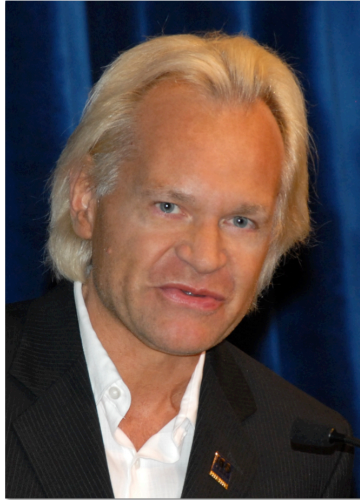## Information Science and Technology Seminar Speaker Series and Data Science at Scale Summer School Speaker Series

Professor Bernd Hamann
University of California, Davis

Mathematical, Visual and Interactive Methods for the Processing and Analysis of Scientific Data

Wednesday, July 30, 2014

3:00 - 4:00 PM

TA-3, Bldg. 1690, Room 102 (CNLS Conference Room)

Abstract: This talk provides a survey of several research efforts concerned with complex data analysis and visualization. The data exploration solutions discussed are mainly the results of close and long-standing collaborations involving visualization experts and scientists/engineers from various scientific/engineering domains, driving the need for specific data analysis techniques. Efforts high-lighted in the talk include examples concerned with: direct data visualization; mathematical and geometrical data processing and analysis; reconstruction of geometry and fields from imaged and observed data; effective utilization of large immersive interaction environments; and image processing. Several of the research efforts described have been performed via the "Los Alamos National Laboratory and UC Davis Institute of Next-generation Visualization and Analysis (INGVA)." Further, the talk will briefly discuss the characteristics of a few highly successful interdisciplinary and international research collaborations. Remaining challenges regarding complex and large data set analysis and visualization will be pointed out.

Biography: Bernd Hamann studied mathematics and computer science at the Technical University of Braunschweig, Germany, and Arizona State University. At the University of California, Davis, he teaches computer science courses, with a focus on visualization, geometric design and modeling, and computer graphics. Jointly with his students, post-doctoral scholars and other collaborators he has contributed to the development of techniques for the analysis and visual exploration of complex, large scientific data.

For more information contact the technical host Curt Canada, cvc@lanl.gov, 665-7453.

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