGAL), Department of Geography, San Diego State University

2005-08 Adjunct Faculty Member, Department of Geography, University of Illinois, Champaign-Urbana

2003-08 Professor, Department of Geography, San Diego State University

2001 Visiting Scholar, School of Economics, University of Queensland (Summer-Fall).

1998-03 Associate Professor, Department of Geography, San Diego State University

1994-08 SDSU/UCSB Geography Ph.D. Faculty member.

1994-98 Assistant Professor, Department of Geography, San Diego State University

### **Editorial Appointments**

2018- Editorial board member, *Geographical Analysis*

2018-23 Editorial board member, *Annals Association of American Geographers*

2018-20 Editorial board member, *Applied Geography*

2014-17 Editor, *Geographical Analysis*

1999-14 Editor, *International Regional Science Review*

2014- Editorial board member, *International Journal of Geographical Information Science*

2014- Editorial board member, *Regional Studies*, *Regional Science*

2013-14 Editorial board member, *Geographical Analysis*

2011-20 Editorial board member, *Spatial Demography*

2008- Editorial board member, *Computers, Environment and Urban Systems*

2008- Editorial board member, *Region et Developpement*

2007- Editorial board member, *Letters in Spatial and Resource Sciences*

1999-10 Editorial board member, *Papers in Regional Science*

1998 Book review editor, *The Professional Geographer*

1997-99 Editorial board member, *International Regional Science Review*

1996-08 Editorial board member, *Geographical Analysis*

### Themed Issues

- 2022 Co-editor, "Open Source Software for Spatial Data Science." *Geographical Analysis*
- 2021 Co-editor, "Neighborhood Effects and Neighborhood Dynamics." *Geographical Analysis*
- 2013 Co-editor, "Spatial data infrastructures, cyberinfrastructure, and e-science for GIScience." *International Journal of Geo-Information*.
- 2011 Co-editor, "Special Issue in Honor of Manfred Fischer." *International Regional Science Review*.
- 2006 Guest Co-editor, "The Spatial Dimensions of Economic Growth and Convergence." *Papers in Regional Science*.
- 2006 Guest Co-editor, "Recent Advances in Software for Spatial Analysis in the Social Sciences." *Geographical Analysis*.
- 2004 Guest editor, "Special Issue on Walter Isard's Impact on Analytical Human Geographic Research." *Journal of Geographic Systems*.
- 2001 Co-editor, "Special Issue in Honor of William Alonso." *International Regional Science Review*.
- 1997 Guest Co-editor, "Special Issue on Spatial Econometrics" *International Regional Science Review*

### Books and Edited Volumes

1. 2023 Rey, S.J., D. Arribas-Bel, and L.J. Wolf, *Geographical Data Science with Python*. CRC Press, Boca Raton.
2. 2022 Rey, S.J. and R.S. Franklin (eds.) *Handbook of Spatial Analysis for the Social Sciences*. Edward Elgar, Cheltenham.
3. 2014 Anselin, L. and S.J. Rey, *Modern Spatial Econometrics in Practice: A Guide to GeoDa, GeoDaSpace and PySAL*. GeoDa Press, Chicago.
4. 2010 Anselin, L. and S.J. Rey (eds.), *Perspectives on Spatial Data Analysis*. Springer Verlag, Berlin.
5. 2004 Anselin, L., R.J.G.M. Florax and S.J. Rey (eds.), *Advances in Spatial Econometrics. Methodology, Tools and Applications*. Springer Verlag, Berlin.
6. 2002 Anselin, L. and S.J. Rey (eds.), *New Tools for Spatial Data Analysis: Proceedings of a Workshop. Center for Spatially Integrated Social Science, University of California, Santa Barbara (CD-ROM)*.

### Refereed Journal Articles and Book Chapters

1. 2024 Rey, S.J., E. Knaap, R. Wei, D. Skrah. "Measuring spatial congruence in the school-neighborhood nexus." *Applied Spatial Analysis and Policy*.  
doi: [10.1007/s12061-024-09603-9](https://doi.org/10.1007/s12061-024-09603-9)
2. 2024 Nelson, T., A.E. Frazier, P. Kedron, S. Dodge, B. Zhao, M. Goodchild, A. Murray, S. Battersby, L. Bennett, J.I. Blanford, C. Cabrera-Amau, C. Claramunt, R. Franklin, J. Holler, C. Koylu, A. Lee, S. Manson, G. McKenzie, H. Miller, T. Oshan, S. Rey, F. Rowe, S. Salap-Ayca, E. Shook, S. Spielman, W. Xu, S. Wilson. "A Research Agenda for GIScience in a Time of Disruptions." *International Journal of Geographic Information Science*. Forthcoming.
3. 2024 Murray, A.T., L. Anselin, S.J. Rey. "'Arthur Getis: a legend in geographical systems.'" *Journal of Geographical Systems* 26, 181–190.  
doi: [10.1007/s10109-024-00443-2](https://doi.org/10.1007/s10109-024-00443-2)

4. 2024 Embury, J., A. Nara, S.J. Rey, M. Tsou, S. Ghanipoor Machiani. "Detecting synthetic population bias using a spatially-oriented framework and independent validation data." *International Journal of Geographic Information Science*. Forthcoming.
5. 2024 Knaap, E. and S.J. Rey. "Measuring two decades of urban spatial structure: The evolution of agglomeration economies in American metros." *Computers, Environment and Urban Systems*. doi: [10.1016/j.compenvurbsys.2024.102116](https://doi.org/10.1016/j.compenvurbsys.2024.102116).
6. 2024 Xiong, N., Y.D. Wei, S.J. Rey. "Urban sprawl and racial inequality in intergenerational mobility." *Journal of Economic Geography*. doi: [10.1093/jeg/lbado39](https://doi.org/10.1093/jeg/lbado39).
7. 2024 Kang, Yunfan, Yongyi Liu, Hussah Alrashid, Akash Bilgi, Siddhant Purohit, Ahmed Mahmood, Sergio Rey, and Amr Magdy. "Pyneapple-R: Scalable and Expressive Spatial Regionalization." In 2024 IEEE 40th International Conference on Data Engineering (ICDE), 5497–5500. Utrecht, Netherlands: IEEE. <https://doi.org/10.1109/ICDE60146.2024.00437>.
8. 2023 Rey, S.J. "Intersectional urban dynamics: A joint Markov chains approach." *Letters in Spatial and Resource Sciences*. doi: [10.1007/s12076-023-00356-6](https://doi.org/10.1007/s12076-023-00356-6).
9. 2023 Knaap, E. and S.J. Rey. "Segregated by design? Street network topological structure and the measurement of urban segregation." *Environment and Planning B: Urban Analysis and City Science*. doi: [10.1177/23998083231197956](https://doi.org/10.1177/23998083231197956).
10. 2023 Alrashid, H., A. Magdy, S. Rey. "Statistical inference for spatial regionalization." *SIGSPATIAL '23: Proceedings of the 31st ACM Conference on Advances in Geographic Information Systems* 65: 1–12. doi: [10.1145/3589132.3625608](https://doi.org/10.1145/3589132.3625608).
11. 2023 Rey, S.J. and E. Casimiro Vieyra. "Spatial inequality and place mobility in Mexico: 2000–2015." *Journal of Applied Geography*. doi: [10.1016/j.apgeog.2023.102871](https://doi.org/10.1016/j.apgeog.2023.102871).
12. 2023 Wei, R., E. Knaap and S.J. Rey. "American Community Survey (ACS) data uncertainty and the analysis of segregation dynamics." *Population Research and Policy Review*. doi: [10.1007/s11113-023-09754-6](https://doi.org/10.1007/s11113-023-09754-6).
13. 2022 Wei, R., X. Feng, S.J. Rey and E. Knaap. "Reducing Racial Segregation of Public School Districts." *Socio-Economic Planning Sciences*. doi: [10.1016/j.seps.2022.101415](https://doi.org/10.1016/j.seps.2022.101415).
14. 2022 Rey, S.J. and E. Knaap. "The Legacy of Redlining. A Spatial Dynamics Perspective." *International Regional Science Review*. doi: [10.1177/01600176221116566](https://doi.org/10.1177/01600176221116566).
15. 2022 Feng, Xin, Germano Barcelos, James D. Gaboardi, Elijah Knaap, Ran Wei, Levi J. Wolf, Qunshan Zhao, and Sergio J. Rey. "spopt: A Python Package for Solving Spatial Optimization Problems in PySAL." *Journal of Open Source Software* 7 (74): 3330. doi: [10.21105/joss.03330](https://doi.org/10.21105/joss.03330).
16. 2022 Anselin, L., S.J. Rey. "Open Source Software for Spatial Data Science." *Geographical Analysis* 54 (3): 429–439. doi: [10.1111/gean.12339](https://doi.org/10.1111/gean.12339).
17. 2022 Rey, S.J. "Big Code." *Geographical Analysis*. doi: [10.1111/gean.12330](https://doi.org/10.1111/gean.12330).

18. 2022 Saxon, J., J. Koschinsky, K. Acosta, V. Anguiano, L. Anselin, S.J. Rey. "An Open Software Environment to Make Spatial Access Metrics More Accessible." *Journal of Computational Social Sciences* 5: 265-284.  
doi: [10.1007/s42001-021-00126-8](https://doi.org/10.1007/s42001-021-00126-8).
19. 2022 Rey, S.J., L. Anselin, P. Amaral, D. Arribas-Bel, R.C. Cortes, J.D. Gaboardi, W. Kang, E. Knaap, Z. Li, S. Lumnitz, T. M. Oshan, H. Shao, L.J. Wolf. "The PySAL ecosystem: philosophy and implementation." *Geographical Analysis* 54 (3): 467-487.  
doi: [10.1111/gean.12276](https://doi.org/10.1111/gean.12276).
20. 2022 Jenerette, G., K. Anderson, M. Cadenasso, M. Fenn, J. Franklin, M. Goulden, L. Larios S. Pincetl, H. Regan, S. Rey, L. Santiago, A. Syphard. "An Expanded Framework for Wildland-Urban Interfaces and their Management." *Frontiers in Ecology and the Environment* 20 (9): 516-523.  
doi: [10.1002/fee.2533](https://doi.org/10.1002/fee.2533).
21. 2022 Sauer, J., T. Oshan, S.J. Rey, L.J. Wolf. The Importance of Null Hypotheses: Understanding Differences in Local Moran's Ii under Heteroskedasticity. *Geographical Analysis*. *Geographical Analysis* 54 (4): 752-768.  
doi: [10.1111/gean.12304](https://doi.org/10.1111/gean.12304)
22. 2022 Kang, W., E. Knaap, S.J. Rey. Changes in the economic status of neighborhoods in U.S. metropolitan areas from 1980 to 2010: stability, growth, and polarization. *Urban Studies* 59 (3): 2774-2800.  
doi: [10.1177/00420980211042549](https://doi.org/10.1177/00420980211042549).
23. 2022 Wei, R., S.J. Rey, T. Grubesic. "A probabilistic approach to address data uncertainty in regionalization." *Geographical Analysis* 54 (2): 405-426.  
doi: [10.1111/gean.12282](https://doi.org/10.1111/gean.12282)
24. 2021 Gaboardi, J., S.J. Rey, S. Lumnitz. spaghetti: spatial network analysis in PySAL. *Journal of Open Source Software*, 6(62), 2826.  
doi: [10.21105/joss.0282](https://doi.org/10.21105/joss.0282)
25. 2021 Solem, M., C.C. Dony, T. Herman, K. Leon, A. Magdy, A. Nara, W. Ray, S.J. Rey, R. Russell. "Building educational capacity for inclusive geocomputation: A research-practice partnership in Southern California." *Journal of Geography* 120 (4): 152-159.  
doi: [10.1080/00221341.2021.1933140](https://doi.org/10.1080/00221341.2021.1933140)
26. 2021 Franklin Rey, S., J. Franklin, S.J. Rey. "Microplastic pollution on island beaches, Oahu, Hawai'i." *PLOS One*.  
doi: [10.1371/journal.pone.0247224](https://doi.org/10.1371/journal.pone.0247224).
27. 2021 Delmelle, E. and S.J. Rey. "Neighborhood effects and neighborhood dynamics." *Geographical Analysis* 53 (2): 167-169.  
doi: [10.1111/gean.12280](https://doi.org/10.1111/gean.12280)
28. 2021 Reades, J. and S.J. Rey. "Geographical Python Teaching Resources: GeoPyTeR". *Journal of Geographical Systems* 23: 579-597.  
doi: [10.1007/s10109-021-00346-6](https://doi.org/10.1007/s10109-021-00346-6)
29. 2021 Rey, S.J., R. Cortes, E. Knaap. "Comparative spatial segregation analytics." *Spatial Demography* 9: 31-56.  
doi: [10.1007/s40980-021-00075-w](https://doi.org/10.1007/s40980-021-00075-w)

30. 2021 Wei, R., S.J. Rey, E. Knaap. "Efficient regionalization for spatially explicit neighborhood delineation." *International Journal of Geographical Information Science* 35: 135-151.  
doi: [10.1080/13658816.2020.1759806](https://doi.org/10.1080/13658816.2020.1759806)
31. 2021 Rey, S.J. "Geographical Analysis: Reflections of a recovering editor." *Geographical Analysis* 53 (1): 38-46.  
doi: [10.1111/gean.12193](https://doi.org/10.1111/gean.12193)
32. 2021 Wolf, L.J., E. Knaap, and S.J. Rey. "Geosilhouettes: geographical measures of cluster fit." *Environment and Planning B: Urban Analytics and City Science* 48 (3): 521-539.  
doi: [doi.org/10.1177%2F2399808319875752](https://doi.org/10.1177%2F2399808319875752).
33. 2020 Rowe, Francisco, Maier, Gunther, Arribas-Bel, Daniel, and Sergio J. Rey. "The Potential of Notebooks for Scientific Publication, Reproducibility, and Dissemination." *Region* 7 (3): E1-E5.  
doi: [10.18335/region.v7i3.357](https://doi.org/10.18335/region.v7i3.357).
34. 2020 Shao, H., W. Li, W. Kang, S.J. Rey. "When Spatial Analytics Meets Cyberinfrastructure: an Interoperable and Replicable Platform for Online Spatial-Statistical-Visual Analytics." *Journal of Geovisualization and Spatial Analysis* 4 (17).  
doi: [10.1007/s41651-020-00056-5](https://doi.org/10.1007/s41651-020-00056-5)
35. 2020 Rey, S.J., S. Han, W. Kang, E. Knaap, R. Cortes. "A Visual Analytics System for Space-Time Dynamics of Regional Income Distributions Utilizing Animated Flow Maps and Rank-based Markov Chains." *Geographical Analysis* 52 (4): 537-557.  
doi: [10.1111/gean.12239](https://doi.org/10.1111/gean.12239)
36. 2020 Lumnitz, S., D. Arribas-Bel, R.X. Cortes, J.D. Gaboardi, V. Griess, W. Kang, T.M. Oshan, L. Wolf, and S. Rey. "splot - visual analytics for spatial statistics". *Journal of Open Source Software* 5 (47): 1882.  
doi: [10.21105/joss.01882](https://doi.org/10.21105/joss.01882).
37. 2020 Kang, W., S.J. Rey, L. Wolf, E. Knaap, S. Han. "Sensitivity of sequence methods in the study of neighborhood change in the United States." *Computers, Environment and Urban Systems* 81: 101480.  
doi: [10.1016/j.compenvurbsys.2020.101480](https://doi.org/10.1016/j.compenvurbsys.2020.101480).
38. 2020 Cortes, R.X., S.J. Rey, E. Knaap, and L.J. Wolf. "An Open-Source Framework for Non-Spatial and Spatial Segregation Measures: The PySAL Segregation Module." *Journal of Computational Social Sciences* 3: 135-166.  
doi: [10.1007/s42001-019-00059-3](https://doi.org/10.1007/s42001-019-00059-3)
39. 2019 Han, S., S.J. Rey, E. Knaap, W. Kang, and L.J. Wolf. "Adaptive Choropleth Mapper: an Open-Source Web-Based Tool for Synchronous Exploration of Multiple Variables At Multiple Spatial Extents." *International Journal of Geo-Information* 8 (11): 509-527.  
doi: [10.3390/ijgi8110509](https://doi.org/10.3390/ijgi8110509)
40. 2019 Kang, W. and S.J. Rey. "Inference for income mobility measures in the presence of spatial dependence." *International Regional Science Review* 43 (1-2): 10-39.  
doi: [10.1177/0160017619826291](https://doi.org/10.1177/0160017619826291)
41. 2019 Dony, C.C., A. Magdy, S.J. Rey, A. Nara, T. Herman, and M. Solem. "RPP for geocomputation: Partnering on curriculum in geography and computer science." In 2019 *Research on Equity and Sustained Participation in Engineering, Computing, and Technology (RESPECT)* IEEE: 12-13.  
doi: [10.1109/RESPECT46404.2019.8985934](https://doi.org/10.1109/RESPECT46404.2019.8985934)
42. 2019 Han, S., M. Tsou, E. Knaap, S.J. Rey, and G. Cao. "How do cities flow in an emergency? Tracing human mobility patterns during a natural disaster with big data and geospatial data science." *Urban*

- Science* 3 (2): 51.  
doi: [10.3390/urbansci3020051](https://doi.org/10.3390/urbansci3020051).
43. 2019 Rey, S.J. "PySAL: The first 10 years." *Spatial Economic Analysis* 14 (3): 273-282.  
doi: [10.1080/17421772.2019.1593495](https://doi.org/10.1080/17421772.2019.1593495)
  44. 2019 Rey, S.J., W. Kang, and L.J. Wolf. 'Regional inequality dynamics, stochastic dominance, and spatial dependence'. *Papers in Regional Science* 98 (2): 861-881.  
doi: [10.1111/pirs.12393](https://doi.org/10.1111/pirs.12393).
  45. 2019 Rey, S.J. "Spatial dynamics and space-time data analysis." In M. Fischer and P. Nijkamp (editors). *Handbook of Regional Science*. Springer.  
doi: [10.1007/978-3-642-36203-3\\_78-1](https://doi.org/10.1007/978-3-642-36203-3_78-1).
  46. 2018 Almasluikh, A., A. Magdy, and S. J. Rey. "Spatio-temporal analysis of market semantics over large public geosocial media data." *Journal of Location Based Services* 12 (3-4): 215-230.  
doi: [10.1080/17489725.2018.1547428](https://doi.org/10.1080/17489725.2018.1547428).
  47. 2018 Rey, S.J., E. Knaap, S. Han, L.J. Wolf, and W. Kang. "Spatio-temporal analysis of socioeconomic neighborhoods: The Open Source Longitudinal Neighborhood Analysis Package (OSLNAP)." *Proceedings of the 17th Python in Science Conference (SciPy 2018)* 121-128.  
doi: [10.25080/Majora-4af1f417-012](https://doi.org/10.25080/Majora-4af1f417-012).
  48. 2018 Rey, S.J. "Bells in space: The spatial dynamics of US interpersonal and interregional income inequality." *International Regional Science Review* 41(2): 152-182.  
doi: [10.1177/0160017615614899](https://doi.org/10.1177/0160017615614899).
  49. 2018 Kang, W. and S.J. Rey. "Conditional and joint tests for spatial effects in discrete Markov chain models of regional income distribution dynamics." *Annals of Regional Science* 61 (1): 73-93.  
doi: [10.1007/s00168-017-0859-9](https://doi.org/10.1007/s00168-017-0859-9).
  50. 2018 Rey, S.J. "Code as Text: Open Source Lessons for Geospatial Research and Education." In Thill, J.-C. and S. Dragicevic (eds.) *Geocomputational Analysis and Modeling of Regional Systems*. Springer. Pages 7-21.  
doi: [10.1007/978-3-319-59511-5\\_2](https://doi.org/10.1007/978-3-319-59511-5_2).
  51. 2018 Smith, R. and S.J. Rey "Spatial Approaches to Measure Subnational Inequality: Implications for Sustainable Development Goals". *Development and Policy Review* 36:O657-O675.  
doi: [10.1111/dpr.12363](https://doi.org/10.1111/dpr.12363).
  52. 2017 Clark, S.D. and S.J. Rey. "Temporal dynamics in local vehicle ownership in Great Britain." *Journal of Transport Geography* 62: 30-37.  
doi: [10.1016/j.jtrangeo.2017.05.007](https://doi.org/10.1016/j.jtrangeo.2017.05.007)
  53. 2017 Fan, C., S.W. Myint, S.J. Rey and W. Li. "Time series analysis of urban dynamics using sequential Landsat imagery and spatial statistical modeling." *International Journal of Applied Earth Observation and Geoinformation* 58:12-25.  
doi: [10.1016/j.jag.2017.01.009](https://doi.org/10.1016/j.jag.2017.01.009).
  54. 2017 Rey, S.J. "Python for GIS." In Wilson, J. (ed.) *Geographic Information Science & Technology Body of Knowledge* University Consortium for Geographic Information Science.  
doi: [10.22224/gistbok/2017.3](https://doi.org/10.22224/gistbok/2017.3).
  55. 2017 Arribas-Bel, D., T. de Graaff and S.J. Rey. "Looking at John Snow's cholera map from the XXIst century: a practical primer on reproducibility and open science. In R.W. Jackson and P. Schaeffer (eds.) *Regional Research Frontiers*. Springer. Page 283-306.  
doi: [10.1007/978-3-319-50590-9\\_17](https://doi.org/10.1007/978-3-319-50590-9_17)



56. 2017 Jackson, R., S.J. Rey and P. Jarosi. "Object orientation, open regional science, and cumulative knowledge building." In R.W. Jackson and P. Schaeffer (eds.) *Regional Research Frontiers*. Springer. Pages 259-282.  
doi: [10.1007/978-3-319-50590-9\\_16](https://doi.org/10.1007/978-3-319-50590-9_16).
57. 2017 Laura, J. and S.J. Rey "Spatial data analytics on heterogeneous multi- and many-core parallel architectures." In Shekhar, S. and H. Xiong (eds.) *Encyclopedia of GIS*. Springer. Pages 1972-1981.  
doi: [10.1007/978-3-319-17885-1\\_1569](https://doi.org/10.1007/978-3-319-17885-1_1569).
58. 2016 Fan, C., S.J. Rey, and S. Myint. "Spatially filtered ridge regression (SFRR): A regression framework to understanding impacts of land cover patterns on urban climate." *Transactions in GIS* 21 (5): 862-879.  
doi: [10.1111/tgis.12240](https://doi.org/10.1111/tgis.12240).
59. 2016 Franklin, J. and S.J. Rey. "Heterogeneous tree recruitment following disturbance in insular tropical forest, Kingdom of Tonga." *Journal of Tropical Ecology* 32(6): 536-542.  
doi: [10.1017/S0266467416000456](https://doi.org/10.1017/S0266467416000456).
60. 2016 Hong, I., A.T. Murray and S.J. Rey. "Obstacle-avoiding shortest path derivation in a multicore computing environment." *Computers, Environment and Urban Systems* 55: 1-10.  
doi: [10.1016/j.compenvurbsys.2015.10.001](https://doi.org/10.1016/j.compenvurbsys.2015.10.001).
61. 2016 Kleinschmidt, S., A.T. Murray, S.J. Rey, L. Anselin and T. Grubisic. "Spatial uncertainty in cluster detection." *Spatial Information Research* 24(3): 181-189.  
doi: [10.1007/s41324-016-0019-9](https://doi.org/10.1007/s41324-016-0019-9).
62. 2016 Rey, S.J. "Space-time patterns of rank concordance: Local Indicators of Mobility Association with applications to spatial income inequality dynamics." *Annals of the Association of American Geographers* 106(4): 788-803.  
doi: [10.1080/24694452.2016.1151336](https://doi.org/10.1080/24694452.2016.1151336).
63. 2016 Rey, S.J., W. Kang, and L.J. Wolf. "The properties of tests for spatial effects in discrete Markov chain models of regional income distribution dynamics." *Journal of Geographical Systems* 18(4): 377-398.  
doi: [10.1007/s10109-016-0234-x](https://doi.org/10.1007/s10109-016-0234-x).
64. 2016 Rey, S.J., P. Stephens, and J. Laura. "An evaluation of sampling and full enumeration strategies for Fisher-Jenks classification in big data settings." *Transactions in GIS* 21(4): 796-810.  
doi: [10.1111/tgis.12236](https://doi.org/10.1111/tgis.12236).
65. 2016 Reyna, J., M. Chester, and S.J. Rey. "Defining geographical boundaries with social and technical variables to improve urban energy assessments." *Energy* 112(1): 742-754.  
doi: [10.1016/j.energy.2016.06.091](https://doi.org/10.1016/j.energy.2016.06.091).
66. 2015 Laura, J., W. Li, S.J. Rey and L. Anselin. "Parallelization of a regionalization heuristic in distributed computing platforms - A case study of parallel-p-compact-regions problem." *International Journal of Geographical Information Science* 29: 536-555.  
doi: [10.1080/13658816.2014.987287](https://doi.org/10.1080/13658816.2014.987287).
67. 2015 Rey, S.J., L. Anselin, X. Li, R. Pahle, J. Laura, W. Li, J. Koshinsky. "Open Geospatial Analytics with PySAL." *International Journal of Geo-Information* 4: 815-836.  
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163. 1996 Clement, N. and S.J. Rey, "The San Diego-Tijuana Region." *Transnational Regional Economic Development - North America, Proceedings* 15-19.
164. 1996 Frank, B., R. Wright, and S.J. Rey, "Linking Preference Analysis Techniques and GIS for Fire Fuel Management." *GIS/LIS 96' Proceedings* 1124-1140.
165. 1995 Florax, R.J.G.M. and S. Rey. "The impact of misspecified spatial interaction structure in regression models." In L. Anselin and R.J.G.M. Florax (eds.) *New Directions in Spatial Analysis*. Springer Verlag, Berlin.  
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167. 1990 Anselin, L., S.J. Rey and U. Deichmann. "The implementation of integrated models in small regions." In L. Anselin and M. Madden eds. *New Directions in Regional Analysis: Integrated and Multiregional Approaches*. Belhaven, London.



168. 1989 Anselin, L. and S. Rey. "Issues in the specification of an integrated multiregional model for a system of small regions." *Sistemi Urbani* 2: 177-201.

### Technical Reports

1. 2010 Rey, S.J. and L. Anselin. Spatial Linkages and Urban Economic Development. Economic Development Administration, U.S. Department of Commerce.
2. 2005 Rey, S.J., J.C. Duque, O. Smirnov, Y. Kim, and P. Stephens. Identifying Value-Added Industry Clusters in San Diego County. Regional Analysis Laboratory Technical Report: REGAL 050615.
3. 2005 Rey, S.J., J.C. Duque, O. Smirnov, Y. Kim, and P. Stephens. Geocoding the Connectory. Regional Analysis Laboratory Technical Report: REGAL 050627.
4. 2003 Rey, S.J. "Identifying Regional Industrial Clusters in Imperial County California." California Center for Border and Regional Economic Studies.
5. 2001 Rey, S.J. "Identifying Regional Industrial Clusters in California: Volume V Sub-state Results." California Employment Development Department. Sacramento. (September).
6. 2000 Rey, S.J. "Identifying Regional Industrial Clusters in California: Volume IV The Role of Industry Clusters in California's Recent Economic Expansion." California Employment Development Department. Sacramento.
7. 2000 Rey, S.J. "Identifying Regional Industrial Clusters in California: Volume III Technical Documentation of the Candidate Statewide Industry Clusters." California Employment Development Department. Sacramento.
8. 2000 Rey, S.J. "Identifying Regional Industrial Clusters in California: Volume II A Methods Handbook." California Employment Development Department. Sacramento.
9. 2000 Rey, S.J. and D. Mattheis. "Identifying Regional Industrial Clusters in The California Economy: Volume I Conceptual Design." California Employment Development Department. Sacramento.
10. 2000 Butler, M., S. Rey and G. Singh "Workforce Issues of the Visitor Cluster of San Diego." Technical Report to the San Diego Workforce Partnership.
11. 2000 Sciglimpaglia, D., S. Rey, M. Butler and G. Singh "Workforce Issues of the Computer and Electronics Manufacturing Cluster of San Diego." Technical Report to the San Diego Workforce Partnership.
12. 2000 Singh, G. and S. Rey "Workforce Issues of the Biosciences Cluster of San Diego." Technical Report to the San Diego Workforce Partnership.
13. 1998 Rey, S.J. "Technician Needs Assessment Survey." Report to the San Diego Regional Economic Development Corporation.
14. 1997 Rey, S.J. and N. Clement. "Estimates of Employment and Income Impacts of the Space and Naval Warfare Systems Command (SPAWAR) Operations in the San Diego Region." Report to the San Diego State Foundation Defense Conversion Center.
15. 1996 Gerber, J., D. Gupta, and S. Rey, "The Impacts of the San Diego State University on the Regional Economy." Office of the Vice President for Academic Affairs, San Diego State University.
16. 1995 Rey, S. "A Decompositional Analysis of Defense Dependent Industrial Clusters." Report to the San Diego State Foundation Defense Conversion Center.

17. 1995 Rey S. "The Impacts of Defense Conversion on the San Diego Economy." Report to the San Diego State Foundation Defense Conversion Center.
18. 1995 Rey, S. "An Evaluation of the Demographic and Economic Forecasting Model." Report to the San Diego Association of Governments.
19. 1995 Rey, S. and N. Clement "The San Diego Economic Information and Modeling Project." Report to the San Diego State Foundation Defense Conversion Center.
20. 1991 Anselin, L. and S. Rey (1991) "The Performance of Tests for Spatial Dependence in a Linear Regression." National Center for Geographic Information and Analysis Technical Paper 91-13.
21. 1988 Rey, S. "Data Issues in the Development of Integrated Multiregional Models." Community and Organization Research Institute Working paper WRC700-2, U.C. Santa Barbara.
22. 1987 Anselin, L., P. Krsnak and S. Rey. "Economic Impacts of the University of California Santa Barbara on the Region." Interim Report to UCSB.
23. 1987 Anselin, L., P. Krsnak and S. Rey. "Economic Impacts of the University of California Santa Barbara on the Region: An Input-Output Analysis." Interim Report to UCSB.

## **Presentations**

### **Invited Lectures**

1. 2024 Rey, S.J. "The school-neighborhood nexus: New spatial analytical perspectives and empirical insight." Plenary, Spatial Econometrics workshop, Grenoble, France. May.
2. 2024 Rey, S.J. "The school-neighborhood nexus: New spatial analytical perspectives and empirical insight." National Science Foundation, Directorate for Social, Economic and Behavioral Sciences Distinguished Lecture. May.
3. 2021 Rey, S.J. "Big Code." Geographical Analysis Plenary. Association of American Geographers. Virtual. April.
4. 2020 Rey, S.J. "The Legacy of Redlining: A Spatial Dynamics Perspective." Keynote, SciPy India. December.
5. 2020 Rey, S.J. "The Legacy of Redlining: A Spatial Dynamics Perspective." Fellows Lecture, North American Regional Science Association. November.
6. 2020 Rey, S.J. "Open GIScience." Distinguished Lecture Series. Department of Geography, San Diego State University. February.
7. 2018 Rey, S.J. "PySAL: The first ten years." Spatial Economic Analysis Plenary Keynote Lecture. 58th Congress of the European Regional Science Association. Cork, Ireland. August.
8. 2017 Rey, S.J. "Spatial distribution dynamics and regional income inequality." Tod Spieker Colloquium, Department of Geography, University of California, Los Angeles. November.
9. 2017 Rey, S.J. "New Approaches for Spatial Distribution Dynamics." University of Colorado, Boulder. March.
10. 2017 Rey, S.J. "Spatial Distribution Dynamics with PySAL." University of Liverpool. March.
11. 2017 Rey, S.J. "Python Spatial Analysis Library: Lessons from Open Source in the Academy." King's College London. March.

12. 2016 Rey, S.J. "New Directions for Spatial Distribution Dynamics." University of California, Riverside. June.
13. 2016 Rey, S.J. "University Consortium for Geographic Information Science Research Award." Scottsdale, Arizona. May.
14. 2015 Rey, S.J. "Empirics for Spatial Distribution Dynamics." Keynote Address, Pacific Regional Science Organization, Vina del Mar, Chile. August.
15. 2015 Rey, S.J. "Spatial Econometrics: Past as Prologue." Keynote Address, Workshop on Spatial Econometrics, Pacific Regional Science Organization, Vina del Mar, Chile. August.
16. 2015 Rey, S.J. "New approaches for spatial distribution dynamics." Keynote Address, Applied Economic, Regional and Urban Studies Summit, Purdue University. April.
17. 2014 Rey, S.J. "Open regional science." Presidential Address, Western Regional Science Association, San Diego. February.
18. 2014 Rey, S.J. "Space-time empirics." School of Geographic Sciences and Urban Planning, Arizona State University. January.
19. 2013 Rey, S.J. "Spatio-temporal analytics for socioeconomic processes." School of Environmental Public Affairs, University of Nevada, Las Vegas. April.
20. 2013 Rey, S.J. "Exploratory space-time data analysis: Distributional and computational issues." CyberGIS Speaker Series. University of Illinois, Urbana-Champaign. February.
21. 2012 Rey, S.J. "Open source spatial data analysis: Lessons for education and research from PySAL." Keynote, Open Source Geospatial Research and Education Symposium. Yverdon-les-Bains, Switzerland. October.
22. 2012 Rey, S.J. "Markov based methods for spatial dynamics." Department of Geography, University of Zurich. October.
23. 2012 Rey, S.J. "Exploring spatial dynamics of neighborhoods." Spatial Structures for the Social Sciences. Brown University. March.
24. 2011 Rey, S.J. "Recent advances in Software for Space-Time Data Analysis." Future Directions in Spatial Demography, Specialist Meeting. Santa Barbara. December.
25. 2011 Rey, S.J. "Exploratory space-time data analytics." Plenary Speaker. GEOINT, San Antonio. October.
26. 2010 Rey, S.J. "New approaches for exploratory space-time analysis (ESTDA)." School of Geography and Development, University of Arizona. December.
27. 2010 Rey, S.J. "New approaches to exploratory space time data analysis." Arthur Getis Lecture in Spatial Analysis. Department of Geography, San Diego State University. October.
28. 2010 Rey, S.J. "Markov based measures of spatial dynamics." Institute for Economic Geography and GIScience, Vienna University of Economics and Business. June.
29. 2008 Rey, S.J. "Exploratory Analysis of Space-Time Data." Regional Research Institute, West Virginia University. March.
30. 2008 Rey, S.J. "Show Me the Code: Spatial Analysis and Open Source." Department of Geography, San Diego State University. January.

31. 2007 Rey, S.J. "Exploratory Analysis of Space-Time Data." Survey Research Center, University of California, Berkeley. November.
32. 2007 Rey, S.J. "Exploratory Analysis of Space-Time Data." Department of Geography Colloquia, University of Southern California. March.
33. 2004 Rey, S.J. "STARS: Space-Time Analysis of Regional Systems." ESRI-University of Redlands Colloquia. September.
34. 2004 Rey, S.J. "Regional science in the Borderlands: Research and public policy opportunities." Departments of Geography and Planning, Arizona State University. March.
35. 2004 Rey, S.J. "Exploratory space-time data analysis of socioeconomic processes." Symposium on Spatial Information Science for Human and Social Sciences. University of Tokyo. January.
36. 2003 Rey, S.J. "Python for exploratory space-time data analysis." Center for Spatially Integrated Social Sciences, University of California, Santa Barbara. October.
37. 2003 Rey, S.J. "Exploratory space-time analysis of regional income evolutions." Quantitative Methods in Social Science Program Colloquia. University of California, Santa Barbara. October.
38. 2003 Rey, S.J. "San Diego State University and the Regional Economy." University of Limerick Executive MBA Workshop. August.
39. 2003 Rey, S.J. "Identifying Industrial Clusters in the Imperial County Economy." California Center for Border and Regional Economic Studies. May.
40. 2003 Rey, S.J. "The use of Python for Geocomputation and Geovisualization." SANDPYT: San Diego Python Users Group. May.
41. 2002 Rey, S.J. "Exploratory Spatial Data Analysis of Regional Economic Change." Regional Science Program, University of Illinois, Urbana. May.
42. 2001 Rey, S.J. "Spatial Effects in the Analysis of Regional Income Convergence and Inequality." School of Economics, University of Queensland. October.
43. 2001 Rey, S.J. "New Spatial Empirics for Regional Inequality and Growth." The Tod Spieker Colloquium. Department of Geography, University of California, Los Angeles. May.
44. 2000 Rey, S.J. "STARS: Space-Time Analysis of Regional Systems, An Open-Source Approach to Spatial Analysis." Center for Spatially Integrated Social Sciences, UC Santa Barbara. December.
45. 2000 Rey, S.J. "Industry Clusters in California: Sub regional analytical issues." Presentation to the Director's Office, California Employment Development Department. October.
46. 2000 Rey, S.J. "Identifying Regional Industry Clusters in California." Advisory Committee, California Employment Development Department. April.
47. 1999 Rey, S.J. "Space-Time Analysis of Regional Systems: STARS." Center on Computational Science and Engineering. San Diego State University. December.
48. 1999 Rey, S.J. "Spatial Analysis of Regional Growth Dynamics." Department of Geography, University of California at Santa Barbara. December.
49. 1999 Rey, S.J. "Spatial Markov Modeling of Regional Convergence." Regional Science Program, University of Illinois, Urbana. November.

50. 1998 Rey, S.J. "U.S. Regional Income Convergence: A Spatial Econometric Perspective." The Tinbergen Institute. Amsterdam, Netherlands. November.
51. 1998 Rey, S.J. "Multiregional Economic Modeling in the US" Seminar, Department of Regional Economics, Universidad Autonoma Coahuila, Coahuila, Mexico, April.
52. 1997 "Recent Advances in Regional Economic Modeling" Seminar, Department of Economics, San Diego State University, March.
53. 1996 Rey, S.J. and N.C. Clement. "Regional Economic Modeling in Support of Economic Development." Annual Conference of the California State University Auxiliary Organization Association, San Diego, January.
54. 1995 Rey, S.J. "The San Diego Economic Information and Modeling Project." San Diego Technology Council, San Diego, CA, May.
55. 1995 Weeks, J. and S.J. Rey. "The Results of a Survey of Small Defense Related Firms in San Diego County" The Californias in Transition Seminar, San Diego State University, May.
56. 1995 Rey, S.J. "Recent Advances in Regional Socioeconomic Modeling." San Diego Association of Governments, San Diego, CA, April.
57. 1994 Rey, S.J. "Integrated Multiregional Modeling for Systems of Small Regions." The Californias in Transition Seminar, San Diego State University, May.
58. 1991 Rey, S.J. "The Spatial Dimensions of Growth Control Analyses." Colloquium, Department of Geography San Diego State University, December.

#### Conference Participation and Presentations

1. 2024 Rey, S.J. "Intersectional urban dynamics: A joint Markov chains framework." Western Regional Science Association. Monterey, CA. February.
2. 2024 Rey, S.J. "Great Minds in Regional Science on Arthur Getis." Western Regional Science Association. Monterey, CA. February.
3. 2024 Skrah, D., S.J. Rey. "Neighborhood fragmentation dynamics: A comparative perspective." Western Regional Science Association. Monterey, CA. February.
4. 2023 Rey, S.J., E. Knaap, Z. Neal, C. Andris. "GeoGraphs: A computational framework for spatial social networks." International Network for Social Network Analysis Sunbelt Conference. Portland, OR. June.
5. 2023 Rey, S.J., E. Knaap, R. Wei, D. Skrah. "School neighborhoods or neighborhood schools? The spatial structure of the school-neighborhood nexus." Western Regional Science Association, Waikoloa, HI. February.
6. 2022 Knaap, E. and S.J. Rey. "Measuring two decades of urban spatial structure. The evolution of agglomeration economies in American metros." North American Regional Science Conference. Montreal, CA. November.
7. 2022 Knaap, E. and S.J. Rey. "Segregated by design? The effect of street network topological structure on the measurement of urban segregation." North American Regional Science Conference. Montreal, CA. November.

8. 2021 Dony, C., A. Nara, T. Herman, M. Solem, K. Leon, S.J. Rey. "Research-Practice Partnerships (RPPs) to modernize geography education in high school and college." American Association of Geographers. Virtual. April.
9. 2021 Rey, S.J. and E. Knaap "Comparative spatial segregation analytics." Western Regional Science Association, On-line. February.
10. 2021 Rey, S.J. and E. Knaap "The legacy of redlining: A spatial dynamics perspective." Western Regional Science Association, On-line. February.
11. 2019 Kang, W. and S.J. Rey "A new optimal matching approach to uncovering neighborhood sequencing structure." Regional Science Association. Minneapolis, MN. November.
12. 2019 Cortes, R.X. and S.J. Rey. "Building an open-source framework for non-Spatial and Spatial Segregation measures." American Association of Geographers. Washington, D.C., April.
13. 2019 Han, S., S.J. Rey, E. Knaap, W. Kang, and L.J. Wolf. "Adaptive Choropleth Mapper: A web-based tool for synchronous exploration of multiple variables at multiple spatial scales." American Association of Geographers. Washington, D.C., April.
14. 2019 Kang, W. and S.J. Rey. "Urban income mobility as a multifaceted concept in the United States." American Association of Geographers. Washington, D.C., April.
15. 2019 Knaap, E., N. Finio, and S.J. Rey. "Spatial informatics for measuring urban inequality in international contexts." American Association of Geographers. Washington, D.C., April.
16. 2019 Rey, S.J. and W. Kang. "Spatial inequality, mobility, and equalization dynamics for US Metropolitan Areas 1970-2010." American Association of Geographers. Washington, D.C., April.
17. 2019 Knaap, E., S.J. Rey, L.J. Wolf, S. Han, and W. Kang. "Introducing the Open-Source Neighborhood Analysis Package." Urban Affairs Association, Los Angeles, CA, April.
18. 2018 Rey, S.J., E. Knaap, L.J. Wolf, S. Han, and W. Kang. "Spatio-temporal analysis of socioeconomic neighborhoods." Scientific Computing with Python. Austin, Tx. July.
19. 2018 Franklin Rey, S., J. Franklin, S. Rey. "Plastic pollution on island beaches - a teachable moment." 7th International Conference on Environmental Future. Honolulu, HA. April.
20. 2018 Kang, W. and S.J. Rey. "Smoothed estimators for Markov chains with sparse spatial observations." Association of American Geographers. New Orleans, LA, April.
21. 2018 Kang, W. and S.J. Rey. "Assessing performance of global and local indicators of mobility association under spatial autocorrelation." Western Regional Science Association. Pasadena, CA, February.
22. 2017 Prasad, S.K., D. Agharjarian, M. McDermott, D. Shah, M. Mokbel, S. Puri, S.J. Rey, S. Shekar, Y. Xe, R.R. Vatsavai, F.Wang, Y. Liang, H. Vo, S. Wang. "Parallel processing over spatial-temporal datasets from geo, bio, climate and social science communities: A research roadmap". IEEE BigData Congress. Honolulu, HA, June.
23. 2017 Kang, W. and S.J. Rey. "Regional income mobility and spatial dependence." Western Regional Science Association. Santa Fe, NM. February.
24. 2016 Rey, S.J., W. Kang and L.J. Wolf. "Regional inequality dynamics, stochastic dominance, and spatial dependence." Regional Science Association. Minneapolis, Minnesota. November.

25. 2016 Janikas, M.V. and S.J. Rey. "Integrating the Python Spatial Analysis Library (PySAL) and ArcGIS: Advanced Spatial Analytics Made Easy." GeoPython. Basel, Switzerland. June.
26. 2016 Rey, S.J. "Spatial distribution dynamics in PySAL." Association of American Geographers. San Francisco, CA. April.
27. 2016 Kang, W. and S.J. Rey "Spatial Effects in Regional Economic Dynamics: Confronting Discrete Markov Chain Model with Neoclassical Growth Theory via Simulations." Association of American Geographers. San Francisco, CA. April.
28. 2016 Kang, W. and S.J. Rey "A comparison of tests for spatial effects in discrete Markov chain models of regional income distribution dynamics." Western Regional Science Association. Waikoloa, HA. February.
29. 2015 Rey, S.J., W. Kang, and L.J. Wolf. "Properties of tests for spatial effects in discrete Markov chain models of regional income distribution dynamics." Regional Science Association International. Portland. November.
30. 2015 Anselin, L., S.J. Rey and J. Laura. "Computational issues in conditional permutation inference for LISA statistics. Regional Science Association International. Portland. November.
31. 2015 Sastre-Guitierrez, M.L. and S.J. Rey "Space-time distribution dynamics of human development in Mexico: A fifty year overview. Regional Science Association International. Portland. November.
32. 2015 Rey, S.J., W. Kang, and L.J. Wolf. "Properties of tests for spatial effects in discrete Markov chain models of regional income distribution dynamics." Scientific Computing with Python. Austin. July.
33. 2015 Anselin, L., S.J. Rey, and J. Laura. "Computational Issues in Conditional Permutation Inference for Local Spatial Autocorrelation Statistics." Association of American Geographers. Chicago, April.
34. 2015 Rey, S.J. "Local Indicators for Mobility Analysis: LIMA." Association of American Geographers. Chicago, April.
35. 2015 Wolf, L.J. and S.J. Rey. "Improving Spatial Methods for Gerrymandering Analysis." Association of American Geographers. Chicago, April.
36. 2015 Rey, S.J. and M.L. Sastre-Guitierrez. "Comparative Spatial Inequality Dynamics: The Case of Mexico and the United States." Western Regional Science Association. Tucson, February.
37. 2015 Laura, J. and S.J. Rey. "Parallel Spatial Regionalization Using a Cooperative Heuristic Approach." Western Regional Science Association. Tucson, February.
38. 2014 Anselin, L., S.J. Rey, P. Amaral, D. Arribas-Bel, D.C. Folch, R. Pahle, P. Stephens and X. Li. "The Many Faces of Spatial Regression in PySAL". Regional Science Association International. Bethesda, November.
39. 2014 Rey, S.J. "Bells in Space: The Spatial Dynamics of Interpersonal and Interregional Income Inequality". Regional Science Association International. Bethesda, November.
40. 2014 Rey, S.J. and J.C. Duque. "Integrating ClusterPy and PySAL". Regional Science Association International. Bethesda, November.
41. 2014 Laura, J. P. Stephens and S.J. Rey. "Development of a RESTful API for the Python Spatial Analysis Library." Regional Science Association International. Bethesda, November.
42. 2014 Rey, S.J., W. Li, and L. Anselin "SAM: A Provenance Model for Spatial Analytical Methods." GIScience 2014. Vienna. September.



43. 2014 Li, W., S.J. Rey, L. Anselin and J. Laura. "SAM: A Provenance Model for Spatial Analytical Methods." Second International Conference on CyberGIS and Geodesign. Redlands. August.
44. 2014 Laura, J., R. Pahle, S.J. Rey and L. Anselin. "pPySAL: Autoregression and Complex Systems Framework Integration." Second International Conference on CyberGIS and Geodesign. Redlands. August.
45. 2014 Rey, S.J. "CyberGIS Beyond Software Integration." Panel, Second International Conference on CyberGIS and Geodesign. Redlands. August.
46. 2014 Laura, J. and S.J. Rey. "Fast algorithms for binary spatial adjacency measures." Scientific Computing with Python. Austin, July.
47. 2014 Laura, J., S.J. Rey, P. Stephens and R. Pahle. "An evaluation of sampling and full enumeration strategies for Fisher Jenks classification in large n settings". Association of American Geographers. Tampa, April.
48. 2014 Rey, S.J. "Open GIScience: Opportunities and problems". Association of American Geographers. Tampa, April.
49. 2014 Rey, S.J. "Space-time analytics". Association of American Geographers. Tampa, April.
50. 2013 Rey, S.J. "Regional Econometric+Input-Output Modeling: An Overview." Regional Science Association International. Atlanta, November.
51. 2013 Rey, S.J. "Regional distribution dynamics revisited." Regional Science Association International. Atlanta, November.
52. 2013 Rey, S.J. "Workshop: Exploratory spatial data analysis with PySAL." Regional Science Association International. Atlanta, November.
53. 2013 Rey, S.J. and J. Laura. "Parallel PySAL." CyberGIS All-Hands Meeting. Seattle, September.
54. 2013 Rey, S.J. "Code as text: Open source in academia." Scientific Computing with Python. Austin, July.
55. 2013 Rey, S.J., L. Anselin and J. Laura. "Spatial analysis and big data: Challenges and opportunities." SIAM Conference for Computational Science and Engineering. Boston, MA. February.
56. 2013 Mack, E.A. and S.J. Rey. "An econometric approach to evaluate regional variations in broadband linkages to knowledge intensive firms." Western Regional Science Association. Santa Barbara, CA. February.
57. 2013 Rey, S.J. "Fast algorithms for a space-time concordance measure." Western Regional Science Association. Santa Barbara, CA. February.
58. 2012 Murray, A.T., T. Grubestic, S.J. Rey and L. Anselin. "Spatial data uncertainty and cluster detection." GIScience. Columbus, Ohio. September.
59. 2012 Rey, S.J. "Exploratory space-time data analysis". GIScience, Columbus, Ohio. September.
60. 2012 Rey, S.J., X. Li, and L. Anselin. "Visualization of Space-Time Dynamics in Criminal Activity." Joint Statistical Meetings. San Diego. July.
61. 2012 Anselin, L. and S.J. Rey. "Spatial Econometrics in an Age of CyberGIScience." Joint Statistical Meetings. San Diego. July.

62. 2012 Rey, S.J. "PySAL: A Python library for exploratory spatial data analysis and geocomputation." Scientific Computing with Python. Austin, July.
63. 2012 Smith, R., and S.J. Rey. Decomposing the Gini Coefficient to Measure the Inequality of Places. Presented at the Sentinels of Sustainability, Rio+20 United Nations Conference on Sustainable Development. Fort Leme, Rio de Janeiro, Brazil: Federal University of Rio de Janeiro. June.
64. 2012 Anselin, L. and S.J. Rey. "Spatial Econometrics in an Age of CyberGIScience." Association of American Geographers. New York. February.
65. 2012 Kleinschmidt, S., A.T. Murray, S.J. Rey, T.H. Grubestic. "Spatial patterns and geographical data uncertainty." Association of American Geographers. New York. February.
66. 2012 Rey, S.J., L. Anselin, R. Pahle, and X. Kang. "Parallelizing PySAL." Association of American Geographers. New York. February.
67. 2012 Rey, S.J., E. Mack, and J. Koschinsky. "Exploratory space-time analysis of burglary patterns." Western Regional Science Association. Lihue, February.
68. 2011 Folch, D.C. and S.J. Rey. "The Centralization Index as a Tool for Measuring Local Segregation." Regional Science Association International. Miami, November.
69. 2011 Guitierrez, M.S. and S.J. Rey. "Spatial Economics of Convergence in Mexico." Regional Science Association International. Miami, November.
70. 2011 Rey, S.J. "Rank Based Markov Measures of Regional Income Distribution Dynamics". Regional Science Association International. Miami, November.
71. 2011 Rey, S.J. and L. Anselin "PySAL: Python Spatial Analysis Library". CyberGIS All Hands Meeting. Oak Ridge National Laboratory. September.
72. 2011 Rey, S.J., L. Anselin, D.C. Folch. "PySAL: Python Spatial Analysis Library 2.0." Association of American Geographers. Seattle, April.
73. 2011 Rey, S.J. "Space-time analysis of regional systems." Association of American Geographers. Seattle, April.
74. 2011 Rey, S.J., A.T. Murray and L. Anselin. "Visualizing regional income distribution dynamics." Western Regional Science Association. Monterey, March.
75. 2010 Rey, S.J. and L. Anselin. "Spatial econometrics with PySAL and GeoDaSpace". Regional Science Association International. Denver, November.
76. 2010 Sastre-Gutierrez, M.L. and S.J. Rey. "Spatial econometrics of convergence in Mexico". Regional Science Association International. Denver, November.
77. 2010 Sastre-Gutierrez, M.L. and Rey, S.J. ¿Spatial Socioeconomic Mobility in Mexico?, XX Coloquio Mexicano de Economía Matemática y Econometría, Guanajuato, Mexico, September.
78. 2010 Anselin, L., S.J. Rey and A. Winslow. "New tools for statistical point pattern analysis on networks with large datasets." Com.Geo. Washington, D.C.. June.
79. 2010 Anselin, L., S.J. Rey and J. Koschinsky. "Flexible geospatial visual analytics and simulation technologies." National Institute of Justice Conference. Arlington. June.
80. 2010 Rey, S.J. and L. Anselin "PySAL: A Python library for spatial analysis and geocomputation." Association of American Geographers. Washington, D.C.. April.

81. 2010 Murray, A.T., Y. Liu, S.J. Rey and L. Anselin. "Exploring movement object patterns." Western Regional Science Association. Sedona, February.
82. 2010 Rey, S.J., L. Anselin, D.C. Folch, D. Arribas-Bel, M.L. Sastre Gutierrez and L. Interlante. "Measuring spatial dynamics in metropolitan areas." Western Regional Science Association. Sedona, February.
83. 2010 Sastre-Gutierrez and S.J. Rey. "Spatial socioeconomic mobility in Mexico." Western Regional Science Association. Sedona, February.
84. 2010 Ye, Xinyue and S.J. Rey. "Space-time empirics for economic growth." Western Regional Science Association. Sedona, February.
85. 2009 Murray, A., P.D. Padegimas, L. Anselin, S.J. Rey and P. Gober. "A spatial optimization model for water supply allocation." North American Meetings of the Regional Science Association International. San Francisco, November.
86. 2009 Sastre Gutierrez, M.L. and S.J. Rey. "Spatial income mobility in Mexico." North American Meetings of the Regional Science Association International. San Francisco, November.
87. 2009 Rey, S.J., L. Anselin, D.C. Folch, D. Arribas-Bel, M.L. Sastre Gutierrez and L. Interlante. "Measuring spatial dynamics in metropolitan areas." North American Meetings of the Regional Science Association International. San Francisco, November.
88. 2009 Rey, S.J., L. Anselin, D.C. Folch, D. Arribas-Bel, M.L. Sastre Gutierrez and L. Interlante. "Spatial linkages and urban economic development" Economic Development Administration Research Symposium. Morgantown, October.
89. 2009 Rey, S.J. and D.C. Folch. "What Can 70 Million or So Neighborhoods Tell Us about the Performance of Income Segregation Measures?" Spatial Econometrics Association. Barcelona, July.
90. 2009 Rey, S.J. and L. Anselin. "PySAL: Python Library for Spatial Analytical Functions." Association of American Geographers. Las Vegas. March.
91. 2009 Rey, S.J., L. Anselin and M. Hwang. "Dynamic manipulation of spatial weights using web services." Western Regional Science Association. Napa, February.
92. 2009 Elias, M. and S.J. Rey. "Educational performance and spatial convergence in Peru: 1993-2005." Western Regional Science Association. Napa, February.
93. 2009 Schmidt, C.R., S.J. Rey and A. Skupin. "Effects of regular topology in spherical self-organizing maps." Western Regional Science Association. Napa, February.
94. 2009 Duque, J.C., L. Anselin and S.J. Rey. "The max-p region problem." First Conference of the Regional Science Association of the Americas. Cartagena, February.
95. 2008 Rey, S.J. "20 Years of Spatial Econometrics". Panel Member. Regional Science Association International. Brooklyn. November.
96. 2008 Duque, J.C., S.J. Rey and C.R. Schmidt "INCLUSIO: New ways to explore interindustry relationships." Regional Science Association International. Brooklyn. November.
97. 2008 Schmidt, C.R., S.J. Rey and A. Skupin "PySOM: A Graph Based Implementation of Self-Organizing Maps." Regional Science Association International. Brooklyn. November.
98. 2008 Rey, S.J. and B. Dev "Identifying patterns of change in income inequality across geographic areas." Regional Science Association International. Brooklyn. November.

99. 2008 Rey, S.J. and X. Ye "Distributional Properties of LISA Time Paths." Regional Science Association International. Brooklyn. November.
100. 2008 Sergio Rey and David Folch "A spatiotemporal approach to the measurement of economic segregation." Spatial Econometrics Association. Brooklyn. November.
101. 2008 Schmidt, C., Rey, S.J. and A. Skupin. "Effects of Irregular Topology in Spherical Self-Organizing Maps." Association of American Geographers. Boston. March.
102. 2008 Rey, S.J. and X. Ye. "Dynamic Pseudo Weighted Voronoi: Integrating Geographic and Attribute Spaces." Association of American Geographers. Boston. March.
103. 2008 Stephens, P. and S.J. Rey "Spatial Analysis Of HUBZone Determinations In California Metro Areas." Association of American Geographers. Boston. March.
104. 2008 Rey, S.J. and X. Ye. "Comparative spatial dynamics of regional systems". Western Regional Science Association. Kona, HI. February.
105. 2007 Rey, S.J. and X. Ye. "Comparative space-time dynamics: China and the US 1989-2000". Regional Science Association International. Savannah, GA. November.
106. 2007 Rey, S.J. and J. Le Gallo "Spatial analysis of economic convergence". Regional Science Association International. Savannah, GA. November.
107. 2007 Rey, S.J. and M. Sastre Gutierrez "Interregional Inequality Dynamics in Mexico". Regional Science Association International. Savannah, GA. November.
108. 2007 Rey, S.J. and X. Ye. "Exploring spatial dynamics in city size distributions.". The 2nd ICA Workshop on Geospatial Analysis and Modeling - Spatial Structure and Dynamics of Urban Environments. Athens, Ga. July.
109. 2007 Sastre Gutierrez, M. and S.J. Rey "Spatial income mobility in Mexico." Encuentro Nacional Sobre Desarrollo Regional en Mexico, AMECIDER. July.
110. 2007 Rey, S.J. "Show me the code: Open source and spatial analysis." Association of American Geographers. San Francisco. April.
111. 2007 Rey, S.J. and X. Ye "Exploratory Comparative Spatial Dynamics: Integrating Computational Geometry with ESTDA." Association of American Geographers. San Francisco. April.
112. 2007 Stephens, P. and S.J. Rey "Spatial Analysis of HUBZone Designations in San Diego, California." Association of American Geographers. San Francisco. April.
113. 2006 Rey, S.J., L. Anselin, J.C. Duque and X. Li "Max p-region based estimation of disease rates." Regional Science Association International Meetings. Toronto. November.
114. 2006 Rey, S.J. and X. Ye "Exploring spatial dynamics in city size distributions." Regional Science Association International Meetings. Toronto. November.
115. 2006 Rey, S.J. "An exploratory space-time data analysis toolkit for the social sciences." National Science Foundation, Human and Social Dynamics Principal Investigators Meeting. Washington D.C. September.
116. 2006 Anselin, L. and S.J. Rey "PySAL: A Python Library for Spatial Analysis." Joint Statistical Meetings. Seattle. August.
117. 2006 Anselin, L. and S.J. Rey "Perspectives on spatial data analysis: the contributions by Arthur Getis to the field." Association of American Geographers. Chicago. April.

118. 2006 Hamada, Y., D.A. Stow, S.J. Rey and L. Coutler "Methods for assessing thematic accuracy of classification maps derived from remotely sensed imagery." Association of American Geographers. Chicago. April.
119. 2006 Janikas, M.V. and S.J. Rey "Assessing relative distributions in the presence of spatial dependence." Association of American Geographers. Chicago. April.
120. 2006 Rey, S.J. and X. Ye. "Comparative space-time dynamics" Association of American Geographers. Chicago. April.
121. 2005 Rey, S.J. and B. Dev. "Identifying trends of -convergence in the presence of dynamic spatial effects." Regional Science Association International. Las Vegas. November.
122. 2005 Rey, S.J., J.C. Duque and L. Anselin. "Clustering components in the Python Spatial Analysis Library (PySAL). Regional Science Association International. Las Vegas. November.
123. 2005 Rey, S.J., O. Smirnov, J.C. Duque, P. Stephens and Y.S. Kim. "Regional analysis in support of economic development." Regional Science Association International. Las Vegas. November.
124. 2005 Rey, S.J., M.V. Janikas and O. Smirnov. "Exploratory geovisualization of spatial income dynamics." Regional Science Association International. Las Vegas. November.
125. 2005 Janikas, M.V. and S.J. Rey "A confirmatory approach for the evaluation of the effects of spatial clustering and inequality on economic growth in the United States: 1969-20001." Regional Science Association International. Las Vegas. November.
126. 2005 Duque, J.C. and S.J. Rey "Network based approaches towards industrial clustering." Regional Science Association International. Las Vegas. November.
127. 2005 Rey, S.J., M.V. Janikas and O. Smirnov. "Exploratory geovisualization of spatial dynamics." Geocomputation 2005. University of Michigan. August.
128. 2005 Anselin, L. and S.J. Rey "PySAL a Python library for spatial analytical functions." Geocomputation 2005. University of Michigan. August.
129. 2005 Rey, S.J. "STARS: Space-Time Analysis of Regional Systems." Workshop on Spatial Econometrics. Kiel Institute for World Economics, Kiel Germany. April.
130. 2005 Anselin, L. and S.J. Rey "PySAL, a Python Library for Spatial Analytical Functions". Association of American Geographers. Denver, CO. April.
131. 2005 Rey, S.J. and M.V. Janikas "STARS: Space-Time Analysis of Regional Systems." Western Regional Science Association. San Diego, CA. February.
132. 2004 Janikas, M.V. and S.J. Rey "Spatial Clustering, Inequality and Income Convergence." Regional Science Association International. Seattle, WA. November.
133. 2004 Rey, S.J. and M.V. Janikas "Exploratory space-time data analysis with STARS." Association of American Geographers. Philadelphia, PA. March.
134. 2004 Rey, S.J. and B. Dev "-convergence in the presence of spatial effects." Western Regional Science Association. Maui, HA. February.
135. 2003 Rey, S.J. and M.V. Janikas "Convergence and space." Regional Science Association International. Philadelphia, PA. November.
136. 2003 Rey, S.J., M.V. Janikas, B. Dev and Y.S. Kim "Exploratory space-time analysis with STARS." Regional Science Association International. Philadelphia, PA. November.

137. 2003 Rey, S.J., D.J. Mattheis and Y.S. Kim "Building Consensus Clusters: An evaluation of industrial cluster identification strategies" Regional Science Association International. Philadelphia, PA. November.
138. 2003 Kim, Y.S. and S.J. Rey "The aerospace industry cluster in California." Regional Science Association International. Philadelphia, PA. November.
139. 2003 Rey, S.J., M.V. Janikas, B. Dev and Y.S. Kim "Exploratory space-time data analysis with Python." Python for Scientific Computing Workshop. Pasadena, CA. September.
140. 2003 Rey, S.J., D.J. Mattheis and Y.S. Kim "Regional Industrial Clusters in California: An Application of Consensus Clustering." Western Regional Science Association Meetings. Rico Rico, AZ. March.
141. 2003 Rey, S.. "Empirics for space-time information systems." Space-Time Information Systems 2003. University of Michigan, January.
142. 2002 Rey, S.J. "STARS: Space-time Analysis of Regional Systems". North American Meeting of the Regional Science Association International. San Juan, Puerto Rico. November.
143. 2002 Rey, S.J., G.R. West and M.V. Janikas "Uncertainty in integrated regional models". North American Meeting of the Regional Science Association International. San Juan, Puerto Rico. November.
144. 2002 Anselin, L. and S.J. Rey (Organizers). New Tools for Spatial Data Analysis. Center for Spatially Integrated Social Sciences Specialist Meeting. Santa Barbara, Ca. May 10-11.
145. 2002 Rey, S.J. "Spatial analysis of regional income inequality." Western Regional Science Association Meetings. Monterey, Ca. February.
146. 2001 Rey, S.J., D.J. Mattheis and Y.S. Kim. "Consensus industrial clustering." 17th Pacific Conference of the Regional Science Association International. Portland, Or. July.
147. 2001 Anselin, L. and S.J. Rey. "Open software tools for exploratory spatial data analysis." Association of American Geographers. New York. March.
148. 2001 Rey, S.J. "Spatial dependence in the evolution of regional income distributions." Western Regional Science Association Meetings. Ojai, Ca. February.
149. 2000 Rey, S.J. and L. Anselin "Regional Science Publication Patterns in the 1990's". North American Meeting of the Regional Science Association International. Chicago. November.
150. 2000 Clement, N.C. and S.J. Rey "The Economic Structure of the US-Mexico Border Region in the NAFTA Era." Border Institute II. Rio Rico, Arizona. April.
151. 2000 Jerrett, M.J. and S.J. Rey "Environmental Accounting in Border Regions." Border Institute II. Rio Rico, Arizona. April.
152. 2000 Rey, S.J. "Spatial Empirics for Economic Growth and Convergence." Western Regional Science Association Meetings. Kauai. February.
153. 1999 Rey, S.J. "Integrated Regional Econometric+Input-Output Modeling: Issues and Opportunities." North American Meeting of the Regional Science Association International. Montreal. November.
154. 1999 LeSage, J.P. and S.J. Rey "Restrictions in Integrated Econometric+input-output modeling." North American Meeting of the Regional Science Association International. Montreal. November.
155. 1999 Florax, R.J.G.M., E. Lopez-Bazo and S.J. Rey. "Spatial economic growth: What do we know?" European Congress of the Regional Science Association International. Dublin, Ireland. August.

156. 1999 Rey, S.J. "Space in integrated econometric and input-output models." Southern Regional Science Association Meetings. Richmond, VA. April.
157. 1999 Rey, S.J. and D. Mattheis. "An evaluation of methods for identifying regional industrial clusters." Annual meetings of the Association of American Geographers, Honolulu, HA.
158. 1998 Rey, S.J. and M.G. Boarnet. "A taxonomy of spatial econometric models for simultaneous equations systems." North American Meeting of the Regional Science Association International. Santa Fe, New Mexico. November.
159. 1998 Rey, S.J. "Methodological Issues in the Integration of Regional Econometric and Input-Output Models." Paper presented at the Community Planning and Analysis Network Meeting, Santa Fe, NM, November.
160. 1998 Rey, S.J. and N.C. Clement, "The San Diego Economic Information and Modeling Project." Network of Border Economists, El Paso, Texas, April.
161. 1998 Rey, S.J. and B.D. Montouri. "U.S. regional income convergence: A spatial econometric perspective." Western Regional Science Association Meetings. Monterey, CA. February.
162. 1997 Rey, S.J. and R.W. Jackson. "Labor productivity changes in regional econometric and input-output models." North American Meeting of the Regional Science Association International. Buffalo, N.Y. November.
163. 1997 Anselin, L. and S.J. Rey "Geographic spillovers in regional economic models." North American Meeting of the Regional Science Association International. Buffalo, N.Y. November.
164. 1996 Rey, S.J. "Coefficient Change in Embedded Econometric and Input-Output Models at the Regional Scale." Regional Science Association International annual meeting, Arlington Virginia November.
165. 1996 Clement, N. and S.J. Rey. "The San Diego-Tijuana Region." Transnational Regional Economic Development in North America. Tucson, Arizona. May.
166. 1996 Rey, S.J., and B. Dev. "Integrating Econometric and Input-output Models in a Multiregional Context." Western Regional Science Association annual meeting, Napa CA, February.
167. 1995 Rey, S.J., "The Impact of Defense Spending on the San Diego Region: An Integrated Modeling Analysis." Thirtieth anniversary conference of the Regional Research Institute, West Virginia University, Morgantown, W.V., November.
168. 1995 Anselin, L. and S. Rey, "The Elusiveness of Spatial Spillovers: State Fiscal Policy Interdependence Revisited." Regional Science Association International, annual meeting, Cincinnati, Ohio, November.
169. 1995 Rey, S.J., "The Performance of Alternative Integration Strategies for Combining Regional Econometric and Input-Output Models." Regional Science Association International, annual meeting, Cincinnati, Ohio, November.
170. 1995 Rey, S.J., P. Ganster, G. del Castillo, J. Alvarez, K. Shellhammer, A. Sweedler and N. Clement. "The San Diego-Tijuana Region" Integrating Cities and Regions: NAFTA and Beyond. Vancouver, B.C. September.
171. 1995 Anselin, L. and S. Rey, "Spatial Dependence in Models with Pooled Data: State Fiscal Policy Interdependence Revisited." Western Regional Science Association annual meeting, San Diego CA, February.



172. 1994 Rey, S., "The Role of Spatial Effects in the Estimation and Simulation of Multiregional Econometric Models." Regional Science Association International, annual meeting, Niagara Falls, Ontario Canada, November.
173. 1994 Rey, S., A. Getis, and A. Bortman, "Estimation of Suppressed Employment Data: an Evaluation of Spatial and Non-spatial Approaches." Regional Science Association International, annual meeting, Niagara Falls, Ontario Canada, November.
174. 1994 Rey, S. and A. Bortman, "Integration of GIS and Regional Modeling: The Case of Estimating Suppressed Employment Data at the Sub-state Scale." Association of American Geographers, annual meeting, San Francisco, CA, April.
175. 1993 Rey, S., "Spatial Heterogeneity in Multiregional Econometric Models." Regional Science Association International, annual meeting, Houston, TX, November.
176. 1992 Rey, S., "Integrated Econometric and Input-output Regional Employment Models: An Evaluation of Alternative Approaches." Regional Science Association International, annual meeting, Chicago, IL, November.
177. 1992 Florax, R. and S. Rey, "The Impacts of Misspecified Spatial Weight Structures in Linear Regression Models." European Congress of the Regional Science Association, Louvain-La-Neuve Belgium, August.
178. 1992 Rey, S., "Integrated Econometric and Input-output Models: An Analysis of Alternative Approaches." Association of American Geographers, annual meeting, San Diego, CA, April.

### Research Grants and Contracts

- 2024-26 POSE: Phase II: An Open Source Ecosystem for Spatial Data Science. Principal Investigator. Sponsor: National Science Foundation (\$1,484,914).
- 2024-26 Spatial Homogeneity Learning Models with Applications to Socioeconomic Problems. Co-Principal Investigator. Sponsor: National Science Foundation (\$500,000).
- 2021-24 Neighborhoods and Education. Principal Investigator. Sponsor: The Bill and Melinda Gates Foundation (\$533,000).
- 2021-24 Encoding Geography - Scaling up an RPP to achieve inclusive geocomputational education. Co-Principal Investigator. Sponsor: National Science Foundation (\$400,856).
- 2020-25 Colorado Adoption/Twin Study of Lifespan behavioral development & cognitive aging (CAT-SLife2). Co-Investigator. Sponsor: National Institute On Aging (\$11,308,000).
- 2018-22 RIDIR: Scalable Geospatial Analytics for Social Science Research. Principal Investigator. Sponsor: National Science Foundation (\$1,000,000).
- 2018-23 Comparative Regional Inequality Dynamics: Multiscalar and Multinational Perspectives. Principal Investigator. Sponsor: National Science Foundation (\$327,513).
- 2018-20 Encoding Geography: Building Capacity for Inclusive Geo-Computational Thinking with Geospatial Technologies. Co-Principal Investigator. Sponsor: National Science Foundation (\$299,989).
- 2018-19 Scalable Geospatial Analysis. Principal Investigator. Sponsor: Climate Corporation (\$29,226).
- 2017-20 Neighborhoods in Space-Time Contexts. Principal Investigator. Sponsor: National Science Foundation (\$319,949).

2017-18 New Methods for Spatial Analysis of Electoral Districts. Doctoral Dissertation Research. Principal Investigator. Sponsor: National Science Foundation (\$10,915).

2014-18 New Approaches for Spatial Distribution Dynamics. Principal Investigator. Sponsor: National Science Foundation (\$269,000).

2012-13 Editorial Office. International Regional Science Review. Principal Investigator. Sponsor: SAGE Publications Incorporated. (\$52,000).

2011-12 Residential Segregation Measures and Their Spatial Properties. Doctoral Dissertation Research. Principal Investigator. Sponsor: National Science Foundation. (\$11,073).

2010-14 CyberGIS Software Integration for Sustained Geospatial Innovation. Co-Investigator. Sponsor: National Science Foundation (\$4,400,000, ASU Share \$1,275,000).

2010-12 Flexible geospatial visual analytics and simulation technologies to enhance criminal justice decision support systems. Co-Principal Investigator. Sponsor: National Institute of Justice (\$1,500,000).

2009-10 Spatial analytical framework for examining sex offender residency issues over space and time. Co-Principal Investigator. Sponsor: National Science Foundation (\$235,000).

2008-10 Spatial Linkages and Urban Economic Development. Principal Investigator. Sponsor: Economic Development Administration, U.S. Department of Commerce (\$155,000).

2008-11 Editorial Office. International Regional Science Review. Principal Investigator. Sponsor: SAGE Publications Incorporated. (\$124,000).

2008-10 Comparative Space-Time Dynamics. Doctoral Dissertation Research. Principal Investigator. Sponsor: National Science Foundation (\$1,500).

2007-09 Industrial Clusters and Trade. Sponsor: Department of Education (Subcontract) (\$40,000).

2006-07 Comparative Regional Income Dynamics: Clustering, Scale, and Geocomputation. Doctoral Dissertation Research. Principal Investigator. Sponsor: National Science Foundation (\$4,200).

2006-07 Regional Socioeconomic Modeling in Support of Economic Development Networks. Co-Principal Investigator. Sponsor: Defense Logistics (\$900,000).

2005-06 Regional Socioeconomic Modeling in Support of Economic Development Networks. Co-Principal Investigator. Sponsor: Defense Logistics Agency (\$1,200,000).

2004-07 An Exploratory Space-Time Data Analysis Toolkit for Spatial Social Science Research. Principal Investigator. Sponsor: National Science Foundation. (\$97,000)

2004-06 Prostate Cancer ESDA and Spatial Statistics. Co-Principal Investigator. Sponsor: Association of Teachers of Preventative Medicine (ATPM)/Centers for Disease Control Cooperative Agreement Subawards Program (\$758,000)

2004-05 Regional Socioeconomic Modeling in Support of Economic Development Networks. Co-Principal Investigator. Sponsor: Defense Logistics Agency (\$987,000).

2004-07 Editorial Office. International Regional Science Review. Principal Investigator. Sponsor: SAGE Publications Incorporated. (\$60,000)

2002 Identification of Industrial Clusters in Imperial County. Principal Investigator. Sponsor: California Center for Border and Regional Economic Studies. (\$8,000).

2001 Evaluation of Cluster Identification Methods at the Sub-State Scale. Principal Investigator. Sponsor: California Employment Development Department. (\$30,000).

2001 Design of a Fiscal Impact Analysis Toolkit: FIAT. Principal Investigator. Sponsor: SDSU Defense Conversion Center. (\$15,000).

2000 Open Source Approaches To Spatial Analysis. Subcontract to Center for Spatially Integrated Social Sciences. (\$5,000).

2000 Analysis of the Visitor Industry Cluster in the San Diego Economy. Principal Investigator. Sponsor: San Diego Workforce Partnership. (\$50,000).

1999-03 Editorial Office. International Regional Science Review. Principal Investigator. Sponsor: SAGE Publications Incorporated. (\$45,000)

1999 Identifying Regional Industrial Clusters in the California Economy. Principal Investigator. Sponsor: California Employment Development Department. (\$20,000).

1998-99 Environmental Accounting for the San Diego-Tijuana Region. Co-Principal Investigator. Sponsor: Southwest Center on Environmental Research and Policy. (\$49,000).

1998 Analysis of the Technician Needs Assessment Survey. Principal Investigator. Sponsor: The San Diego Regional Economic Development Corporation (\$4,000).

1998 The East County Industry Connectory Project, Consultant. Sponsor: The East County Economic Development Corporation (\$2,000).

1997-98 The San Diego Economic Information and Modeling Project. Co-Principal Investigator. Sponsor: Office of Economic Adjustment, U.S. Department of Defense (\$103,000).

1997 The Impact of International Trade on Sub-State Economies. Principal Investigator. Sponsor: College of Arts and Letters Micro-Grants (\$332).

1997 Spatial Econometric Approaches to Simultaneous Equations Systems. Principal Investigator. Sponsor: Faculty Development Program, San Diego State University. Amount (\$4,000).

1996 The Impacts of the San Diego State University on the Regional Economy. Co-Principal Investigator. Sponsor: Office of the Vice President for Academic Affairs, San Diego State University (\$20,000).

1995-96 The San Diego Economic Information and Modeling Project. Co-Principal Investigator. Sponsor: Office of Economic Adjustment, U.S. Department of Defense (\$243,000).

1995 A Review of the San Diego Demographic and Economic Forecasting Model. Consultant. Sponsor: The San Diego Association of Governments (\$4,200).

1994-95 The Economic Studies Project. Co-principal Investigator. Sponsor: Office of Economic Adjustment, U.S. Department of Defense (\$241,592).

1993 Integration of Multiregional Modeling and Geographic Information Systems. Principal Investigator. Sponsor: Research, Scholarly and Creative Activity Awards, College of Arts and Letters, San Diego State University (\$3,885).

## Courses Taught

### Short and Invited Courses

Geographic Data Science with Python (GeoPython 2024, Basel, Switzerland)

Spatial Data Science and Econometrics with Python (Spatial Economics Workshop 2024, Grenoble, France)

Spatial Data Science with PySAL (WRSA 2024, Monterey, CA)

Spatial Data Science with PySAL (NARSC 2023, San Diego)

Spatial Inequality Analytics with PySAL (IALE 2022, Tempe, AZ)

Spatial Data Analysis with PySAL (SciPy India 2020)

Spatial Data Science with PySAL (NARSC 2020, Virtual)

Spatial Data Science with PySAL (SpatialAPI 2020, Seattle, WA)

Spatial Data Science with PySAL (SciPy 2020, Austin, TX)

Spatial Data Science with PySAL (RSAI 2019, Pittsburgh, PA)

Geospatial Data Science with PySAL (Geocomputation 2019, Queenstown, New Zealand)

Intermediate Geographical Data Science (SciPy 2019, Austin, TX)

Geospatial Data Science with PySAL (FOSS4G 2019, San Diego, CA)

Spatial Data Analysis with PySal and GeoDaSpace (RSAI 2018, San Antonio, TX)

Introduction to Geospatial Data Analysis with Python (SciPy 2018, Austin, TX)

Geospatial Data Analysis with Python (GradQuant UCR May 2018)

Spatial Data Science with PyData (GeoPython 2018, Basel, Switzerland)

Spatial Data Analysis with PySal and GeoDaSpace (RSAI 2017, Vancouver, BC)

Spatial Data Analysis with PySal and GeoDaSpace (RSAI 2016, Minneapolis, Minnesota)

Geographic Data Science with PySAL and the pydata Stack (SciPy 2016, Austin, Texas)

Spatial Data Science with PySAL and PyData (UCGIS 2016, Scottsdale, Arizona)

Spatial Data Analysis with PySal and GeoDaSpace (RSAI 2015, Portland, Oregon)

Exploratory Spatial Data Analysis with PySAL (AERUS 2015, Purdue University)

Spatial Data Analysis with PySal and GeoDaSpace (RSAI 2014, Bethesda, Maryland)

Spatial Data Analysis with PySAL and GeoDaSpace (GIScience 2014, Vienna, Austria)

Exploratory Spatial Data Analysis with PySAL (FOSS4G 2014, Portland State University)

PySAL Workshop (RSAI 2014, Atlanta, GA)

Exploratory spatial data analysis with PySAL (OSGR 2012, Yverdon-les-Bains, Switzerland)

PySAL and GeoDaSpace (GIScience 2012, Ohio State University)

Spatial Econometrics: Theory and Practice (Wageningen School of Social Sciences, Wageningen University).

Introduction to Exploratory Spatial Data Analysis (West Virginia University)

Python for Spatial Analysis (University of California, Santa Barbara)

### **University of California**

GIS for Public Policy

Spatial Dimensions of Public Policy

Quantitative Methods for Public Policy

Regional Policy-Making Across Administrative Jurisdictions

### **Arizona State University**

Geographic Information Science I

Geographic Information Analysis

Geographics

Geocomputation

Open Source Tools for Planners

### **San Diego State University**

Seminar in Geocomputation and Geovizualization (Co-taught with A. Skupin).

Open Source Geocomputation

Seminar on Geographic Research Design

Advanced Quantitative Methods in Geographic Research

Regional and Urban Modeling

Open Source Tools for Geographic Research

Quantitative Methods in Geographic Research

Location and Urban Spatial Structure

Introduction to Geographic Information Systems

Spatial Data Analysis

Location of Economic Activities

Introduction to Human Geography

## **Graduate Advising (\* chair)**

### **Post Doctoral Positions**

2020-2021 Xin Feng.\* Scalable Geospatial Analytics  
2018-2020 Wei Kang.\* Spatiotemporal Analytics  
2018-2020 Su Han.\* Neighborhoods in Space-Time Contexts  
2018-2019 Renan Cortes.\* Neighborhoods in Space-Time Contexts  
2018-2019 Elijah Knaap.\* Spatial Distribution Dynamics  
2009 Myrna L. Sastre Gutierrez.\* Regional Dynamics, Convergence, and Space in Mexico  
2005 Juan Carlos Duque.\* Integrating Industrial and Spatial Clustering Methodologies.  
2005 Oleg Smirnov.\* Spatial Analytical Approaches Towards Economic Development.

### **Doctoral In Progress**

Dylan Skrah,\* SDSU-UCSB  
Jin Huang,\* SDSU-UCSB  
Suchirtra Pithavath. University of California  
Talha Rafiq. University of California  
Samriddhi Singla. University of California  
Nazli Uludere Aragon. Arizona State University

### **Doctoral Completed**

2020 Paige Trubenstein. University of California  
2020 Saheli Gosh. University of California  
2019 Hu Shao.\* Arizona State University  
2018 Wei Kang.\* Arizona State University  
2018 Marynia Kolak. Arizona State University  
2017 Taylor Oshan. Arizona State University  
2017 Levi Wolf.\* Arizona State University  
2017 Janet Reyna. Arizona State University  
2017 Chao Fan. Arizona State University.  
2017 Jianhua Huang. Arizona State Unveristy  
2015 Jason Laura.\* Towards a Taxonomy of Parallel Spatial Algorithms. Arizona State University.  
2015 Insu Hong. Efficient methods for shortest paths avoiding obstacles in continuous space. Arizona State University.

- 2013 Boris Dev.\* Assessing Inequality Using Geographic Income Distributions. SDSU-UCSB Joint Doctoral Program.
- 2013 Ran Wei. Addressing geographic Uncertainty in Spatial Optimization. Arizona State University.
- 2012 David Folch.\* Residential Segregation Measures and their Spatial Properties. Arizona State University.
- 2012 Nicolas Malizia. Arizona State University.
- 2012 Yin Liu. An exploratory toolkit for exploring residential movement patterns at a micro scale.. Arizona State University.
- 2011 Huaqun Li. Regional Inequality and Foreign Direct Investment in China. George Mason University (Public Policy).
- 2010 Daniel Arribas-Bel. Essays on the Distribution and Spatial Structure of Cities. Universidad de Zaragoza (Economics).
- 2010 Xinyue Ye.\* Comparative Space-Time Dynamics. SDSU-UCSB Joint Doctoral Program.
- 2008 Myrna L. Sastre Gutierrez Multiregional Dynamic Modeling for a Transnational Region, Mexico-United States: A Space-Time Approach. (Economics, Universidad Autonoma De Baja California).
- 2007 Jared Aldstadt Analysis and Modeling of Dengue Virus Transmission in Space and Time. SDSU-UCSB Joint Doctoral Program.
- 2006 Mark Janikas.\* Regional Income Dynamics: Clustering, Scale, and Geocomputation. SDSU-UCSB Joint Doctoral Program.
- 2003 Jennifer Miller. Incorporating Spatial Dependence into Predictive Vegetation Maps. SDSU-UCSB Joint Doctoral Program.
- 1999 Scott Munroe. The Economic and Spatial Dynamics of US Metropolitan Retailing 1972-96. SDSU-UCSB Joint Doctoral Program.
- 1999 Lauren Scott. The Accessible City: Employment Opportunities in Time and Space. SDSU-UCSB Joint Doctoral Program.
- 1998 Long Gen Ying. Modeling the Temporal and the Spatial Dynamics of Chinese Economic Growth. SDSU-UCSB Joint Doctoral Program.

### **Masters In Progress**

Jessica Embury. San Diego State University

### **Masters Completed**

- 2017 Sizhe Wang.\* Arizona State University
- 2015 Michael Bochnovic. Arizona State University.
- 2015 Anthony DeLuca. Arizona State University.
- 2013 Sharisse Fisher. Arizona State University.
- 2012 Stephanie Kleinschmidt. Arizona State University.



- 2012 Yan Liu. Arizona State University.
- 2010 Martin Lacayo-Emery Self-organizing Map Toolkit.
- 2008 Charles Schmidt.\* Effects of Irregular Topology in Spherical Self-Organizing Maps.
- 2008 Philip Stephens.\* The Spatial Impact of Economic Development Policies: The Case of HUBZones in San Diego California.
- 2008 Esperbe, Aude. Towards High-Resolution Self-Organizing Maps of Geographic Features.
- 2007 Aarthi Ram. Spatial Algorithms in Python (Computer Science).
- 2007 Xuening Li.\* Max-p region based estimation of disease rates.
- 2007 Maribel Elias.\* Educational Convergence in Peru.
- 2006 Valentine, Scott A. A Study of Hydrologic Response to the Restoration of Trout Creek, Central Sierra Nevada, California.
- 2005 Funda Emine Sygin. Estimating the Demand for Air Quality in Southern California: A Hedonic Approach. (Economics).
- 2005 Kristen Erickson. Defining Location, Location, Location in East San Diego County: A Case of Spatial Non-stationarity?
- 2004 Michael Farrel Modeling Regimes in Watersheds.
- 2004 Elizabeth Reynolds Analysis of Woodpecker habitat. (Biology).
- 2002 Mark Janikas.\* Integrating a Social Accounting Matrix into a Local Fiscal Impact Analysis Model.
- 2001 Daniel J. Mattheis.\* The Spatial and Interindustry Characteristics of Industrial Clusters in the San Diego Region.
- 2001 Deborah Jones.\* The Impact of Posted Beach Closures on Coastal Housing Prices: A Spatial Hedonic Price Analysis.
- 2000 Maritza Antonetti. Measuring the Performance of Urban Planning Through Urban Indicators: A Comparative Analysis of Quality of Life, Healthy Cities, and Urban Sustainability. (Public Administration and Urban Studies).
- 2000 Calvin McNeil. Crime and space in Los Angeles. (Economics).
- 1999 Deana Simmons. Predicting the Effects of Environmental Variables Upon Potential Site Productivity of Chaparral in the Descanso Ranger District.
- 1998 Brett D. Montouri.\* Are US Regional Incomes Converging? A Spatial Analysis.
- 1998 Boris Dev.\* Integrating Spatial and Interindustry Structure in Dynamic Regional Econometric Models.
- 1988 Gregg Bohr. Cold Season Precipitation in the Rocky Mountains: Patterns of Accumulation and Variability.
- 1996 Frank. P. Cuzzo. Mandibular Divergence in the Genus *Tarsius*: Its Relation to Basicranial Breadth. (Anthropology).

1995 Bruce Frank. Developing a Fire Fuel Modification Plan at Camp Pendleton: Evaluating the Effectiveness of the Use of Preference Analysis Techniques in a Geographic Information System.

1994 Amy Bortman. An Integrated Spatial Analysis/GIS Procedure for Estimating Suppressed County Employment Data.

1994 Caroline Sallaway. Evaluation of the Effectiveness of Perceptually Ordered Color Schemes for Maps.

## **Service to University and Community**

### **Department/School**

2018- Chair, Spatial Analysis Minor Committee  
 2018- Member, Graduate Committee  
 2016 Coordinator, BS in GIS  
 2015 Member, Personnel Committee  
 2015 Coordinator, BS in GIS  
 2014 Member, Personnel Committee  
 2013 Chair, Director Search Committee  
 2011- Chair, Computing Committee  
 2010-11 Chair, Academic Program Review Committee  
 2009-11 Member, Executive Committee  
 2009-11 Chair, Personnel Committee  
 2008- Member, GeoDa Center Executive Committee  
 2008- Chair, Computing Committee  
 2007 Chair  
 2006 Chair, Computing Committee  
 2006 Chair, Hiring Committee  
 2006 Member, Ph.D. Committee  
 2005 Chair, Computing Committee  
 2005 Hiring Committee  
 2004 Chair, Computing Committee  
 2004 Hiring Committee  
 2003 Chair, Computing Committee  
 2002 Chair, Internal Resource Committee  
 2002 Member, Policy Advisory Committee

2001 Chair, Internal Resources Committee  
2000 Chair, Internal Resources Committee  
2000 Member, Speakers and Community Relations Committee  
1999 Chair, Personnel Committee  
1999 Member, Policy Advisory Committee  
1999 Member, Ph.D. Committee  
1998 Member, Policy Advisory Committee  
1998 Member, MA Committee  
1998 Member, Personnel Committee  
1997 Member, MA Committee  
1997 Member Internal Resources Committee  
1996 Member, MA Committee  
1995 Member, Hiring Committee  
1994 Chair, Speakers and Public Relations Committee

### **College**

2009- Member, Academic Standards Committee  
2004 Member, Tenure and Promotion Committee  
2003 Member, Tenure and Promotion Committee  
1999 Member, Academic Planning Committee  
1998 Member, Academic Planning Committee  
1994 Coordinator, California State University Student Research Conference

### **University**

2019- Member, Senate Committee on Research  
2006-08 Member, General Education Task Force  
2005 Member, Tenure and Promotion Committee, Library  
2003 Academic Senate  
2003 College of Arts and Letters Dean Search Committee  
1998 Technical Advisor, Region Wide Economic Impacts of Higher Education.  
1996 Co-Principal Investigator: SDSU Economic Impact Report.

**Community**

1998 Technical Advisory Panel. Series 9 Demographic and Economic Forecasts. San Diego Association of Governments.

1998 Technical Advisory Panel. Evaluating Regional Prosperity. San Diego Association of Governments.

**Profession**

2019 Meeting Co-Chair, Scientific Computing with Python (SciPy) Meeting

2018 Meeting Co-Chair, Scientific Computing with Python (SciPy) Meeting

2017 Meeting Co-Chair, Scientific Computing with Python (SciPy) Meeting

2016 Program Co-chair, Scientific Computing with Python (SciPy) Meeting

2015 Program Co-chair, Scientific Computing with Python (SciPy) Meeting

2014 Program Co-chair, Scientific Computing with Python (SciPy) Meeting

2014 Program Committee, Open Source in Geographical Research and Education Meeting.

2014 Judge, William H. Miernyk Research Excellence Medal. Southern Regional Science Association.

2013 Organizing Committee, Scientific Computing with Python (SciPy) Meeting

2013– Scientific Committee, Open Source Geospatial Research and Education Meeting.

2012–13 Methodology, Measurement, and Statistics Panel Member. National Science Foundation

2010– External Advisory Board Member, Regional Research Institute, West Virginia University

2009 Program Chair, North American Meetings of the Regional Science Association.

2009–10 Geography and Spatial Sciences Senior Panel Member. National Science Foundation.

2005 Scientific Committee. Workshop on Spatial Econometrics. Kiel Institute for World Economics.

2005–09 Councillor, North American Regional Science Association.

2005– Board of Directors, Western Regional Science Association.

2005 Judge, William H. Miernyk Research Excellence Medal. Southern Regional Science Association.

2001 Judge, Regional Science Association International Dissertation Competition.

1996– Proposal reviewer, National Science Foundation

**Journal Referee (not including editorial appointments)**

Annals of Regional Science  
Economic Systems Research  
Environment and Planning A  
European Economic Review  
Geographical Analysis  
Geographical Systems  
Growth and Change  
International Journal of Geographic Information Systems  
International Regional Science Review  
Journal of Applied Econometrics  
Journal of Economic Geography  
Journal of Regional Science  
Papers in Regional Science  
The Professional Geographer  
Regional Science and Urban Economics  
Regional Studies  
Review of Regional Studies

**Professional Associations**

Association of American Geographers  
Regional Science Association International  
Western Regional Science Association

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