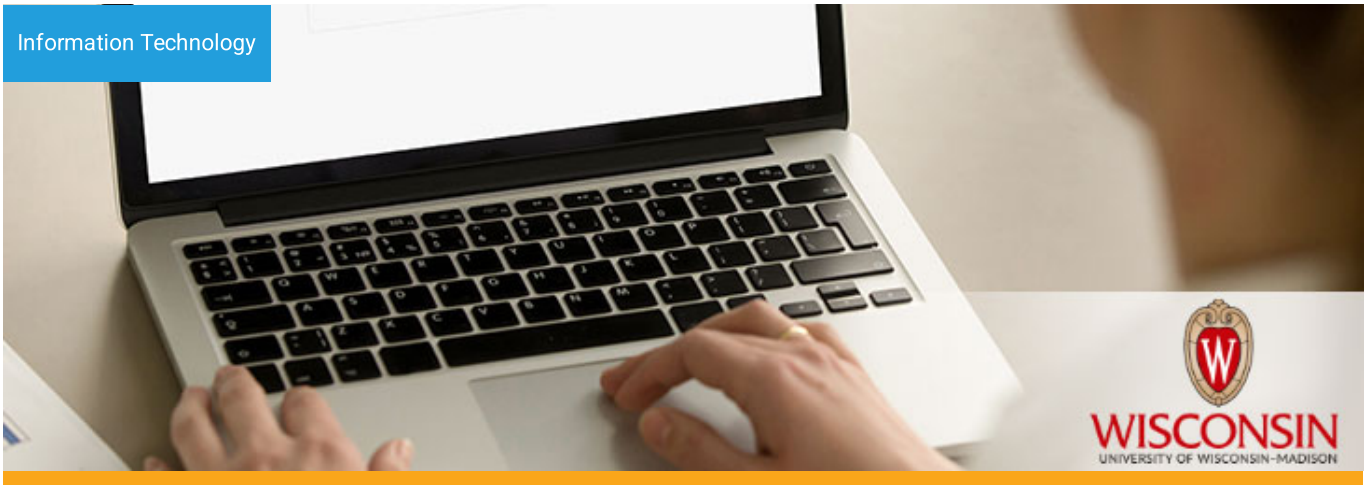
Information Technology



PHOTONIC ANALOG-TO-DIGITAL CONVERTER

WARF: P250077US01

Inventors: Akhilesh Jaiswal, Md Abdullah-Al Kaiser, Sugeet Sunder, Ajey Jacob

The Invention

UW-Madison researchers, along with collaborators at the University of Southern California, have developed a photonic analog-to-digital converter (pADC) architecture utilizing micro-ring resonators and balanced photodiodes, featuring a photonic flash and 1-hot encoding approach. The electrical analog input is digitized by modulating the voltage-dependent transmission spectrum of the micro-ring resonators and comparing the resulting optical output power from the ring with a reference optical power using a balanced photodiode. One embodiment is shown below, and there are several designs and methods that relate to this innovation that can be used depending on application requirements.

Tech Fields

- Information Technology : Computing methods, software & machine learning
- Information Technology : Hardware

For current licensing status, please contact Jeanine Burmania at jeanine@warf.org or 608-960-9846