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## The bivariate Erlang and its application in modeling recurrence times of kidney dialysis data

Norou Diawara  
Old Dominion University, USA

Recent advances in computer modeling allow us to find closer fits to data. The emphasis is on the interdependence between occurrences at kidney dialysis under a Bayesian semiparametric approach. The interdependence between kidney dialysis occurrences is modeled by a bivariate exponential that is proposed in this article. The application is shown on the McGilchrist and Aisbett kidney data set with the use of the exponential distribution. The proposed bivariate exponential model has exponential marginal densities, correlated *via* latent random variables and with finite probability of simultaneous occurrence. Extension of the model to a bivariate Erlang type distribution with same shape parameter is presented.

### Biography

Norou Diawara is an Associate Professor of Statistics in the Mathematics & Statistics Department, Old Dominion University (ODU). He holds a PhD in Mathematical Statistics from Auburn University. With publications in peer-reviewed journals, he is the recipient of many grants and, his research is focused on multivariate statistics, probability theory and its applications, biostatistics, time series, and high dimensional data analysis. He is a member of American Statistical Association and elected official for the Southern Regional Council on Statistics. He is very active in the application of statistical methods to fields as diverse as traffic behavior and health policy.

[NDiawara@odu.edu](mailto:NDiawara@odu.edu)