



UBIAS University-Based
Institutes for
Advanced Study

We invite applications to participate in the 4th UBIAS
Intercontinental Academia (ICA)
Intelligence and Artificial Intelligence

Marseille, 23 November – 2 December 2020
Belo Horizonte, November 2021

Call for Fellows
Open February 3– May 15 2020

Applications should be submitted to
Raouf.Boucekkine@univ-amu.fr

The ICA seeks to create a global network of future research leaders by constructing an arena in which the very best early/mid-career scholars will work together on paradigm-shifting cross-disciplinary research, mentored by some of the most eminent researchers from across the globe. A key aspect is deriving the full benefit of the intercontinental origins of the endeavor and diversity of thought and culture. This immersive and intense experience is expected to transform the scholar's own approach to research, enhance their awareness of the work, relevance and potential impact of other disciplines, and to inspire and facilitate new collaborations between distant disciplines; our aim is to make a real, yet volatile, intellectual cocktail that leads to meaningful outputs.

The structure The academia is based around two intensive workshops held on different continents which provide space for learning about the inward perspective of each "subject", performing a comparative analysis of the panorama and searching for correlations among these different views and perspectives. The scholars are guided during these workshops by an array of mentors who are themselves some of the most outstanding disciplinary and interdisciplinary researchers of our time. Within the programme, the scholars will have the space to help to define the precise workshop structure and the outputs from the project (example: a book is envisaged).

The theme **Intelligence and Artificial Intelligence** has been selected to provide a forum and framework for the intellectual exchange. The last decades have witnessed an impressive progress in cognitive science, neuroscience and artificial intelligence. Beside the decisive scientific advances that have been accomplished, among other major developments, in the analysis of brain activity and its behavioral counterparts or in the information processing sciences (machine learning, wearable sensors...), and the many open fascinating issues, several fundamental and broader questions of deep interdisciplinary nature have been arising lately. In first place, as AI and neuroscience/cognitive science seem to show significant complementarities, a first question is to inquire to which extent these complementarities should drive research in both areas and how to optimize synergies. More broadly speaking, the fantastic progress in these areas raises a series of major ethical and societal questions, and tremendous challenges for humanity as a whole that deserve wide and deep interdisciplinary discussions.

We seek outstanding early/mid-career researchers, normally within 15 years of achieving their PhD, who hold a research post in academia, industry, charity, arts or other organisations, which are equivalent to academic post of Lecturer or above, or an individual Principal Investigator Fellowship.

Most importantly the fellows should be willing and able to:

- explore ideas in the theme outside their direct line of research
- challenge world leaders of respective areas of knowledge
- play a role in forging the programme and its academic outcomes

Candidates are asked to provide:

- a summary of their interest in the topic, their expectations and a project presentation outlining how they will contribute to the Intercontinental Academia (max. 2 pages)
- a current CV
- a letter of endorsement from their institution/organisation with confirmation of financial support for travel. Accommodation and subsistence will be provided by the host IASs.

Applicants from LMIC countries who would like to participate but are unable to find funds for travel should contact (Raouf.Boucekkine@univ-amu.fr) for further advice.

Please note that presentations and discussions will be conducted in English and there will be no facilities for translation.

Successful applicants will contribute to the design and structure of the workshops and must confirm commitment to attending both workshops.

The workshop in Marseille is 23 November – 2 December 2020 and the workshop in Belo Horizonte will take place in November 2021.

Selection Procedure

Selection is based on a competitive application process. Up to fifteen applicants will be invited to participate in the program.

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Applications and informal enquiries should be submitted to

Raouf.Boucekkine@univ-amu.fr

Co-chairs

Raouf Boucekkine, Director, Institute for Advanced Study (IMÉRA), Aix-Marseille University

Estevam de las Casas, Director, Institute for Advanced Study (IEAT), Universidad Federal Minas Gerais

Eliezer Rabinovici, Leon H. and Ada G. Miller Professor, Racah Institute of Physics, Hebrew University of Jerusalem

Steering committee

Sue Gilligan, Deputy Director and Manager, IAS at the University of Birmingham

Marc Henneaux, Professor, Collège de France

Xavier Alario, CNRS Research director, Institute of Language, Cognition and Brain, Aix-Marseille University

Laurent Perrinet, CNRS Research fellow, Institute of Neurosciences at La Timone Hospital, Aix-Marseille University

Thibault Gajdos, CNRS Research Director, IMÉRA program director, Laboratory of Cognitive Psychology, Aix-Marseille University

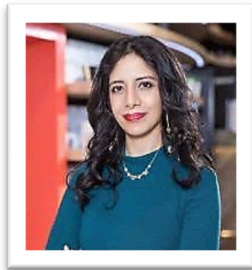
Raouf Boucekkine, Director, Institute for Advanced Study (IMÉRA), Aix-Marseille University

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Mentors

Eminent researchers have already expressed interest in joining the project as mentors, these include:

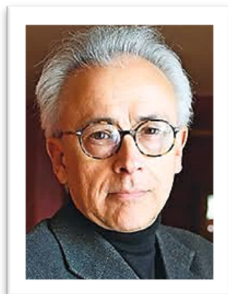
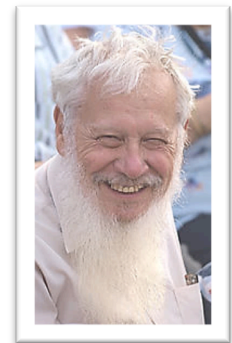


[Anima Anandkumar](#)

He is the Bren Professor of Computing at California Institute of Technology. She is a director of Machine Learning research at NVIDIA. Her research considers tensor-algebraic methods, deep learning and non-convex problems.

[Robert Aumann](#)

Recipient of the 2005 Nobel Memorial Prize in Economic Sciences for his work on conflict and cooperation through game-theory analysis, of the 2005 Jon Von Neumann Theory Prize and of the 1994 Israel Prize in economics. He is a professor at the Center for the Study of Rationality in the Hebrew University of Jerusalem, he is widely recognized for his fundamental contributions to game theory and related areas.

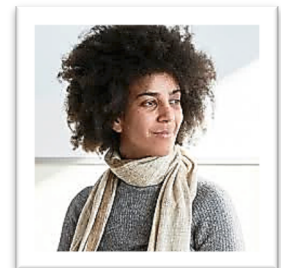


[Antonio Damasio](#)

Recipient of the 1992 Pessoa Prize, of the 1995 Golden Brain Award, of the 2005 Prince of Asturias Prize and of the 2014 Grawemeyer Award in Psychology. He is David Dornsife Chair in Neuroscience, as well as Professor of Psychology, Philosophy, and Neurology, at the University of Southern California. He is widely known for his pioneering research in neuroscience, among others on the role of emotions in social cognition and decision-making.

[Timnit Gebru](#)

She is a computer scientist and the technical co-lead of the Ethical Artificial Intelligence Team at Google. She works on algorithmic bias and data mining. She is an advocate for diversity in technology and is the cofounder of *Black in AI*, a community of black researchers working in artificial intelligence. She is also widely recognized for her research on using machine learning and deep learning to predict demographic data using Google Street View.

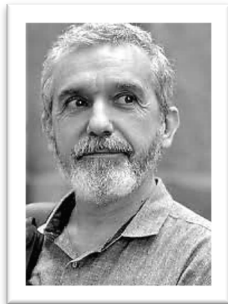
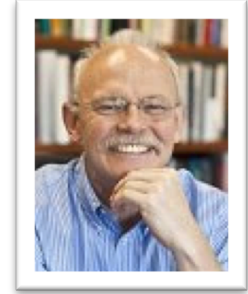


[William Hopkins](#)

Professor at MD Anderson · Michael E. Keeling Center for Comparative Medicine and Research, University of Texas. He is one of the world leading researchers in primates cognition. His behavioral research in chimpanzees has been focused on gestural and vocal communication, particularly the functional use of communicative signals in chimpanzees. In 2014, he was named Science Director at the Iowa Primate Learning Sanctuary (IPLS) in Des Moines in 2014.

[Jay McLelland](#)

Recipient of the 2005 Mind & Brain Prize, of the 2010 Rumelhart Prize and of the 2014 de Carvalho-Heineken Prize. He is the Lucie Stern Professor at Stanford University, where he was formerly the chair of the Psychology Department. He is best known for his work on statistical learning and Parallel Distributed Processing, applying connectionist models (or neural networks) to explain cognitive phenomena such as spoken word recognition and visual word recognition.

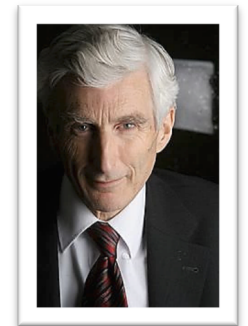


[Zaven Paré](#)

He is a new media artist, internationally known for his art work on electronic marionettes and robots. He is in particular actively involved in the Robots Actors Project. He designed his first electronic marionette in 1996 from a source of video retro-projection in Canada, followed in 1999 by the digital version at the Cotsen Center for Puppetry of Cal Arts (California Institute of the Arts).

[Sir Martin Rees](#)

President of the Royal Society, 2005-2010, recipient of the 1984 Heineman Prize, of the 2005 Crafoord Prize and of the 2011 Templeton Prize. He is a cosmologist and astrophysicist. He has been Astronomer Royal since 1995 and was Master of Trinity College, Cambridge from 2004 to 2012. Aside from his outstanding contributions to astrophysics and cosmology, Sir Martin Rees has written and spoken extensively about the problems and challenges of the 21st century, in particular within the Centre for the Study of Existential Risk he co-founded at the University of Cambridge.

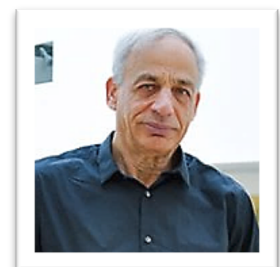


[Oron Shagrir](#)

Oron Shagrir is Schulman Chair of Philosophy and Cognitive Science at the Hebrew University of Jerusalem. He has been working on the conceptual foundations of cognitive and brain sciences, the history and philosophy of computing and computability, and supervenience. He is one of the contributors to *The Turing Guide* (Oxford University Press, 2017).

[Shimon Ullman](#)

Recipient of the 2008 Rumelhart Prize, of the 2015 Israel Prize in Mathematics and Computer Science and of the 2019 Azriel Rosenfeld Lifetime Achievement Award in the field of computer vision. He is a professor of computer science at the Weizmann Institute of Science, Israel. His main research area is the study of vision processing by both humans and machines. He focuses on object and facial recognition, and has made a number of fundamental insights in this field.



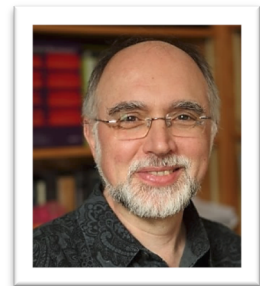


[Xiao-Jing Wang](#)

Recipient of the 2017 Swartz Prize for Theoretical and Computational Neuroscience, of the 2018 Goldman-Rakic Prize for Outstanding Achievement in Cognitive Neuroscience. He is Distinguished Global Professor of Neural Science, director of the Swartz Center for Theoretical Neuroscience, at New York University. He is a world leading researcher in the theory and mathematical modelling of neural circuits dedicated to cognitive functions such as working memory and decision-making.

[Robert Zatorre](#)

Recipient of the 2011 IPSEN foundation prize in neuronal plasticity and of the 2013 Knowles prize in hearing research. He is professor in McGill University. He is a leading cognitive neuroscientist whose laboratory studies the neural substrate for auditory cognition, with special emphasis on two complex and characteristically human abilities: speech and music. In 2006 he became the founding co-director of the international laboratory for Brain, Music, and Sound research (BRAMS), a unique multi-university consortium with state-of-the art facilities dedicated to the cognitive neuroscience of music.



The Institutes of Advanced Studies at Aix-Marseille University and Universidade Federal de Minas Gerais are part of a network of IASs across the world - [UBIAS](#). One of the most successful initiatives developed between the members of this group is the [Intercontinental Academia \(ICA\)](#) where 'scientific exchange' between generations, disciplines, cultures and continents takes place around a topic or theme.

ICA 1 on *Time* was held at University of Sao Paulo and Nagoya University (São Paulo April 2015, Nagoya 2016). ICA2 on *Human Dignity* was held at the Hebrew University of Jerusalem and Bielefeld University (Jerusalem March 2016, [Bielefeld August 2016](#)). ICA 3 on *Laws: Rigidity and Dynamics* was held in Nanyang Technological University and University of Birmingham (Singapore 2018, Birmingham 2019).