

PROGRAM

Data Compression Conference (DCC 2012)

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April 10 - 12, 2012

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SCHEDULE OVERVIEW:

Monday Evening, April 9:

Registration and Reception

Tuesday, April 10:

Morning: Technical Sessions 1, 2, 3

Mid-Day: Invited Presentation

Afternoon: Technical Session 4

Wednesday, April 11:

Morning: Technical Sessions 5, 6

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Afternoon: Poster Session and Reception

Thursday, April 12:

Morning: Technical Sessions 8, 9, 10

MONDAY EVENING

Registration / Reception, 7:00-10:00pm (Golden Cliff Room)

TUESDAY MORNING

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*Miguel Hernández-Cabronero[†], Juan Muñoz-Gómez[‡], Ian Blanes[†],
Michael W. Marcellin^{†,‡}, and Joan Serra-Sagristà[†]*
[†]Universitat Autònoma de Barcelona, [‡]University of Arizona, Tucson

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Ian Blanes[†], and Joan Serra-Sagristà[†]*
[†]Universitat Autònoma de Barcelona, [‡]University of Arizona, Tucson

Lunch Break: 12:00noon - 2:30pm

TUESDAY MID-DAY INVITED PRESENTATION

2:30pm - 4:00pm

Compressive Sensing for Magnetic Resonance Imaging

Ali Bilgin

University Of Arizona

Magnetic Resonance Imaging (MRI) is a non-invasive medical imaging technique which provides valuable insight into disease development and tissue physiology without the use of ionizing radiation. Besides delivering exquisite anatomical information, MRI can provide images sensitive to multiple parameters that allow assessment of a variety of pathologies. However, despite recent technological advances, one of the problems associated with the use of MRI in a clinical or preclinical setting is the lengthy examinations. Long data acquisition times currently make MRI exams less practical, particularly for parametric imaging. The recent Compressive Sensing (CS) framework promises significant acceleration of data acquisition and MRI represents an ideal application area for CS theory: First, MR images are often very compressible. Additionally, imaging in MR is performed using linear measurements of the object and the measurements are obtained sequentially. Thus, imaging time is roughly proportional to the number of measurements and the imaging process can be accelerated if the number of measurements can be reduced. This talk describes the use of CS for MRI. After a brief introduction to MRI and CS, we will describe the current status of compressive MRI, introduce several applications, discuss their unique challenges, and present some potential future directions.

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