# Statistics Seminar

Department of Mathematics and Statistics

| | |
|---|---|
| **DATE:** | Thursday, January 26, 2022 |
| **TIME:** | 1:15pm – 2:15pm |
| **LOCATION:** | WH 100E |
| **SPEAKER:** | Wenshu Dai, Binghamton University |
| **TITLE:** | Model-based clustering of longitudinal data. |

**Abstract**

A new family of mixture models for the model-based clustering of longitudinal data is introduced. The covariance structures of eight members of this new family of models are given and the associated maximum likelihood estimates for the parameters are derived via expectation-maximization (EM) algorithms. The Bayesian information criterion is used for model selection and a convergence criterion based on Aitken's acceleration is used to determine convergence of these EM algorithms. This new family of models is applied to yeast sporulation time course data, where the models give good clustering performance. Further constraints are then imposed on the decomposition to allow a deeper investigation of correlation structure of the yeast data. These constraints greatly extend this new family of models, with the addition of many parsimonious models.