

# **Advanced Topics in Wireless Networks**

## **Resource Allocation in CDMA and OFDMA Cellular Networks**

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May 7, 2018



### Uplink Transmission

Consider A Multi-cell OFDMA-based Cellular Network consisting of

- In OFDMA, the available bandwidth  $W$  is subdivided into  $|\mathcal{C}|$  multiple sub-channels
- Thus Bandwidth of each sub-channel  $k$  is given by  $W^k = \frac{W}{|\mathcal{C}|}$
- A set of  $C$  sub-channel (SC) is denoted by  $\mathcal{C} = \{1, 2, \dots, C\}$  (also so called resource block, sub-carrier, channel, or carrier)