

Leveraging Renewable Energy in Datacenters: Present and Future

Ricardo Bianchini, Rutgers University

Date: March 12, 2013 (Tuesday)
Time: 5:00 pm (refreshment starts at 4:45 pm)
Place: 202 ECEC, NJIT

About the Speaker



Ricardo Bianchini received his Ph.D. degree in Computer Science from the University of Rochester in 1995. He is now a Professor with Rutgers University. Prof. Bianchini's current research interests include cloud computing, and the power/energy/thermal management of datacenters. He has co-chaired the program committee of several conferences and workshops, and is a member of the editorial board of multiple journals. He has also been a member of the program committee of 70+ conferences and workshops, including ISCA, HPCA, and Eurosys. Prof. Bianchini has published 5 award papers and has also received the NSF CAREER award. He is currently an ACM Distinguished Scientist. [<http://www.cs.rutgers.edu/~ricardob>].

About the Talk (registration: https://meetings.vtools.ieee.org/meeting_registration/register/16931)

Interest has been growing in powering datacenters (at least partially) with renewable or "green" sources of energy, such as solar or wind. However, it is challenging to use these sources because, unlike the "brown" (carbon-intensive) energy drawn from the electrical grid, they are not always available. In this talk, I will first discuss the tradeoffs involved in leveraging green energy today and the prospects for the future. I will then discuss the main research challenges and questions involved in managing the use of green energy in datacenters. Next, I will describe some of the software and hardware that researchers are building to explore these challenges and questions. Specifically, I will overview systems that match a datacenter's computational workload to the green energy supply. I will also describe Parasol, the solar-powered micro-datacenter we have recently built at Rutgers University. Finally, I will discuss some potential avenues for future research on this topic.

Sponsors: IEEE Communications Society North Jersey Chapter
NJIT Department of Electrical and Computer Engineering

For more information contact Nirwan Ansari (973)596-3670 or Amit Patel (a.j.patel@ieee.org). Check <http://web.njit.edu/~ieeenj/comm.html> for latest updates. Directions to NJIT can be found at: <http://www.njit.edu/about/visit/gettingtonjit.php>.