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**COLLOQUIUM**

**Speaker: Dr. Tessa Chen, Department of Mathematics, University of Dayton**

**Title: A New Computational Approach for Estimation of the D-Gini Index Based on Grouped Data**

**Date: Friday, November 13th, 2020**

**Room/Time: Meet-n-Greet: 2:30 p.m.**

**Talk: 3:00 p.m.**

**https://wright.webex.com/wright/j.php?MTID=m151ae530d62e83a8a43ac4e199ce5463**

**Host: Dr. Yang Liu**

**ABSTRACT:**

**Many government agencies still rely on the grouped data as the main source of information for calculation of the Gini index. Previous research showed that the Gini index based on the grouped data suffers the first and second-order correction bias compared to the Gini index computed based on the individual data. Since the accuracy of the estimated correction bias is subject to many underlying assumptions, we propose a new method and name it D-Gini, which reduces the bias in Gini coefficient based on grouped data. We investigate the performance of the D-Gini method on an open-ended tail interval of the income distribution. The results of the simulation study showed that our method is very effective in minimizing the first and second order-bias in the Gini index and outperforms other methods previously used for the bias-correction of the Gini index based on grouped data. Three data sets are used to illustrate the application of this method.**

**SPEAKER BIO:**

Dr. Tessa Chen is currently an assistant professor in the Department of Mathematics at the University of Dayton and the secretary for Statistical Programmers and Analysts Section in American Statistical Association. She received her Ph.D. in Statistics from Bowling Green State University in 2015 and spent two years as a visiting assistant professor in the Farmer School of Business at Miami University, Ohio prior to teaching at the University of Dayton. Her research interest focuses on applied machine learning, high performance computing, statistical modeling, and survival analysis.