



FriSBI

Making sense of signaling complexity

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Host: Gasper Tkacik

An engineer designing a communication system would use few distinct signaling components while ensuring that the output of each component is highly accurate. Yet, the engineer's perspective appears to be in sharp contrast with how cellular signaling systems operate. A single stimulus usually activates several signaling effectors, and cellular responses are marked with substantial cell-to-cell heterogeneity.

In the talk, I will present several findings inspired by mathematical information-theory that seem to contribute to reconciling the cross-wired architecture and cell-to-cell heterogeneity with the engineer's expectations. Specifically, I will discuss

- (i) possible evolutionary origins of cross-wired architecture,
- (ii) sources of the cell-to-cell heterogeneity of signaling responses,
- (iii) and implications of the above for the design of therapeutic interventions.

Friday, December 13, 2019 03:00pm - 04:00pm

IST Austria Campus Mondi Seminar Room 3, Central Building



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