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**You are invited to an IEEE Meeting on
Wednesday, Feb 29, 2012**



Title: Sparsity, Compressed Sensing and Applications

Speaker: Jovana Ilic, Sandia National Laboratories, CA
Date: Wednesday, February 29, 2012
Time: Presentation from 11:00 AM – 12:30 PM
Cost: No charge
Place: Lawrence Livermore National Laboratory - Building 132s / R1770
RSVP: **Please make reservation** by emailing Ron Kane
email: kane@ieee.org

Meeting Description:

In recent years sparsity has become a ``buzz" word, thanks to the popularity of compressed sensing. However, compressed sensing is just one of the many applications of sparse representations: sparsity has long been an attractive theoretical and practical signal property in many areas of applied mathematics such as computational harmonic analysis, statistical estimation, and theoretical signal processing.

For sparse signals, compressed sensing offers much lower sampling rates than classical Shannon's Sampling Theorem. In many applications, sampling at Nyquist rate results in too many samples that need to be processed, stored and possibly transmitted. This abundance of samples makes signal compression necessary, and a majority of the samples are discarded. The idea behind compressed sensing is to combine the sampling and compression into a single linear measurement process. This results in sampling well below the Nyquist rate. Under certain conditions the original signal can be recovered exactly from fewer observations using optimization.

In this talk we will go over the main concepts and results in compressed sensing as well as the several categories of recovery algorithms for solving severely underdetermined systems. We will then present several applications of sparsity and compressed sensing including image processing, wireless communications, radars and matrix completion.

About the Speaker:

Jovana Ilic has received her BS in Electrical Engineering in 2005 from School of Electrical Engineering, University of Belgrade, Serbia and her M.S and Ph.D. in Electrical Engineering in 2009 and 2011, respectively, from University of California, Davis. She is currently a Senior Member of Technical Staff at Sandia National Laboratories. Her general research interests are in wireless communications, digital signal processing and compressed sensing.

Note that due to scheduling complexities this location is within the controlled areas of LLNL, outside visitors wishing to attend MUST reply by 2/21 to arrange for a visit request, there are no guarantees of entry approval however. Unfortunately Foreign Nationals will not be able to attend this meeting due to the required time for organization approval. Non-badged Visitors will have to enter through the West Gate Badge Office located outside the Westgate Drive security gate.

RSVP to: Ron Kane, 925-422-7393, kane2@llnl.gov