



Resource Allocation: Algorithmic and Mechanism Design Perspectives



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Date : 30 March 2020 (Monday)
Time : 2:30 p.m. - 3:30 p.m.

► Abstract

A large part of research in computer science and economics can be viewed as solving a resource allocation problem: what is the optimal way to allocate the “resource” among different possible uses. In this talk, I will discuss resource allocation problems from the algorithmic and mechanism design perspectives. From the algorithmic perspective, fairly dividing a set of resources among a number of agents is an important topic that has many real-world applications. I will show to what extent the fairness can be guaranteed for various settings, including online cake-cutting problem (divisible items) and course scheduling problem (indivisible items), and present efficient algorithms to compute such fair allocations. From the mechanism design perspective, I will show how to design truthful and resilient mechanisms that work properly even in “dirtier” or less foreseeable environments. This includes designing mechanisms when the decision maker’s information is imprecise or less structured, and when the computing powers and communication abilities of the involved agents are limited.

► About the Speaker

Bo Li is a postdoctoral fellow in the Department of Computer Science at University of Oxford, hosted by Edith Elkind. He received his PhD in 2019 from the Department of Computer Science at Stony Brook University, under the supervision of Jing Chen. He is broadly interested in algorithms, AI and computational economics, including problems related to fair division, mechanism design, online algorithms, and their applications to Blockchain. During his PhD, he has been a visiting student at City University of Hong Kong, MIT, ITCS (Shanghai University of Finance and Economics), ICT (Chinese Academy of Sciences), and Algorand LLC. He is a recipient of the Catacosinos Fellowship, the Special Department Chair Fellowship, and the Sigma Xi Award.

ALL are welcome!

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