TECHNISCHE UNIVERSITÄT
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Ilmenau International Seminar Series on Communications and Signal Processing

Vortrag am 3. April 2017 von:

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Thema des Vortrags: „Determining the number of correlated signals between two data sets using PCA-CCA when sample support is extremely small"

Abstract:
This talk will be concerned with determining the number of correlated signals between two high-dimensional data sets when the number of samples from these data sets is extremely small. In such a scenario, a principal component analysis (PCA) preprocessing step is commonly performed before applying canonical correlation analysis (CCA). I present different hypothesis tests that allow jointly determining the required PCA dimension reduction and the number of correlated signals. I will also briefly talk about some potential applications in climate science and biomedicine.

Brief Biography
Peter Schreier was born in Munich, Germany, in 1975. He received a Master of Science from the University of Notre Dame, Indiana, USA, in 1999, and a Ph.D. from the University of Colorado at Boulder, USA, in 2003, both in electrical engineering. From 2004 until 2011, he was with the School of Electrical Engineering and Computer Science at the University of Newcastle, Australia, first as Lecturer, then Senior Lecturer, and finally Associate Professor. Since 2011, he has been Professor of Signal and System Theory in the Department of Electrical Engineering and Information Technology at the Universität Paderborn, Germany.

Prof. Schreier has received fellowships from the State of Bavaria, the Studienstiftung des deutschen Volkes (German National Academic Foundation), and the Deutsche Forschungsgemeinschaft (German Research Foundation). From 2008 until 2012, he was an Associate Editor of the IEEE Transactions on Signal Processing, and from 2010 until 2014 a Senior Area Editor for the same Transactions. Currently, he serves as an Associate Editor for the IEEE Signal Processing Letters. From 2009 until 2014, he was a member of the IEEE Technical Committee on Machine Learning for Signal Processing, and he is currently a member of the IEEE Technical Committee on Signal Processing Theory and Methods.