

13th SYMPOSIUM OF
BIAL FOUNDATION

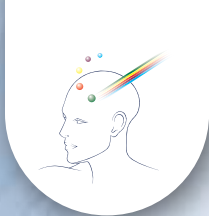
BEHIND AND BEYOND THE BRAIN

Aquém e Além do Cérebro

The mystery of time

Casa do Médico - Porto

April 6 to 9, 2022



FUNDAÇÃO

Bial

Institution of public utility

FIRST ANNOUNCEMENT

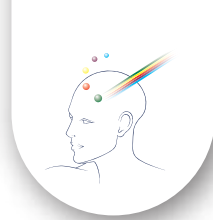
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Einstein wrote: “The distinction between the past, present and future is only a stubbornly persistent illusion.” Today, understanding the nature of time constitutes a major scientific and philosophical challenge. Along with space, time is a fundamental dimension of physics. Most organisms have biological mechanisms tuned to its passage. And human existence is profoundly shaped by its inexorable march. The 13th Symposium of the BIAL Foundation “Behind and Beyond the Brain” gathers some of the most prominent scientists and philosophers to engage in a resolutely interdisciplinary dialogue around the many aspects of time: Its very nature, which physicists continue debating; the subjective feelings its passage elicits in humans and other animals; the fundamental questions it is associated with, such as the thorny problem of causality.

The Symposium will open on April 6th with an **evening lecture** by TED-speaker Anil Seth (Sussex, UK), who will explore what we know about the perception of time in humans, brains and in machines, highlighting the idea that the brain is a “prediction machine”.

The **first session** will take place on the morning of April 7th. Moderated by Etzel Cardeña (Lund, SE), the session will be dedicated to the **physics of time**. Orfeu Bertolami (Porto, PT), Jimena Canales (Urbana-Champaign, USA), Daniel Sheehan (San Diego, USA) & Patricia Cyrus (Orlando, USA) will explore how physicists conceive of time today, and how their theories are shaped by what we know about the perception of time. Fundamental, and yet unsolved questions, such

as the possibility of precognition or the nature of causality, will be addressed during these exchanges, which will close with a keynote lecture delivered by Bernard Carr (London, UK).

The **second session**, taking place on the morning of April 8th, is aimed at surveying the **biology of time**. Moderated by Miguel Castelo-Branco (Coimbra, PT), it features lectures by Julia Mossbridge (San Diego and Petaluma, USA), Michael Brecht (Berlin, DE), and Joseph S. Takahashi (Dallas, USA), who will examine how organisms have adapted to the passage of time: From biological clocks to the mechanisms of memory, from “pre-sonding” to circadian rhythms, the speakers will explore the many ways in which neural systems respond to time in the absence of specific receptors systems dedicated to perceive it. The morning will close with a keynote lecture by Wolf Singer (Frankfurt, DE), who will overview what sorts of mechanisms have evolved to make it possible for living things to be able to “parse” time.

The **third session**, on the morning of April 9th, will focus on the **experience of time**. Caroline Watt (Edinburgh, UK) will moderate the lectures of Dean Buonomano (Los Angeles, USA), Daryl Bem (Ithaca, USA), and Jennifer Coull (Marseille, France), who will examine what it is like to feel the passage of time, how brains and bodies shape our perception of it, and how future events may affect us. The keynote lecture of Marc Wittmann (Freiburg, DE), dedicated to the links between the self and time, will close the morning.

Time will fly during the symposium as the afternoons will feature many events: **oral poster presentations** by BIAL Foundation grant holders (afternoon of April 7th, moderated by Mário Simões); four **participatory parallel workshops** dedicated to (1) the physics and metaphysics of time, (2) precognition and anomalous experiences, (3) the experience of time in altered states of consciousness, and (4) perception and memory of time on the afternoon of April 8th; and a closing **conversation time** on the mystery of time moderated by science journalist Teresa Firmino on the afternoon of April 9th.

With this 13th Symposium, the BIAL Foundation hopes to engage speakers and the audience around a deep, interdisciplinary reflection about the most enigmatic aspect of existence - the elusive, yet inexorable dimension of time, the true nature of which we are yet to fully understand.

Organizing Committee:

President

AXEL CLEEREMANS (Brussels)
ETZEL CARDEÑA (Lund)
MIGUEL CASTELO-BRANCO (Coimbra)
RUI COSTA (New York and Lisbon)
RAINER GOEBEL (Maastricht)
STEFAN SCHMIDT (Freiburg)
CAROLINE WATT (Edinburgh)

Participants:

DARYL BEM (Ithaca, NY)
ORFEU BERTOLAMI (Porto)
MICHAEL BRECHT (Berlin)
DEAN BUONOMANO (Los Angeles)
JIMENA CANALES (Urbana-Champaign)
ETZEL CARDEÑA (Lund)
BERNARD CARR (London)
MIGUEL CASTELO-BRANCO (Coimbra)
AXEL CLEEREMANS (Brussels)
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PATRICIA CYRUS (Orlando)
TERESA FIRMINO (Lisbon)
RAINER GOEBEL (Maastricht)
JULIA MOSSBRIDGE (San Diego and Petaluma)
STEFAN SCHMIDT (Freiburg)
ANIL SETH (Sussex)
DANIEL SHEEHAN (San Diego)
MÁRIO SIMÕES (Lisbon)
WOLF SINGER (Frankfurt)
JOSEPH S. TAKAHASHI (Dallas)
CAROLINE WATT (Edinburgh)
MARC WITTMANN (Freiburg)

1st Symposium - March 29 to 30, 1996 | Eugénia Cunha, José R. Delgado, Adolf Dittrich, Peter Fenwick, Stanley Krippner, Deolinda Lima, Fernando Lopes da Silva, Robert Morris, René Peoc'h, Pedro Polónio, Carlos Fernandes da Silva, Carlos Henrique Silva

2nd Symposium - April 2 to 4, 1998 | António Damásio, Hanna Damásio, Maria de Sousa, Patrick Dondelinger, Fernando Gil, Nuno Grande, Francesca Happé, Jerome Kagan, Edwin May, Robert Morris, Dean Radin, Emilio Salgueiro, Fiona Steinkamp

3rd Symposium - April 6 to 8, 2000 – Exceptional Experiences | Martina Belz-Merk, Richard Bentall, Richard Broughton, Deborah Delanoy, Hoyt Edge, Peter Fenwick, John Gruzelier, Erlendur Haraldsson, Dietrich Lehmann, Fernando Lopes da Silva, David Marks, António Martins da Silva, Edwin May, Robert Morris, Teresa Paiva, Luís Sobrinho, Richard Wiseman

4th Symposium - April 4 to 6, 2002 – Exceptional Interpersonal Relationships | Michael Argyle, Daryl Bem, Richard Broughton, James Carpenter, Alexandre Castro-Caldas, António Coimbra, Suzanne Crater, Kathy Dalton, David Fontana, John Gruzelier, Jerome Kagan, Stanley Krippner, Mitchell Krucoff, Fernando Lopes da Silva, Robert Morris, Rui Mota Cardoso, Rodrigo Saraiva, Isabel Soares, Ian Stevenson, Colwyn Trevarthen, Harald Walach, Caroline Watt

5th Symposium - March 31 to April 3, 2004 – Consciousness and Brain | Thomas Benke, Dick Bierman, Olaf Blanke, Adrian Burgess, Etzel Cardeña, Miguel Castelo-Branco, Alexandre Castro-Caldas, Patricia Churchland, Stanislas Dehaene, Sergio Della Sala, Dominic Fyftche, Nuno Grande, Stephen Kosslyn, Victor Lamme, Dietrich Lehmann, Fernando Lopes da Silva, Pierre Maquet, Robert Morris, Rui Mota Cardoso, Geraint Rees, Mário Simões, Pim Van Lommel, Jiri Wackeremann

6th Symposium - March 29 to April 1, 2006 – Memory | John Aggleton, Stephen Braude, Richard Broughton, Alexandre Castro-Caldas, Patrick Chauvel, Howard Eichenbaum, Mitchell Eisen, Guillén Fernández, Christopher French, Nuno Grande, Lia Kvavilashvili, Fernando Lopes da Silva, Rui Mota Cardoso, John Palmer, Alcino Silva, Mário Simões, Rex Stanford, Caroline Watt, Menno Witter

7th Symposium - March 26 to 29, 2008 – Emotions | Ralph Adolphs, Daryl Bem, Dick Bierman, Etzel Cardeña, Alexandre Castro-Caldas, Ray Dolan, Paul Ekman, Sophia Frangou, Nico Frijda, Christian Keysers, Fernando Lopes da Silva, Marta Moita, Rui Mota Cardoso, Roger Nelson, Dean Radin, Stefan Schmidt, Mário Simões, Tania Singer, Caroline Watt

8th Symposium - April 7 to 10, 2010 – Intuition and Decision-making | Dick Bierman, Richard Broughton, Alexandre Castro-Caldas, Axel Cleeremans, Nuno Crato, Seymour Epstein, Thomas Goschke, John-Dylan Haynes, Hauke Heekeren, Eva Lobach, Fernando Lopes da Silva, Rui Mota Cardoso, David Myers, Eugene Sadler-Smith, Marilyn Schlitz, Mário Simões, Caroline Watt, Cilia Witteman

9th Symposium - March 28 to 31, 2012 – Sleep and Dreams | Carlos Alvarado, Dick Bierman, Miguel Castelo-Branco, Alexandre Castro-Caldas, Axel Cleeremans, Sally Rhine Feather, Péter Halász, Allan Hobson, Stephen LaBerge, Fernando Lopes da Silva, Teresa Paiva, Christopher A. Roe, Michael Schredl, Sophie Schwartz, Mário Simões, Kai Spiegelhalter, Robert Stickgold, Eus van Someren, Caroline Watt

10th Symposium - March 26 to 29, 2014 – Mind-Matter Interactions | Peter Bancel, Dick Bierman, Miguel Castelo-Branco, Alexandre Castro-Caldas, Vanessa Charland-Verville, Axel Cleeremans, Rui Costa, Eberhard Fetz, Rainer Goebel, Patrick Haggard, Stuart Hameroff, Fernando Lopes da Silva, Rui Mota Cardoso, Dean Radin, Ander Ramos-Murguialday, Nick Ramsey, Mário Simões, Adolf Tobeña, Harald Walach, Caroline Watt

11th Symposium - March 30 to April 2, 2016 – Placebo Effects, Healing and Meditation | Fabrizio Benedetti, Dick Bierman, Miguel Castelo-Branco, Axel Cleeremans, Larry Dossey, Paul Enck, Damien Finniss, Rainer Goebel, Antonio Guerri, Ted Kaptchuk, Irving Kirsch, Fernando Lopes da Silva, Amir Raz, Tania Re, Manfred Schedlowski, Stefan Schmidt, Mário Simões, Jessica Utts, Tor Wager, Caroline Watt, Jon-Kar Zubieta

12th Symposium - April 4 to 7, 2018 – Enhancing the Mind | Mattia Bergomi, Etzel Cardeña, Jose Carmena, Miguel Castelo-Branco, Christopher Chabris, Rainer Chatterjee, Axel Cleeremans, Lorenza Colzato, Rui Costa, Gonzalo de Polavieja, Rainer Goebel, Torkel Klingberg, Antoine Lutz, Jean-Noël Missa, Rui Oliveira, Tania Re, Jordi Riba, Alexander Sack, Olga Silva, Mário Simões, Nuno Sousa, Yulia Ustinova, Caroline Watt

Registration Fee

The 13th Symposium will be a hybrid event, organized for in-person and virtual audience.

In-person

€200

€80 - for university students under the age of 25 and PhD students (please enclose copy of your student card and/or university/supervisor declaration).

These amounts include access to all Symposium sessions, coffee breaks and certificate of attendance. It does not include meals. Limited number of registrations.

Virtual

€100

€50 - for university students under the age of 25 and PhD students (please enclose copy of your student card and/or university/supervisor declaration).

Certificate of attendance is included by request. Access to posters session during coffee breaks and to parallel workshops is not included.

Hotels

Ipanema Porto****

Fénix Porto****

Single/Double

Rate: 8% discount
guarantee

Location

Boavista
15 min. by taxi

Make your reservation directly with the Hotel (do refer Fundação Bial and the Symposium)

Tel: +351 22 619 4100 | <https://13simposiofundacaobial.hfhotels.com/>

The BIAL Foundation was established in May 1994 by the Council of Rectors of Portuguese Universities and the pharmaceutical company BIAL, with the patronage of the President of the Portuguese Republic. It aims at encouraging the scientific study of the human being from both the physical and spiritual perspectives.

Among its activities the BIAL Foundation manages awards in the scope of biomedical research, namely the Prémio BIAL de Medicina Clínica, created in 1984, the BIAL Award in Biomedicine, awarded for the first time in 2019, and the Maria de Sousa Award, established in 2020 in partnership with the Portuguese Medical Association. The Foundation also promotes a Grants Programme for Scientific Research, focusing on Psychophysiology and Parapsychology as research areas. To date the BIAL Foundation has supported 775 projects, involving more than 1.600 researchers from 29 countries, resulting globally in the publication of 1.552 articles in indexed journals (in Scopus or Web of Science), 1.319 of which in journals with an average impact factor of 4 and 269 in journals with an impact factor greater than 5. By May 2021, there had been a substantial number of citations (27.578), with 367 publications being cited more than 20 times.