Mathematics & Statistics Department presents…

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Serendipitous Benefits of Statistical Consulting and Collaborative Research

Students and researchers trained in STEM fields all-too-often specialize in their respective domains without making connections to other subjects. Introductory and capstone courses can help to put subject matter into the larger context, yet student learning can often be 'stove-piped' with the 'forest missed for the trees'. This trend at the undergraduate level is often exacerbated at the Master's and PhD levels. Thankfully, statistical consulting classes go a long way in helping quantitatively-focused students to bridge these chasms and gain needed perspective for further study or on-the-job realities and challenges.

This talk focuses on the ways in which statistical consulting and research projects have helped undergraduate and Master's students to traverse course boundaries and to achieve a greater understanding of the course subject material by helping them to juxtapose, compare, and notice similarities in various statistical techniques and subject-matter domains. These activities also reinforce the underlying mathematical and statistical theory in practical settings. Essential to the application of statistical techniques is powerful statistical software. In this talk, practical examples are provided from the assessment of interaction of environmental effects in air pollution studies, bioassay and drug synergy, data-mining of "big data", biomedical sciences including recovery from stroke and virology, and archaeology.

Light refreshments will be served