Scientific dialogues AE-BKH Frontiers and aGORA (sep-dec 2023)

The Barcelona Knowledge Hub of the Academia Europaea organizes a sphere of scientific dialogue that will be developed at two levels:

The **Frontiers** of Science and Technology in Society, at a high academic level, and the Citizen **Agora**, for a wide local audience.

Program:

**Frontiers of Science and Technology in Society dialogues**

The AE-BKH introduces a new series of high-level scientific discussions in **English** that explore the limits of knowledge and cross disciplinary boundaries.

**Session 1: 04-10-2023 from 18.00 h to 19.30 h**

**Understanding the brain: neurobiology or neuro computer sciences?**

Starting with the work of Cajal more than 100 years ago, neuroscience has sought to understand how the cells of the brain give rise to cognitive functions. How far has neuroscience and more precisely neurobiology, progressed in this endeavor? On the other side, to learn how cognition is implemented in the brain, computational neuroscience has built computational models that can perform cognitive tasks, and test such models with brain and behavioral experiments.

Neurobiology, psychology and computational neurosciences are different approaches to the study of the brain, even if the Human Brain Project (funded by the European Union) has mainly invested in computational aspects. Deciding where to allocate funding for brain research between neurobiology and computational neuroscience depends on various factors, including research goals, available expertise, technological advancements, and the specific questions being pursued. Where are we now? Is there a conflict or is there a balanced approach that supports collaboration between these fields?

Invited speakers:

* Mara Dierssen, Center for Genome Regulation, Barcelona
* Gustavo Deco, ICREA at UPF, Center of Brain and Cognition, Barcelona

Moderator: Núria Sebastián, UPF, Barcelona

**Session 2: 22-11-2023 from 18.00 h to 19.30 h**

**The bases of language: from tabula rasa to biological determinism.**

The transition from the concept of language as a "tabula rasa" to one influenced by "biological determinism" represents a significant shift in our understanding of language acquisition and development. These two perspectives offer different explanations for how humans acquire and use language, and they have been central to debates in linguistics, psychology, and biology. The "tabula rasa" perspective, often associated with philosophers like John Locke, suggests that the human mind is a blank slate at birth, and language acquisition is primarily a result of environmental factors and learning experiences. On the other side, the "biological determinism" perspective posits that humans have innate, biologically predetermined mechanisms for language acquisition.

In contemporary discussions, many researchers and theorists seek to reconcile these perspectives. Where are we in the debate? Has the incursion of computer sciences and physics changed the arena?

Invited speakers:

* Cedric Boeckx, ICREA at the Department of Linguistics, UB, Barcelona
* Ramon Ferrer-i-Cancho, Professor of computer science at UPC, Barcelona

Moderator: Antoni Badia, linguist

**Diàlegs Agora Ciutadana**

El seu principal objectiu és impulsar el compromís social i la inclusió de la participació ciutadana en la discussió científica, especialment dins de l'àrea de Barcelona. Aquestes sessions es duen a terme en **català i/o castellà** i tracten temes científics més propers als interessos de la ciutadania, a un nivell de discussió adequat per al públic en general. S'ofereix als assistents l'oportunitat d'expressar la seva veu i participar en el debat.

**08-11-2023 de 18.00 h a 19.30 h**

**Podrem parar l’envelliment I la mort?**

La controvèrsia entre biologia i ètica en aturar l'envelliment i la mort és un tema que ha generat un intens debat a la societat i entre els experts en diverses disciplines. Existeixen arguments a favor i en contra de la recerca de la immortalitat o la prolongació indefinida de la vida

Quines implicacions pràctiques, socials i ètiques de qualsevol avanç en la ciència hem de considerar? El debat continuarà evolucionant a mesura que la ciència avanci i la societat explori noves possibilitats.

Ponents convidats:

* Salvador Macip, Universitat Oberta de Catalunya (UOC) i Leicester University, Regne Unit
* Maria Begoña Román, Departament de Filosofia, UB, Barcelona

Moderadora: Cristina Saez, periodista de ciencia i salut

**13-12-2023 de 18.00 h a 19.30 h**

**Intel·ligència artificial generativa: bases tecnològiques I implicacions socials**

El model GPT (Generative Pre-trained Transformer) i les seves iteracions, com el GPT-3.5 d'OpenAI, són resultats de les avançades bases tecnològiques en processament de llenguatge natural i aprenentatge automàtic. Aquests models utilitzen una arquitectura de xarxa neuronal profunda per generar text coherent i realista a partir d'unes entrades inicials. Tot i que aquestes bases tecnològiques han obert moltes oportunitats, també han generat controvèrsies significatives.

El debat sobre com utilitzar aquesta tecnologia i com ha de ser regulada és fonamental per garantir que contribueixi de manera positiva a la societat i no generi conseqüències indesitjades

Ponents convidats:

* Enric Plaza, Institut d'Investigació en Intel·ligència Artificial, CSIC, Bellaterra
* Nuria Vallés, programa Margarita Salas, UAB, Bellaterra

Moderador: Antoni Pou, periodista científic

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