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**Flavor network and the principles of food pairing** YONG-YEOL AHN, Northeastern University, SEBASTIAN AHNERT, Cambridge University, JAMES BAGROW, ALBERT-LASZLO BARABASI, Northeastern University — We construct and investigate a flavor network capturing the chemical similarity between the culinary ingredients. We found that Western cuisines have a statistically significant tendency to use ingredient pairs that share many flavor compounds, in line with the food pairing hypothesis used by some chefs and molecular gastronomists. By contrast, East Asian cuisine tend to avoid compound sharing ingredients. We identify key ingredients in each cuisine that help us to explore the differences and similarities between regional cuisines.

Yong-Yeol Ahn  
Northeastern University

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