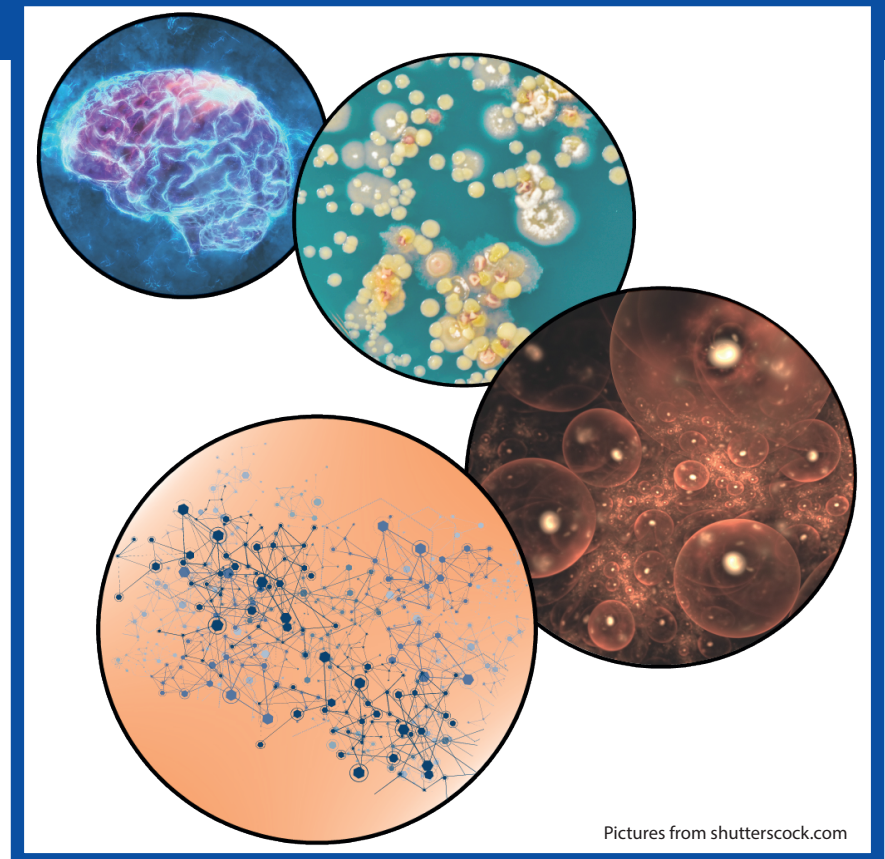


# Information Processing, Noise, and Adaptation in Living Systems

## International Workshop 15 - 19 April 2024

Living systems have to reliably sense, process and adapt to a multitude of cues in dynamic and noisy environments. Accurate information processing is instrumental for establishing robust cellular function and occurs on a wide range of spatiotemporal scales. How biological systems execute these operations is a fundamental open question with implications for our understanding of biological and artificial bio-inspired systems. In the past two decades, experimental developments have enabled substantial progress in elucidating the principles of information processing in living organisms. These advances inspired, in turn, significant theoretical work across different fields and communities. This workshop aims at combining ideas from physics, biology, computer science, and engineering to lay the groundwork for a common conceptual framework of biological information processing.



### Topics:

- Information processing
- Noise
- Fluctuations
- Adaptation
- Signalling networks
- Stochastic reaction networks
- Signal transduction
- Decision-making
- Cell-cell communication
- Learning
- Collective behaviour
- Information thermodynamics

### Invited speakers:

K. Alim (DE)  
 A. Celani (IT)  
 P. de los Rios (CH)  
 T. Emonet (US)  
 A. Hilfinger (CA)  
 R.J. Johnston (US)  
 H. Koepl (DE)  
 A. Levchenko (US)  
 M. Louis (US)  
 A. Mugler (US)  
 I. Nemenman (US)  
 P.R. ten Wolde (NL)  
 G. Tkacik (AT)  
 Y. Tu (US)

### Scientific coordinators:

N. Barkai  
 Rehovot, Israel

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 Dresden, Germany

### Organisation:

C. Domaschke  
 MPI-PKS Dresden

Applications received before 31st January 2024 are considered preferentially.

**Applications** are welcome and should be made by using the application form on the event's web page. The number of attendees is limited.

The **registration fee** for the international workshop is 200 Euro and should be paid by all participants.

Costs for **accommodation and meals** will be covered by the Max Planck Institute.

Limited funding is available to partially cover **travel expenses**.

### For further information please contact:

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