

## Sharing Economy Research: Mobility and Incentives

**Abstract:** Uber and Grab are two successful sharing economy companies that offer ride-hailing services. These platforms allow any individual to obtain income by renting empty seats in her car. What are the long-term effects of such platforms? Will they reduce car ownership and make traffic lighter? Or more people will buy cars being able to subsidise the cost of the car by subscribing to the platforms? And many low-income people will give up their jobs and drive professionally, increasing road traffic? We present a game-theoretic methodology to answer such questions and discuss some of our findings.

**Speaker Bio:** Professor Costas Courcoubetis was born in Athens, Greece and received his Diploma (1977) from the National Technical University of Athens, Greece, in Electrical and Mechanical Engineering, his MS (1980) and PhD (1982) from the University of California, Berkeley, in Electrical Engineering and Computer Science. He was MTS at the Mathematics Research Center, Bell Laboratories, Professor in the Computer Science Department at the University of Crete, Professor in the Department of Informatics at the Athens University of Economics and Business, and since 2013 Professor in ESD and ISTD Pillars, SUTD, where he co-directs the ST-SUTD Center for Smart Systems and the LTA-SUTD Center for Transportation Studies. His current research interests are economics and performance analysis of networks and Internet technologies with applications in the development of pricing schemes that reduce congestion and enhance stability and robustness, regulation policy, smart grids and energy systems, resource sharing and auctions. Besides leading a large number of research projects in these areas he has also published over 100 papers in scientific journals such as Operations Research, Mathematics of Operations Research, Journal on Applied Probability, ToN, IEEE Transactions in Communications, IEEE JSAC, SIAM Journal on Computing, etc. and in conferences such as FOCS, STOC, LICS, INFOCOM, GLOBECOM, ITC, ACM SIGMETRICS. His work has over 13,000 citations according to the Google Scholar. He is the co-author with Richard Weber for “Pricing Communication Networks: Economics, Technology and Modeling” (Wiley, 2003).



## Learning to Hash and Diagnose with Deep Neural Network

**Abstract:** Recently, Deep Neural Network (DNN) has achieved breakthrough results in many natural language processing and computer vision problems. In this talk, I will discuss our research on DNN-based algorithms for learning compact hash code for image retrieval, discriminative features for skin cancer diagnosis, tissue parameters for diabetic wound assessment, and others. I will highlight our novel training methods for these problems.

**Speaker Bio:** Ngai-Man Cheung received the Ph.D. degree in electrical engineering from the University of Southern California, in 2008. From 2009 to 2011, he was a Post-Doctoral Researcher with the Image, Video and Multimedia Systems Group, Stanford University. He has worked at the Texas Instruments Research Center Japan, Nokia Research Center, IBM T. J. Watson Research Center, the Hong Kong University of Science and Technology, and Mitsubishi Electric Research Laboratories. He is currently an Assistant Professor with the Singapore University of Technology and Design (SUTD). His research interests are signal and image processing, computer vision, and deep learning.

