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THE DEPARTMENT OF COMPUTER SCIENCE & THE COMPUTER SCIENCE GRADUATE STUDENT ORGANIZATION (GSOCS) PRESENT

INVITED SPEAKER SERIES
co-sponsored with GSO and partially paid for by student activity fees

Dr. Daniel Williams
IBM T.J. Watson Research Lab

Friday, October 18th at 12 noon, EB room T-1

From Unikernels to Nabla Containers

Abstract: As industry interest continues in lightweight units of execution for the cloud, Linux containers continue to be plagued by a perceived lack of isolation. At the same time, unikernels have offered an alternative to containers that is not only lightweight, but also inherits the isolation properties (and some downsides of) VMs. In this talk I will argue that virtualization is not necessary for unikernels to maintain a similar level of isolation to VMs. I will also describe ongoing efforts toward a new container runtime called Nabla, based on running unikernels as processes, discuss some of the challenges in bridging the gap between containers and unikernels, and highlight future research directions.

Bio: Dan Williams is a Research Staff Member at the IBM T.J. Watson Research Lab in Yorktown Heights, NY, where he works in the cloud research organization on unikernels and secure containers. He has performed research in a variety of systems areas, including virtualization, system security, and networked systems. He loves upstate NY, having studied at the University of Rochester (BS) and Cornell University (PhD), but is confused as to whether Binghamton is considered upstate or not.

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Refreshments will be provided!