

# NATIONAL UNIVERSITY OF SINGAPORE

School of Computing

## C S S E M I N A R

**Title:**           **Managing Software-defined Infrastructures**

**Speaker:**       Professor Boon Thau Loo  
                  Department of Computer and Information Science  
                  University of Pennsylvania

**Date/Time:**   27 June 2017, Tuesday, 02:00 PM to 04:00 PM

**Venue:**         Video Conference Room, COM1-02-13

**Chaired by:**  Professor Boon Thau Loo  
                  (boonloo@seas.upenn.edu)

### Talk 1: Basics

**Date:** 27 June 2017, Tuesday  
**Time:** 02:00 PM to 04:00 PM

### Talk 2: Programming Abstractions

**Date:** 29 June 2017, Thursday  
**Time:** 02:00 PM to 04:00 PM

### Talk 3: Debugging with Network Provenance

**Date:** 3 July 2017, Monday  
**Time:** 02:00 PM to 04:00PM

### Talk 4: Diagnostics, Monitoring, and Multi-Data Centers

**Date:** 5 July 2017, Wednesday  
**Time:** 02:00 PM to 04:00PM

### Course Description:

This seminar class explores techniques for managing software-defined infrastructures (SDIs) that are virtualized and delivered as a service. Topics covered include software-defined networking platforms, programming languages, verification tools, fault diagnostics and monitoring, and debugging tools that enable SDIs to be deployed correctly with high availability. The chosen topics are structured around the instructor's current research interests. Students are encouraged to use this seminar class as a way to bootstrap new collaborative research projects with the instructor and their current supervisors.

This class is open to graduate students and advanced undergraduates who have taken a computer networks class.

Biodata:

Boon Thau Loo is a Professor in the Computer and Information Science (CIS) department at the University of Pennsylvania. He holds a secondary appointment in the Electrical and Systems Engineering (ESE) department. He is also the CIS Masters Chair, overseeing all masters programs within the CIS department, and Director of the Master of Science in Engineering in CIS program. He received his Ph.D. degree in Computer Science from the University of California at Berkeley in 2006. Prior to his Ph.D, he received his M.S. degree from Stanford University in 2000, and his B.S. degree with highest honors from UC Berkeley in 1999. His research focuses on distributed data management systems, Internet-scale query processing, and the application of data-centric techniques and formal methods to the design, analysis and implementation of networked systems. He was awarded the 2006 David J. Sakrison Memorial Prize for the most outstanding dissertation research in the Department of EE CS at UC Berkeley, and the 2007 ACM SIGMOD Dissertation Award. He is a recipient of the NSF CAREER award (2009) and the Air Force Office of Scientific Research (AFOSR) Young Investigator Award (2012). He has published 100+ peer reviewed publications and has supervised twelve Ph.D dissertations. His graduated Ph.D. students include 3 tenure-track faculty members and winners of 3 dissertation awards. He is also co-founder and Chief Scientist at Termaxia, a big data storage startup.