

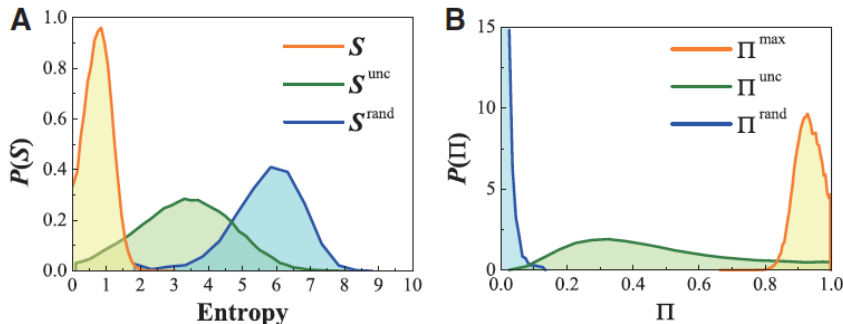
# Predicting Human Movement & Travel Distance

1

## 1A → Surprising Predictability

- $S^{rand}$  peak at  $\sim 6 \rightarrow 64$  locations
- $S$  peak at  $\sim .8 \rightarrow 1.74$  locations

## 1B → Predict Future Location with $\sim 93\%$ Accuracy



2

## 2C → Predictability & Travel Distance

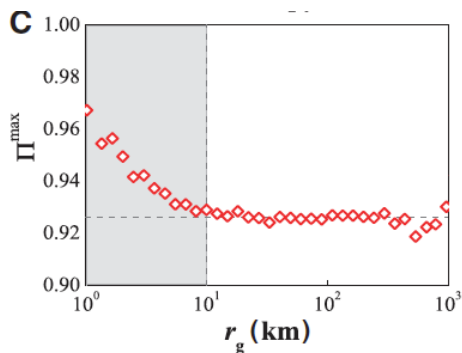
- Above 10kms, predictability ( $\Pi^{max}$ ) is independent of travel distance ( $r_g$ )

3

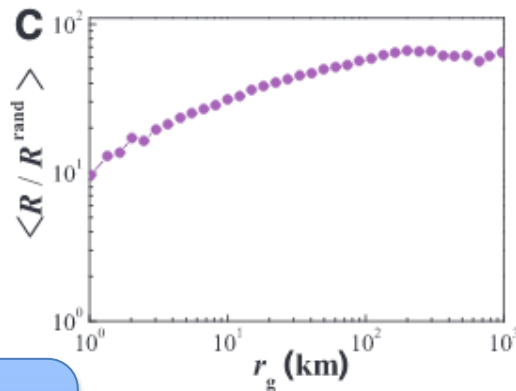
## 3C → Regularity Increases with Travel Distance

- “Regularity” ( $R$ ) = probability of finding individual in most visited location
- *Individuals with large travel distances have a high relative regularity.*

2



3



### Irregularity & Free Time:

- Unpredictability seems tied to one’s free time. If you must travel further to work, you have less time (and energy) to do unpredictable/spontaneous things.
  - What relationships might they observe when grouping by occupation?

