

Nutaq Announces the 2014 Software Defined Radio Academic US Contest Winner

QUEBEC, QUEBEC, CANADA, June 4, 2014 /EINPresswire.com/ -- Nutaq Announces the 2014 Software Defined Radio Academic US Contest Winner

Georgios Sklivanitis and Emre Can Demirors with the Software Defined Networks (SDN) Lab in the Department of Electrical Engineering of the State University of New York at Buffalo have won Nutaq's 2014 Software Defined Radio Academic US Contest.

The contest, put on with the collaboration of The Mathworks and Xilinx, aims to encourage innovation and support

academics in their efforts to develop tomorrow's wireless technologies.

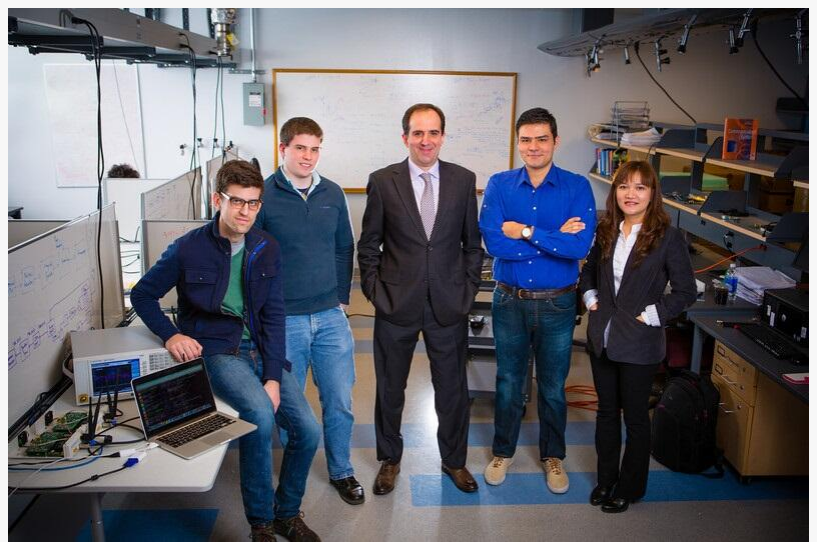
The SUNY Buffalo SDN Lab team guided by Prof. Dimitris Pados will be using Nutaq's [PicoSDR](#) 2x2 MIMO platform, along with a model-based design software tool suite, to study, implement, and demonstrate a new approach for spectral efficiency maximization in future heterogeneous wireless systems. The researchers will exploit the agility offered by real-time reconfigurable wireless radio platforms to carry out jointly optimized signal waveform allocation and routing.

Features of the PicoSDR platform which will help the SDN Lab team with their research include support for GNU Radio as well as the PCI Express interface which overcomes the GigE SDR-to-PC interconnection bottleneck which may be present on other SDR platforms. The 2x2-MIMO will be used to prove the proposed concept for efficient space, time, and spectrum utilization.

The model-based design kit (MBDK) tools, which provide a seamless interface between Nutaq's hardware platform, The Mathworks MATLAB and Simulink with Signal Processing Toolbox, and the Xilinx ISE Design Suite and System Generator for DSP, will help the researchers rapidly embed their cross-layer design into the Virtex-6 FPGA of the PicoSDR platform and thus enable higher system performance and throughput.

Additionally, the MBDK's co-simulation features and Real-Time Data Exchange tool will enable full-duplex data transfer between hardware and software on-the-fly. As a result the SDN Lab system will be able to simultaneously drive waveform selection decisions from software to hardware, while collected environmental and received content data are passed from hardware to software in real-time.

To help encourage the sharing of the findings with other researchers, the results of the SDN Lab team will be presented in top-rated international journals and conferences. Moreover, graduate theses will



be published from the results of the proposed project and will be made accessible to the public through the University's e-library archive.

About the PicoSDR

Nutaq's PicoSDR is a MIMO enabled software defined radio platform that ships with a complete QAM64 OFDM reference design. Available in 2x2, 4x4, or 2x2 plus embedded configurations, it supports a model-based design development environment along with GNU Radio. With an auto-calibrated, dynamic radio covering from 300 MHz to 3.8 GHz, the PicoSDR is the ideal development solution for the cognitive radio community.

About the SDN Lab at SUNY Buffalo

The Software Defined Networks Laboratory in the Department of Electrical Engineering at the State University of New York at Buffalo is supported by a variety of federal funding sources including the National Science Foundation (NSF), the Air Force Office of Scientific Research (AFOSR), the Air Force Research Laboratory (AFRL), and the Office of Naval Research (ONR).

Dimitris A. Pados (middle), Clifford C. Furnas Professor of Electrical Engineering and Coordinator of the Signals, Communications, and Networking Research Group, Stella N. Batalama, Professor and Chair of Electrical Engineering, and Associate Professors Tommaso Melodia and Weifeng Su, are the faculty team members of the research effort. The graduate student research assistants leading the project are Emre Can Demirors (senior Ph.D. student - fourth from left) and Georgios Sklivanitis (senior Ph.D. student - left), with Adam Gannon (junior graduate student - second from left) and Ngwe Thawdar (senior Ph.D. student - right).

About Nutaq

For developers focused on signal processing in areas including Defense & Aerospace, Wireless Communications, Scientific, and Medical, Nutaq accelerates the design, testing & deployment of innovative ideas.

Our hardware solutions are designed to optimize programmability, processing power, flexibility & cost, while our model-based design and open source software environment mean projects are delivered with reduced development cycles and lower costs.

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