Dr. Aniruddha "Rudy" Banerjee
Indiana University Purdue University Indianapolis
Geography/GISc
510.684.0096
rbanerje@iupui.edu

GISc, Operations Research, Transportation Engineering/Planning/Drones, Spatial Statistics, Medical Geography/Spatial Epidemiology, Mathematical Statistics, Network Complexity, Architecture, Philosophy, Science Blogger (https://blogs.iu.edu/rudy/)

Professional Positions

Associate Professor, Indiana University Purdue University Indianapolis, GISc. (2012 - Present).

Associate Research Scientist, Prevention Research Center, PIRE, Berkeley, CA. (2003 - 2006).

Founder and chief Scientist, **SkyDOS** – a Drone Operating System (https://iu.flintbox.com/technologies/ef83ccde-32dd-479d-9b0d-1068cd260258)

Associate Professor (Sabbatical), Environmental Health Science, **UC Berkeley** (2013-2014).

Assistant Professor, Indiana University Purdue University Indianapolis, GISc. (2006 - 2012).

Education

PhD, University of Iowa, 2004. Major: Geography/GIS Supporting Areas of Emphasis: Spatial/Math Stats

MSU&RP, University of Iowa, 1994. Major: Urban & Regional Planning Supporting Areas of Emphasis: Transportation Planning and Engineering

BArch, Bengal Engineering College (Calcutta Univ.), 1991. Major: Architecture Supporting Areas of Emphasis: Structural Engineering; thesis title: Parliament House, Tripura, India

Awards/Honors/Influencer

Advisor/consultant: Institute for the Future (IFTF) (affiliate of RAND Corporation & Stanford University): Future of Healthcare (GISc) 2005.

Advisor/consultant: Department of Defense (Remote sensing AI development) 2016.

Advisor: Award winning Silicon Valley Startup Smartzip (2007-15).

Advisor: Award winning LA based Airport Intelligence firm Prodigiq (2014-present).

International Best Dissertation Award: Jacques May International Medical Geography Symposium, 2005.

Best sketching award, Zonal, National Association of Students of Architecture (NASA), (INDIA) 1988.

Best Artist (painting), St Patrick's HS School (INDIA) 1983-84.

School Opera (vocals) St Patrick's HS School (INDIA) 1976-82.

Selected Media Appearances and Interviews: [1] "Tech Talk: The New Frontier: Drones/Unmanned Aircraft in Higher Education and Academic Research," https://1871.com/. (November 11, 2021); [2] "Job Market for Recent Grads," EXPERTS WEIGH IN ON CURRENT JOB MARKET TRENDS February 26, 2021. (February 26, 2021).

Selected Publications/Patents/Awards (includes **Nature, Lancet, JAMA, Vision Research** etc.)

https://scholar.google.com/citations?hl=en&user=u5BOa-QAAAAJ&view_op=list_works&sortby=pubdate

Latest in Spatial Evolutionary Genetics (Nature, Entomology etc.):

Owings, C. G., **Banerjee, A.**, Asher, T. M., Gilhooly III, W. P., Tuceryan, A., Huffine, M., ... & Picard, C. J. (2019). Female blow flies as vertebrate resource indicators. **NATURE** Scientific Reports, 9(1), 10594.

Picard, C. J., Owings, C. G., Skaggs, C. H., Asher, T., Tuceryan, A., William III, B. G., Manicke, N. E., & **Banerjee, A.** (2019). Fly and mammal biodiversity: Unexpected linkages. ***Entomology*** *2019*.

Banerjee, A., Owings, C. G., Picard, C. J., Lulla, V. O., Gilhooly, W., Manicke, N., & Asher, T. (2019). Developing a Bio-spatial GIS network model for bio drones. 15–15. http://www.imgs2019.com/documents/book-of-abstracts-imgs2019.pdf

Picard, C. J., Owings, C. G., Gilhooly, W. P., Skaggs, C., Manicke, N. E., & **Banerjee, A.** (2018). *A multidisciplinary approach to a spatially and temporally explicit model of vertebrate ecosystem community structure using carrion insects*. 2018 ESA Annual Meeting (August 5-10).

Banerjee, A. (Co-PD/PI), Picard, C. J. (Program Director (PD)/Principal Investigator (PI)), Gilhooly, W. (Co-PD/PI), Manicke, N. (Co-PD/PI), *Environmental drones: blow flies as indicators of vertebrate diversity and abundance,* Sponsored by **National Geographic Society** (January 1, 2019 - December 31, 2019). Award.

Latest in Spatial Mental Health (LANCET, JAMA etc.)

Rockett, I. R. H., Caine, E. D., **Banerjee, A**., Ali, B., Miller, T., Connery, H. S., Lulla, V. O., Nolte, K. B., Larkin, G. L., Stack, S., Hendricks, B., McHugh, R. K., White, F. M. M., Greenfield, S. F., Bohnert, A. S. B., Cossman, J. S., D'Onofrio, G., Nelson, L. S., Nestadt, P. S., … Jia, H. (2021). Fatal self-injury in the United States, 1999–2018: Unmasking a national mental health crisis. ***LANCET***: *eClinicalMedicine*, *32*. https://doi.org/10.1016/j.eclinm.2021.100741

Rockett, I. R. H., Ali, B., Caine, E. D., Shepard, D. S., **Banerjee, A**., Nolte, K. B., Connery, H. S., Larkin, G. L., Stack, S., White, F. M. M., Jia, H., Cossman, J. S., Feinberg, J., Stover, A. N., & Miller, T. R. (2023). Escalating costs of self-injury mortality in the 21st century United States: An interstate observational study. *BMC Public Health*, *23*(1), 285. https://doi.org/10.1186/s12889-023-15188-8

Rockett, I. R. H., Jia, H., Ali, B., **Banerjee, A**., Connery, H. S., Nolte, K. B., Miller, T., White, F. M. M., DiGregorio, B. D., Larkin, G. L., Stack, S., Kõlves, K., McHugh, R. K., Lulla, V. O., Cossman, J., De Leo, D., Hendricks, B., Nestadt, P. S., Berry, J. H., … Caine, E. D. (2022). Association of State Social and Environmental Factors With Rates of Self-injury Mortality and Suicide in the United States. ***JAMA*** *Network Open*, *5*(2), e2146591. https://doi.org/10.1001/jamanetworkopen.2021.46591

Latest in Spatial Network Science/Complexity

Banerjee, A. (2018). Hospital Architecture and Infection Modeling: A Network Approach. *NETSCI 2018 Book of Abstracts: Epidemiology*. Published. https://www.netsci2018.com/posters

In progress: Explosive Quarantine: A novel approach to spatial quarantine https://blogs.iu.edu/rudy/2020/03/18/explosive-quarantine-a-novel-approach-to-spatial-quarantine/ (work in progress w/ Dr. Raissa M. D'Souza Fellow, American Physical Society)

Lipton, R., **Banerjee, A.**, Ponicki, W. R., Gruenewald, P. J., & Morrison, C. (2021). Impacts of confounding roadway characteristics on estimates of associations between alcohol outlet densities and alcohol-related motor vehicle crashes. Drug and alcohol review, 40(2), 239-246.

Banerjee A. Aerial Drone Operating System & Transportation Network Infrastructure (*Pending* Patent: US-20220058573-A1)

Spatial Epidemiology, Drug Markets & Misc (Vision Research, Social Sc. & Med)

Banerjee, A. (2016). scholar Beyond Euclidean Maps: Simultaneous Thinking, Networks and Rushton's "Leitwissenschaft". In *Phipps, A. G. (2016). Research Advances in Behavioral, Economic and Health Geography Inspired by Gerard Rushton.*.

Banerjee, A., LaScala, E., Gruenewald, P. J., Freisthler, B., Treno, A., & Remer, L. G. (2008). Social disorganization, alcohol, and drug markets and violence. In *Geography and drug addiction* (pp. 117--130). Springer, Dordrecht.

Chu, B., Russell, M., Gruenewald, P., Fan, A., & **Banerjee, A.** (2005). Understanding the role of total alcohol volume and frequency in assessing risks of developing myocardial infarction at specific dosage levels. *Alcoholism-Clinical & Experimental Research*, *29*, 37A--37A.

Laeng, B., Brennen, T., Elden, \AAke, Paulsen, H. G., **Banerjee, A.,** & Lipton, R. (2007). Latitude-of-birth and season-of-birth effects on human color vision in the Arctic. ***Vision Research***, *47*(12), 1595--1607.

Banerjee, A. (2007). Temporal changes in the spatial pattern of disease rates incorporating known risk factors. ***Social Science & Medicine***, *65*(1), 7--19.