

## ISHPSSB2013 – Traditional Session Form

Please fill in this form, rename it (on the following model: Name of the organizer\_Title of session), and submit it as a PDF file at the Third step ("Files") of the submission process (please select "Presentation" as the "Type of the file").

**Title of the session (mandatory):** The explanatory role of mathematical and dynamical models in molecular and cell biology

**Organizer of the session (may but need not be a participant in the session) (mandatory):**  
BRAILLARD, Pierre-Alain and MALATERRE, Christophe

**Names of all the participants in the session (mandatory):** BEATU, Tudor; BRAILLARD, Pierre-Alain; GROSS, Fridolin; ISSAD, Tarik and MALATERRE, Christophe

**Name of Chairperson (mandatory) (cannot be one of the participants):**  
Stuart GLENNAN

**Names of respondents or commentators (if any):**

**Theme of your session (please pick one theme in the list below) (mandatory):**  
Systems Biology, Synthetic Biology and Genomics

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### List of themes:

- Anthropology
- Cellular and Molecular Biology: Historical and Philosophical Approaches
- Development and Evo-devo
- Ethical and bioethical issues
- Evolutionary Biology: Origin, and early developments
- Evolutionary Biology: The Modern Synthesis
- Evolutionary Biology: The recent challenges
- Evolutionary Biology: Theoretical and conceptual issues (e.g. definition of Darwinian processes, levels of selection, etc.)
- Evolutionary Biology: Cooperation, altruism, evolution and economy
- Evolutionary Psychology
- Functions and Mechanisms
- Gender Studies
- Historical, philosophical and sociological perspectives on:
  - Ecology
  - Epigenetics
  - Origins of life, minimal life
  - History of Genetics
  - Neurosciences and cognitive sciences: scientific, social, and philosophical issues
  - The "organism" problem
  - Public Health issues, and their social dimensions
  - Reductionism, antireductionism, emergence
  - The "species" problem
  - Systematics and classification
  - Systems Biology, Synthetic Biology and Genomics
  - Teaching Biology
  - Others