

***CS Departmental Seminar Series***  
***Tuesday, September 25, 2018, EC 205 at 3:30p.m. – 4:30p.m.***

***Title: Geospatial Visualization of Twitter Data***

This research began by analyzing the sentiment of tweets in order to find a correspondence to health issues and to gain a new perspective in analyzing health data. Twitter social media is a large source of information that can augment data about health in particular geographic locations. For this project, analyzing tweets is an attempt to find some relation between the sentiment of tweets and Cardiovascular Disease (CVD) in the counties along Interstate 20 (I-20) in Texas. After all the tweets are classified as positive or negative, then the results are used to calculate the following for each county: Positive-to-Negative ratio, Positive-to-Population ratio, and Negative-to-Population ratio. This data is then separated into quintiles and compared to the Cardiovascular Disease map of I-20 in order to determine if a relationship may exist between CVD and the tweets. The preliminary results show that a correspondence exists between the low CVD rate in a county to the Positive-to-Negative ratio of that same county. The research has expanded into the development of a custom tool to support multidisciplinary research with Twitter.



**Dr. Susan Mengel** is an Associate Professor at Texas Tech University. She has played strategic leadership roles in numerous multidisciplinary projects involving the delivery of innovative software and data models in sleep management, student retention and advising, computer education, nutrition, speech therapy, big data, and cybersecurity. She has served on grants from NSF, the Texas Coordinating Board, and the Department of Agriculture. She helped to establish the Master's in Software Engineering degree program at Texas Tech University, served as Vice-President for the Texas Tech Faculty Senate, chaired the IEEE Software Engineering Education and Training Conference, served on the Steering Committee of the ACM/IEEE Computing Curriculum, and served on the IEEE Computer Society Board of Governors. She currently serves on the Texas Tech Institutional Review Board for the Protection of Human Subjects, is the Chair of the Society of Women Engineers Outreach Committee, and is the Associate Editor for Computing for the IEEE Transactions on Education. She is a faculty co-advisor for the TTU Collegiate Chapter of the Society

of Women Engineers.