



## Program: 1<sup>st</sup> Solvay Conference in Biology *Organization and dynamics of biological computation*

### Wednesday 17 April 2024

20:00 Welcome reception (buffet dinner) at the Châtelain Hôtel

### Thursday 18 April 2024

#### **THEME OF THE DAY: Dynamics and Information flow**

*Chairs: James Briscoe & Edwin Munro*

08:45 - 09:15 Opening session (Marc Henneaux + Thomas Lecuit)

09:15 - 09:45 Presentations of participants

09:45 - 10:15 Coffee break

10:15 - 11:15 Plenary session 1 - 1st part: Presentation and discussion of vignettes by rapporteurs: Thomas Gregor & Mukund Thattai

11:15 - 11:30 Short break

11:30 - 13:00 Plenary session 1 - 2nd part: Presentation and discussion of vignettes by rapporteurs: Jordi Garcia-Ojalvo & Amy Gladfelter  
General discussion

13:00 - 14:00 Lunch

14:00 - 16:00 Working groups: (1) (2) (3)  
**Group 1:** Integrating dynamical systems and information theory (moderators: Nathalie Balaban, Zev Gartner)  
**Group 2:** How does biological hardware shape information storage and flow? (moderators: Tony Hyman, Lisa Manning)  
**Group 3:** Modulatory and dimensionality of information flow (moderators: Adrienne Fairhall, Arvind Murugan)

16:00 - 16:30 Coffee Break

16:30 - 18:00 Plenary session - 2<sup>nd</sup> part - Presentation and discussion of working groups.

19:30 Reception at the Solvays'  
\*Meeting in the lobby of the hotel at 18:45 sharp

## Friday 19 April 2024

### THEME OF THE DAY: Robustness, tunability and evolvability

*Chairs: Frank Jülicher and Aleksandra Walczak*

09:00 - 10:00	Plenary session - 1st part - Presentations of vignettes by rapporteurs: Buzz Baum & Berta Verd
10:00 - 10:30	Coffee break
10:30 - 12:00	Plenary session - 2nd part - Presentations of vignettes by rapporteurs: Orit Peleg & Arvind Murugan General discussion
12:00 - 14:00	Lunch
14:00 - 16:00	Working groups: (1) (2) (3) <b>Group 1:</b> Evolution of complexity (moderators: Michel Milinkovitch, Sara Walker) <b>Group 2:</b> Evolution of communication (moderators: Adrienne Fairhall, Shashi Thutupalli) <b>Group 3:</b> Evolution of control (moderators: Nathalie Balaban, Wallace Marshall)
16:00 - 16:30	Coffee Break
16:30 - 18:00	Plenary session - 3 <sup>rd</sup> part - Presentation and discussion of working groups.
19:30	Buffet at the City of Brussels town hall *Meeting in the lobby of the hotel at 19:00

## Saturday 20 April 2024

### THEME OF THE DAY: What is biological computation?

*Chairs: Thomas Lecuit and Manu Prakash*

09:00 - 10:00	Plenary session - 1st part - Presentations of vignettes by rapporteurs: Jeremy Gunawardena & Wallace Marshall
10:00 - 10:30	Coffee break
10:30 - 12:00	Plenary session - 2nd part - Presentations of vignettes by rapporteurs: Sara Walker & Stephanie Palmer General discussion
12:00 - 12:10	Group Photo
12:10 - 14:00	Lunch

- 14:00 - 16:00 Working groups: (1) (2) (3)  
**Group 1:** Learning across biological scales (moderators: Karen Alim, Lisa Manning)  
**Group 2:** Beyond computation (moderators: Madan Rao, Erik Winfree)  
**Group 3:** Functional constraints on computation (moderators: Jordi Garcia-Ojalvo and Claire Wyart)
- 16:00 - 16:30 Coffee Break
- 16:30 - 18:00 Plenary session - 3<sup>rd</sup> part - Presentation and discussion of working groups.
- 19:30 Banquet at the Plaza Hotel  
\*Meeting in the lobby of the hotel at 19:00

END OF CONFERENCE

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## Sunday 21 April 2024

### PUBLIC LECTURES

Lectures given by

Prof. Stephanie Palmer: *Seeing what's coming*

Prof. Anthony Hyman: *The social life of a cell*

All participants are welcome to attend the event if they wish to.