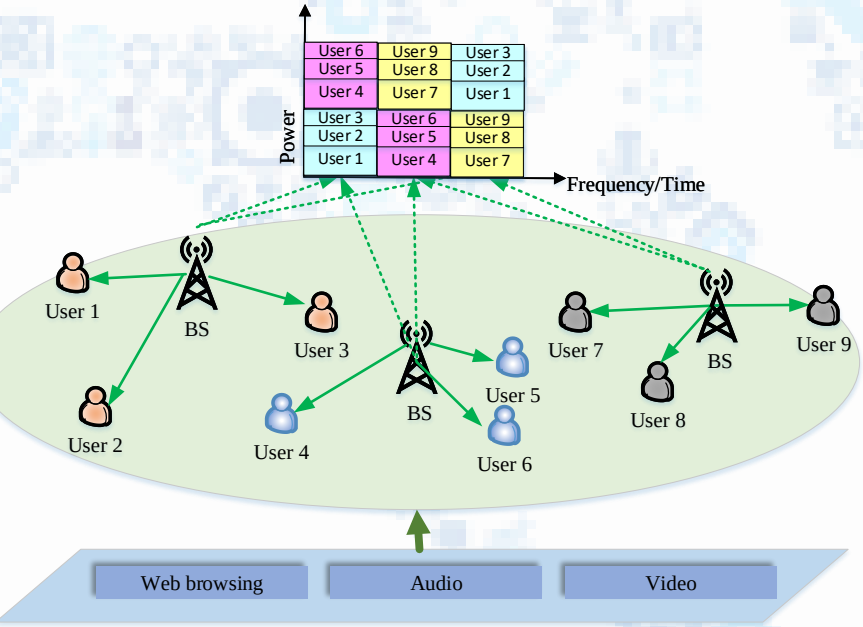
A QoE-Aware Resource Allocation Strategy for Multi-cell NOMA Networks

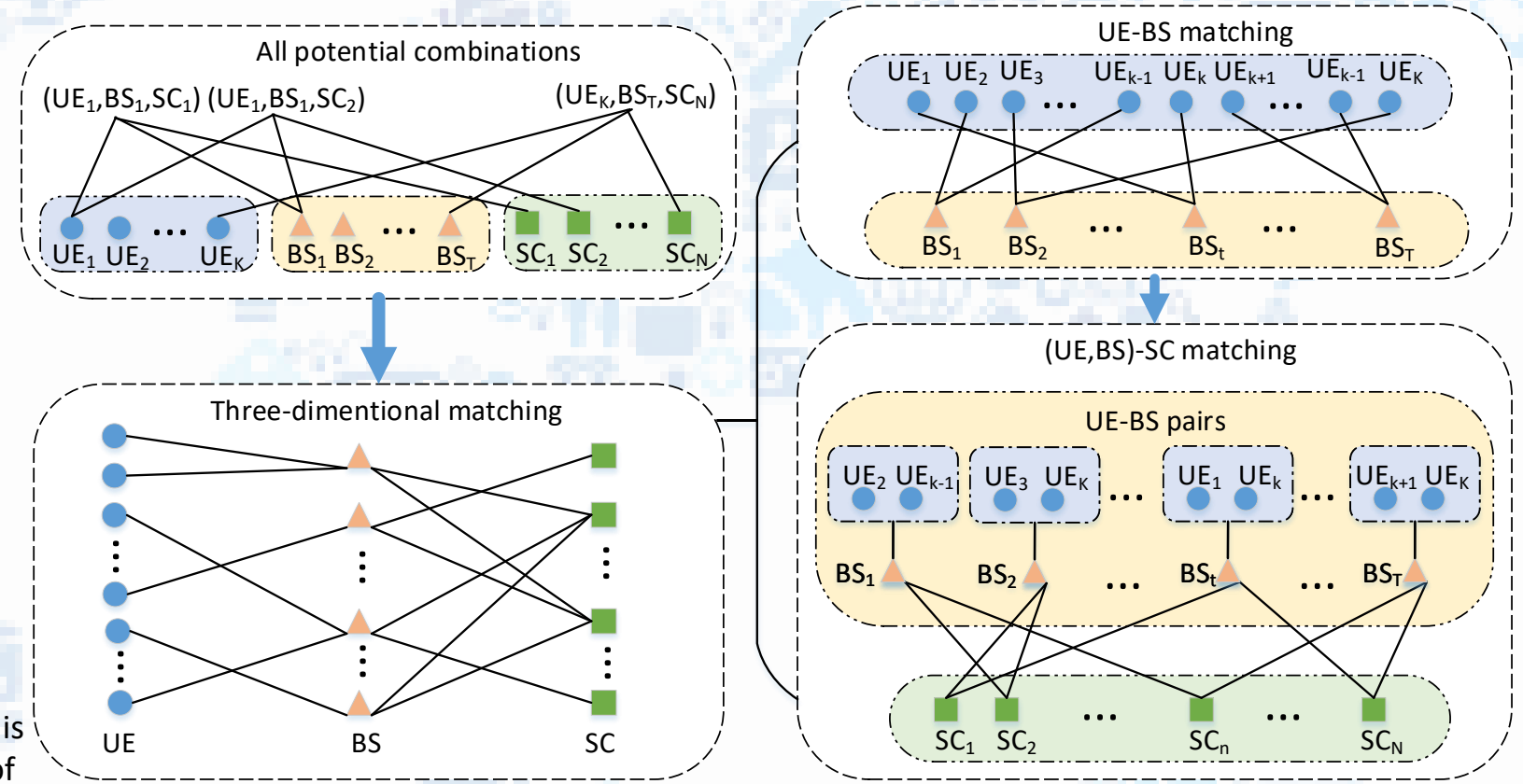
Jingjing Cui, Yuanwei Liu, and Arumugam Nallanathan

System Model of Multi-Cell NOMA



- **Quality of experience (QoE) :** QoE is a subjective assessment of media quality of users and has recently become an essential indicator in 5G wireless communication systems
- **Resource Allocation:** QoE-based resource allocation is of great significance for obtain the potential benefits of NOMA in multi-cell networks.
- **Fairness/throughput tradeoff:** QoE driven techniques will bring about the improvement of fairness and efficiency.

Proposed 3D Matching Theory Based Solutions [1]



Graphical expressions of 3D matching among user equipment (**UE**), base stations (**BSs**) and subchannels **(SCs)**

[1] J. Cui, Y. Liu, Z. Ding, P. Fan, and A. Nallanathan, "QoE-based Resource Allocation for Multi-cell NOMA Networks", IEEE Transactions on Wireless Communications; vol. 17, no. 9, pp. 6160-6176, Sept. 2018.