

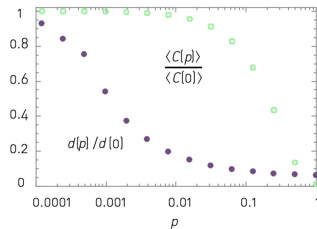
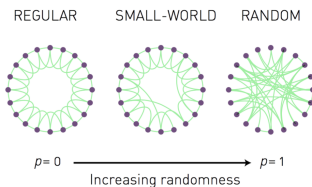
# network *models*

introduction to *network science in Python* (*NetPy*)

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4th July 2024

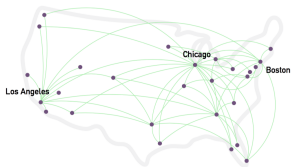
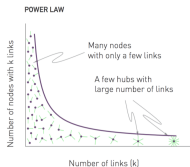
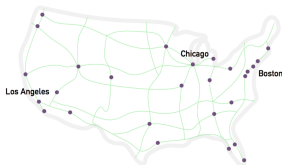
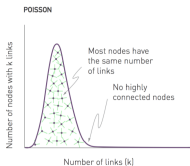
# models *small-world*

- *coexistence* of  $\langle C \rangle \gg 0$  and  $\langle d \rangle \simeq \frac{\ln n}{\ln \langle k \rangle}$
- *link rewiring* *small-world* model [WS98]



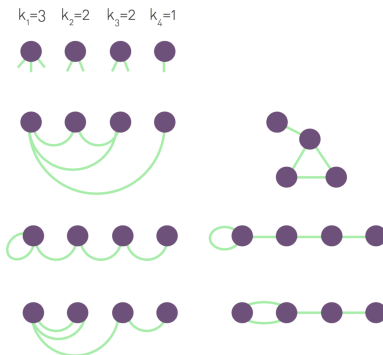
# models *scale-free*

- *power-law* degree distribution  $p_k \sim k^{-\gamma}$  [Pri65]
- *preferential attachment* *scale-free* model [BA99]



# models *configuration*\*

- *arbitrary* degree sequence  $\{k\} = k_1, k_2 \dots k_n$
- *stub matching configuration* model [NSW01]



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\* more realistic models include copying model, geometric model etc.

# models *references*



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