Arkaprava Roy

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CURRENT POSITION	*Assistant Professor* Department of Biostatistics, University of Florida, Gainesville, FL, USA	June 2020 - Present
PREVIOUS POSITION	*Postdoctoral Associate* DSS, Duke University, Durham, NC, USA Mentor: Dr. David B. Dunson	July 2018 - May 2020
EDUCATION	*PhD in Statistics* North Carolina State University, Raleigh, NC Advisors: Dr. Subhashis Ghosal and Dr. Ana-maria Staicu Topic: *Bayesian methods for high dimensional models in brain imaging*	August 2014 - May 2018
	Masters in Statistics, Indian Statistical Institute, India	July 2012 - June 2014
	Bachelors in Statistics, Indian Statistical Institute, India	July 2009 - June 2012

TECHNO-LOGICAL SKILLS

Programming Languages: C, C++, Python, Java (basic), Bash coding (basic).
Statistical Packages: R, Matlab.
Database Management Tool: SQL.

PROFESS-IONAL EXPERI-ENCE

Intern   May 2012 - June 2012
GE Global Research, Bangalore, India

- Designing and implementing using 'R-code an algorithm to detect off-sets in wind direction measurements obtained from meteorological masts located in wind farms for GE Wind Energy business.

Consulting   August 2015 - December 2015

- Worked with a graduate student from crop science department as NC State in her thesis on examining the relationship between soil conservation and Foodsecurity in rural El Salvador.

RESEARCH WORKS

Roy, A., Ghoshal, S., Prescott, J., Choudhury, K. **Bayesian Modeling of the Structural Connectome for Studying Alzheimer Disease** (2019) *Annals of Applied Statistics.*

Roy, A., Ghoshal, S., Choudhury, K. **High dimensional Single Index Bayesian Modeling of the Brain Atrophy over time** (2020) *Bayesian Analysis.*

Roy, A., Reich, B. J., Guinness,J., Shinohara, R., Staicu, A.M. **Spatial shrinkage via the product independent Gaussian process prior** (2021) *Journal of Computational and Graphical Statistics.*

Roy, A., Dunson, D.B. **Nonparametric Graphical Model for Counts** (2019+) Accepted to JMLR (`https://arxiv.org/abs/1901.00886`).

Roy, A., Borg, J. S., Dunson, D.B. **Bayesian time-aligned factor analysis of paired multivariate time series** (2019+) Accepted to JMLR under minor revision (`https://arxiv.org/abs/1904.12103`).

Roy, A., Lavine, I.,Herring, A.H. Dunson, D.B. **Perturbed factor analysis: Improving generalizability across studies.**(2019+) Accepted to *Annals of Applied Statistics* (`https://arxiv.org/abs/1910.03021`).

Roy, A., Karmakar, S. (2020) **Analyzing initial stage of COVID-19 transmission through Bayesian time-varying model.** Unsubmitted preprint (`https://arxiv.org/abs/2004.02281`).

Roy, A., Karmakar, S. (2021) **Time-varying autoregressive models for count time-series.** *Electronic Journal of Statistics.*

Karmakar, S., **Roy, A.** (2021) **Bayesian modelling of time-varying conditional heteroscedasticity.** *Bayesian Analysis.*

Jarquin, D., **Roy, A.**, Clarke, B., Ghoshal, S. **Sparse Multicategory Classification with Applications to Studying Effects of Rice Genes** Under revision for BMC-Bioinformatics (2020+) (`https://www4.stat.ncsu.edu/~ghoshal/papers/JRCG_multidata.pdf`).

Roy, A., Ghoshal, S. **Optimal Bayesian Smoothing of Functional Observations over a Large Graph** (2021) *Under revision for Journal of Multivariate Analysis.*

Roy, A., Sarkar, A. **Bayesian Semiparametric Multivariate Density Deconvolution via Stochastic Rotation of Replicates** (2021+) *Submitted.*

Roy, A. Multivariate Gaussian RBF-net for smooth function estimation and variable selection (2021) *Statistical Analysis and Data Mining.*

Roy, A. Nonparametric Group Variable Selection with Multivariate Response for Connectome-Based Prediction of Cognitive Scores (2021+) *Submitted.*

Giudici, P. S., Tarantino, B.,**Roy, A. Bayesian time-varying autoregressive models of COVID-19 epidemics** (2021+) *Submitted.*

PROFESSIONAL MEMBERSHIP	• American Statistical Association (ASA), • International Society for Bayesian Analysis (ISBA), • International Indian Statistical Association.
PROFESSIONAL ACTIVITIES	• Served as a reviewer for AoAS (1), JASA (1), Biometrika (2), JABES (2), Gifted Child Quarterly (1), JRSS-C (1), Machine Learning (1), BMC-Bioinformatics (2), Communications in Statistics − Case Studies and Data Analysis (2), Statistics in Biosciences (1), Journal of Computational and Applied Mathematics (1), Bayesian Analysis (1), JCGS(1), CSDA(1).
AREAS OF INTEREST	Bayesian non-parametric & semi parametric modeling, high dimensional data, big data, sparse estimation, neuro-imaging data, time series, spatio-temporal data, measurement error modeling, neural net, machine learning
PRESENTA-TIONS	*Posters* **Roy, A.**, Jarquin, D., Clarke, B., Ghoshal, S. **Sparse Multicategory Classification with Applications to Studying Effects of Rice Genes** *JSM 2016, Chicago* **Roy, A.**, Dunson, D.B. **Nonparametric Graphical Model for Counts** *CRCNS PI Meeting 2019, Austin*

Talks

Roy, A., Ghoshal, S., Prescott, J., Choudhury, K. **Bayesian Modeling of the Structural Connectome for Studying Alzheimer Disease** *Student Seminar series, NCSU*

Roy, A., Ghoshal, S., Choudhury, K. **High dimensional Single Index Bayesian Modeling of the Brain Atrophy over time** *Bayesian Seminar series, NCSU*

Roy, A., Borg, J. S., Dunson, D.B. **Bayesian time-aligned factor analysis of paired multivariate time series** *Bayesian Seminar series, NCSU*

Roy, A., Dunson, D.B. **Nonparametric Graphical Model for Counts** *JSM 2019, Denver, Invited*

Roy, A. Factor analysis for multi-group data *Statistics Seminar, UMBC, Invited*

Roy, A. Factor analysis for multi-group data *Statistics Seminar, IIT, Kanpur*

Roy, A. Sparse Multicategory Classification with Applications to Studying Effects of Rice Genes *JSM 2020, Online, Invited*

Roy, A. Perturbed factor analysis: Improving generalizability across studies. *ENAR 2021, Online, Invited*

Roy, A., Borg, J. S., Dunson, D.B. **Bayesian time-aligned factor analysis of paired multivariate time series** *IISA 2021, Online, Invited*

Roy, A., Borg, J. S., Dunson, D.B. **Bayesian time-aligned factor analysis of paired multivariate time series** *EcoStat 2021, Online, Invited*

ADVISING

SERVICE   *Chair, Seminar Committee*   October 2020 - Present
University of Florida

REFERENCES   Dr. Subhashis Ghosal (Department of Statistics, NCSU)
email: sghosal@ncsu.edu

Dr. David B. Dunson (Department of Statistics, Duke)
email: dunson@duke.edu