International
Multi-Brain
Barcelona Congress
Healthy | Pathological | Artificial

Speakers

UNIVERSITAT DE BARCELONA
Institut de Neurociències
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EXCELENCIA MARÍA DE MAEZTU

Michael Valenzuela

Co-Founder & CEO of Skin2Neuron Pty Ltd, advisor to WHO Clinical Consortium of Healthy Ageing, and Visiting Professor at Centre for Healthy Brain Ageing, University of New South Wales, Australia.

Michael Valenzuela is a key opinion leader, innovator and creative thinker with a career-long commitment to the prevention and better treatment of dementia. He is unique amongst investigators worldwide to have led research across the fields of stem cells, clinical trials, neuroimaging and cognition.

Dr. Valenzuela studied psychology at the University of New South Wales before completing a PhD on Cognitive Reserve. This work was recognized by one of the nation's top awards, the Australian Museum *Eureka Prize for Medical Research*, and on this subject he has contributed to *WHO Guidelines*, the *Oxford Research Encyclopedia of Psychology* and several international scientific advisory committees.

In parallel, he completed graduate medical school, followed by medical internship training at the Prince of Wales Hospital. In 2012, he established the Regenerative Neuroscience Group at the University of Sydney, and in 2017 became the university's first Professor of Regenerative Medicine.

Michael's group discovered a new method of production of neural precursor cells from human skin, and he is the main inventor on several related patents. On this basis, he co-founded *Skin2Neuron*, a new company that aims to develop the first "anti-dementia" cell therapy for Alzheimer's disease, and is on track to begin human trial in 2024. He now leads this growing biotech as Chief Executive Officer.

In the dementia prevention space, between 2019-2021 Michael served as Project Co-ordinator for ICOPE pilot program, now one of the WHO's flagship initiatives for the UN Decade of Healthy Ageing. He also joined the Centre for Health Brain Ageing at University of New South Wales, continuing his work in computer-based cognitive training, which includes some of the most widely cited studies in the field, invited commentary in The Lancet, and co-design and co-leadership of the $6.5M *Maintain Your Brain* study, the world's largest and most successful dementia prevention trial.

Throughout his career Michael has developed a pipeline of med tech, including *BrainyApp*, the *Brain Training System*, *LOGOS* and *Function_Cloud*. Michael is also a frequent media commentator and author of a popular science book on brain health and dementia prevention, *Maintain Your Brain*.

Míriam Pérez Cruz

Specialist in Fetal Medicine, BCNatal | Fetal Medicine Research Center; Institut de Recerca Sant Joan de Déu; RICORS group. Barcelona, Spain.

Specialist in foetal medicine in BCNatal and Postdoctoral researcher from Sant Joan de Déu Research Institute (IRSJD), Fetal Medicine Barcelona Foundation (Fetal R&D) and RICORS group. The doctor combines medical assistance with the study of "the prenatal origin of adult diseases" and during the last years she has focused in neurodevelopment. The doctor is specialised in foetal neurosonography and foetal echocardiography and her activity in these areas has allowed her to author several scientific articles in this field (Pérez-Cruz et al. 2019 Fetal Diagnosis and Therapy; Masoller et al. Fetal Diagn Ther 2020; Mesa MD et al. Nutrients 2020) and to demonstrate structural brain changes (Hahner et al. 2019 Am J Neuroradiol; Pérez-Cruz et al. UOG 2022; Lip D, Pérez-Cruz et al. in press) and in biochemical markers of brain damage in high-risk foetal population (Escobar, Pérez-Cruz et al. Antioxidants 2022; Abella et al. Int J Environ Res Public Health 2022; Ribera et al. BMC Pediatr 2019; Sánchez-Infantes et al.International Journal of endocrinology 2018). Dr. Pérez Cruz coordinates the prenatal research line "Neurodevelopment in Congenital Heart Disease" from BCNatal of which an article has recently been published showing that foetuses with congenital heart disease have smaller corpus callosum (Pérez-Cruz et al. UOG 2021), possibly as a consequence of the alteration of myelination due to the increase in oxidative stress recently observed by our group in congenital heart disease (Escobar, Pérez-Cruz et al. Antioxidants. 2022). The doctor has recently been awarded a FIS grant PI22/00754 " GrowingBrain: fetal brain reference values for early identification of altered neurodevelopment of prenatal origin.

Sandra Acosta

Assistant Professor (SerraHunter) in Pathology and Experimental Therapeutics, UBneuro, University of Barcelona, Spain.

Dr. Acosta is a developmental neurobiologist interested in undertaking how the human brain features arise during evolution and its implications in neurological disorders. As an assistant professor, she lectures in human anatomy and embriology. As a scientist, she enjoys tackling questions involving nature vs nurture unsolved questions of developmental biology. In her lab, they try to solve them (at least partially) with the array of novel technologies that are currently available in their field, but also from others. Dr. Acosta believes all experimental models are equally valuable just depends on the question. So, running from any dogma, the ones her lab currently focuses on are those which she thinks will answer the questions they pose them. You've read the current questions tackled in their lab, but they have plenty more awaiting for younger scientists to be unveiled.

Josep M. Canals

Director of Creatio, production and validation center of Advanced Therapies, UBneuro, University of Barcelona, Spain.

Josep M. Canals is currently the director of Creatio, the Production and Validation Center for Advanced Therapies of the University of Barcelona. He has a PhD in neurobiology from the University of Barcelona, and he held a postdoctoral fellowship position at the Karolinska Institute in Stockholm where he began working on stem cells and Parkinson's disease. On his return to Barcelona Dr. Canals was awarded a Ramon y Cajal research position at the Institute of Biomedical Research August Pi i Sunyer (IDIBAPS). Two years later he was appointed associate professor at the Department of Cell Biology, Immunology and Neurosciences (now Biomedical Sciences) in the Faculty of Medicine and Health Sciences. Since then, his research laboratory of Stem Cell and Regenerative Medicine at the Department of Biomedical Sciences of the Faculty has focused on the use of stem cells as a therapy for neurodegenerative diseases, mainly focusing on Huntington's disease. and the principal investigator of the. His research group is integrated in the Spanish Network of Advanced Therapies. At the international level, Dr. Canals laboratory has managed to attract competitive private funding and be a part of a major collaborative effort led by the Cure for Huntington's Disease Initiative (CHDI. Nowadays, he is member of the steering committee of SC4HD, an international consortium for stem cell treatment of Huntington's disease. Between 2013 and 2017, he was invited expert at the European Committee (Partial Agreement) on Organ Transplantation (CD-P-TO) of the European Directorate for the Quality of Medicines & Healthcare (EDQM) of the Council of Europe. Dr. Canals has published over 100 articles in internationally renowned outstanding journals, and he is currently coordinator of two European projects, he is also principal investigator of an American project, of four national public projects and of a private project of the La Caixa Foundation.

Nicolai Franzmeier

Junior Research Group Leader, Institute for Stroke and Dementia Research, Ludwig Maximilian of Munich University Hospital, Germany.

Dr. Franzmeier is an early career investigator with a strong focus on Alzheimer's disease neuroimaging research. He received undergraduate training in psychology and medicine from 2009-2014 in Innsbruck, Austria, after which he completed his PhD at the graduate school for systemic neurosciences (LMU) in Munich in 2017.
He is specifically interested in the spatiotemporal evolution of AD-related brain changes that underlie cognitive decline and those factors that provide resilience in AD. His overall goal is to develop clinically useful models for predicting disease progression and to identify therapeutically relevant targets for secondary prevention of AD dementia. To this end, he is combining structural & functional MRI with molecular PET imaging and genetics.

Additional resources:
isd-research.de/research-groups/franz-meier-lab/c2a419aceaa4aab7

Lluís Fuentemilla

Full Professor, Department of Cognition, Development and Educational Psychology, Faculty of Psychology, UBneuro, University of Barcelona, Spain.

Lluís Fuentemilla received the PhD in Psychology for his research on the neural mechanisms that support human sensory memory. He then moved to the Institute of Cognitive Neuroscience (University College London) to study as a postdoctoral researcher, a time that helped him crystallize his interest in understanding the brain underpinnings of human learning and memory. In 2010, he was awarded by a Ramon y Cajal programme to create and establish his own research group in Spain. In 2018 he was awarded with the ICREA Academia. Lluís Fuentemilla is now a Full Professor at the University of Barcelona (UB) where he leads the Dynamics of Memory Formation group. His research group is funded by several national and international funding agencies and industry.

His research group aims at understanding how the human brain supports the formation, the consolidation, and the retrieval of everyday life experiences. They use behavioural, neuroimaging and electrophysiological techniques that, combined with advanced analytical approaches, provide insights of the neural mechanisms that underlie fundamental memory processes, such as how experiences are integrated and transformed into long-term memory traces by the brain.

Raquel Sánchez-Valle

Head of the Neurology Service, Alzheimer's disease and other cognitive disorders group, Hospital Clínic de Barcelona, IDIBAPS, UBneuro, University of Barcelona, Spain.

Dr. Sánchez-Valle completed her training as a neurologist at the Hospital Clínic de Barcelona (2000) and her PhD degree on Biopathology in Medicine at the University of Barcelona (2003). After her PhD, she obtained a Rio Hortega fellowship (Instituto de Salud Carlos III, Spanish Ministry of Health) in Behavioural neurology at the Institut d'Investigacions Biomèdiques August Pi I Sunyer, Barcelona. During her fellowship, she accomplished a short-term postdoctoral scholarship at the Memory and Aging Center- University of California San Francisco, directed by Dr. Bruce Miller (2006). Back in Barcelona, she was hired as neurologist at the Alzheimer's Disease and other Cognitive Disorders (ADCD) unit, Hospital Clínic de Barcelona (2006-). In 2018, Dr. Sánchez-Valle became the Group Leader of the Alzheimer's disease and other cognitive disorders group at the IDIBAPS (https://www.clinicbarcelona.org/en/idibaps/research-areas/clinical-and-experimental-neuroscience/alzheimers-disease-and-other-cognitive-disorders) and Associate professor at the University of Barcelona. Currently, she is the Head of the Neurology Service at the Hospital Clínic de Barcelona.

Her research focuses on the use of different type of biomarkers (neuroimaging techniques, biochemical and genetic biomarkers) for the early and accurate diagnosis and prognosis/monitoring of neurodegenerative dementia, especially in early-onset and rare forms of dementia, as autosomal dominant Alzheimer's disease, frontotemporal dementia and prion diseases.

Total Pub (Pubmed): 251. Index H (WoS): 45.

Jesús Rodrigo

CEO of CEAFA (Spanish Confederation of Alzheimer), Spain.

CEO of Spanish Confederation of Alzheimer disease. Member of the board of Alzheimer's disease International (ADI). President of Alzheimer Iberoamerica (AIB). Former member of the board of Alzheimer Europe (until 2019). Member of the technical committee of the neurodegenerative diseases strategy of the National Health System. Member of the national dementia group devoted to the definition and elaboration of the national Alzheimer's plan 2019-2023. Participating in numerous projects and consultations, both at national and international level.

Christopher Guger

g.tec founder, Austria.

Christoph Guger studied electrical and biomedical engineering at the University of Technology Graz in Austria and Johns Hopkins University in the USA and received his PhD in 1999. In 1999, he started the company g.tec which has now branches in Austria, Spain, the USA, Canada, and Hong Kong. g.tec produces high-quality neurotechnology and real-time brain computer interfaces for the research, medical and consumer market. The company is active in many international research projects about brain-computer interfacing, neuromodulation, stroke rehabilitation, assessment and communication with patients with disorders of consciousness and high-gamma mapping in epilepsy and tumor patients.

Eduard Vieta

Full Professor of Psychiatry, UBneuro, University of Barcelona, Spain.

Eduard Vieta is full Professor of Psychiatry at the University of Barcelona, and Head of the Department of Psychiatry and Psychology at the Hospital Clínic, Barcelona, Spain, where he also leads the Bipolar and Depressive Disorders Program. His unit is one of the worldwide leaders in clinical care, teaching and research on affective disorders and precision psychiatry. He is also Scientific Director of the Spanish Research Network on Mental Health (CIBERSAM) and group leader at the Institute of Neuroscience.

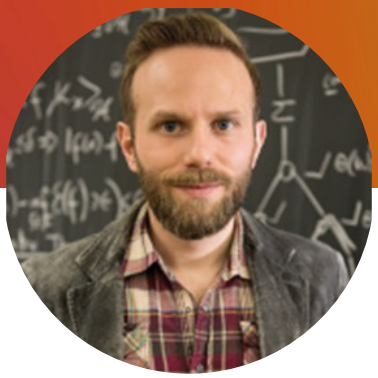
Professor Vieta has received various awards, including: the Aristotle Award, the Mogens Schou Award by the International Society of Bipolar Disorders, the Colvin Prize by the Brain & Behavior Foundation, the Clinical Neuroscience Lilly award by the International College of Neuropsychopharmacology, the Simon Bolivar Award by the American Psychiatric Association, the Excellence Award by the College of Physicians, the Trueta Award by the Medical Sciences Academy, and the Dissemination and Humanities Award by the University of Barcelona. He has been named best psychiatrist in Spain (Monitor Sanitario, El Español), is an honorary member of the Spanish Society of Biological Psychiatry and has also been awarded Doctor Honoris Causa by the University of Valencia. He is a member of the Royal Academy of Medicine of Catalonia.

Professor Vieta has authored more than 1,100 original articles, 500 book chapters and 50 books. His h-index is 145, he has over 80,000 citations and his papers have had over 700,000 downloads. He is the most cited author worldwide on bipolar disorder, has been listed as one of the "World's most influential minds" and is oin the Best Doctors list by Forbes. Furthermore, he is Editor-in-Chief of *European Neuropsychopharmacology*, has served as Invited Professor at McLean Hospital and Harvard University, Massachusetts, USA and as Neuroscience Scientific Advisor to the European Presidency.

Mel Slater

Distinguished Investigator, UBneuro, University of Barcelona, Spain.

Mel Slater is a Distinguished Investigator at the University of Barcelona, and co-Director of the Event Lab (Experimental Virtual Environments for Neuroscience and Technology). He was previously Professor of Virtual Environments at University College London in the Department of Computer Science. He has been involved in research in virtual reality since the early 1990s, and has been first supervisor of 40 students who achieved their PhDs in computer graphics and virtual reality since 1989. He was awarded the 2005 IEEE Virtual Reality Career Award: 'In Recognition of Pioneering Achievements in Theory and Applications of Virtual Reality'. He held an ERC Advanced Grant TRAVERSE 2009-2015 and has now a second Advanced Grant MoTIVE 2018-2023. He has also received two ERC Proof of Concept awards. He is currently Technical Leader of the European Horizon 2020 project GuestXR (2022-2025). He is Field Editor of Frontiers in Virtual Reality, and Chief Editor of the Human Behaviour in VR section. He has contributed towards bringing virtual reality into scientific endeavour, with publications in Nature Reviews Neuroscience, PNAS, Neuron, Cognition, and others. He has over 400 publications and h-index of 104 with 48930 citations (Google Scholar). He was awarded the Humboldt Research Prize from Germany in 2020. He is a co-founder of the spin-off company Virtual Bodyworks.



Xavier Boix

Research Scientist, Massachusetts Institute of Technology (MIT), USA.

Xavier Boix works as a research scientist at the Department of Brain and Cognitive Sciences at MIT (since 2021), leading a group investigating biologically-inspired machine learning. Xavier received a doctorate in machine learning from ETH Zurich (2014) and completed his postdoctoral training at MIT in the Sinha lab and also the Poggio lab, where he was part of the multidisciplinary Center for Brains, Minds and Machines. Xavier's research aims at developing a theory that facilities the next generation of learning machines by leveraging insights and tools from neuroscience. His research lives at the intersection of theoretical machine learning, engineering of deep neural networks, and neuroscience.

Diana Mihalache

UX Researcher, Google, USA.

Diana Mihalache is a UX researcher in Trust and Safety at Google. She focuses on the user experience of human reviewers in content moderation. Specifically, her work centers on wellness and cross-product metrics. Prior to her role at Google, she received a PhD in clinical psychology with a specialization in pediatric neuropsychology and developmental cognitive neuroscience.

Luis Montesano

Chief Scientific Officer at Bitbrain, Associate Professor (on leave), University of Zaragoza, Spain.

Dr. Luis Montesano received the Ph.D. degree in computer science and systems engineering in 2006, from the University of Zaragoza, Spain. He was a post-doctoral researcher at the IST, Lisbon from 2006 to 2009. He is currently Chief Scientific Officer at Bitbrain and is an Associate Professor (on leave) at the University of Zaragoza where he leads the bio-learning lab working in the areas of Brain-Machine Interfaces and cognitive systems. He has published over 80 international journal and conference papers in the main venues of robotics, AI and EEG based neurotechnology. He has participated in several national and European projects related to robot learning such as ROBOTCUB or HANDLE; language acquisition such as CONTACT; and neural engineering such as H2020-MOREGRASP, ITN-NETT, CONSOLIDER-HYPER or LAICO.

Ignasi Capellà

Co-founder of Broomx, Spain.

Sociologist graduated by the University of Barcelona, master in digital marketing and specialist in social innovation and European project management.
More than 15 years of experience in social innovation and project management in organizations such as Ajuntament de Sant Boi de Llobregat, DCB Tourism, Mobile World Capital Barcelona and ACCIÓ. Cofounder of Catalan immersive reality startup Broomx, he has lead the reorientation of the company to the healthcare and social care sector.

Carolina Aguilar

CEO, Co-founder, and Board Director, INBRAIN Neuroelectronics, Spain/Switzerland.

Business executive with corporate and startup experience. Unique blend between consumer goods and healthcare (medical devices) knowledge. More than 15 years of experience in European and Global positions managing complex environments from acquisitions to consolidated businesses with P&Ls up to $140 M all with high single to double digit growth % YOY. Inspirational, authentic with an in-depth business acumen. Specialized in deep tech, digital health technology, and business design with value-based healthcare principles for healthcare sustainability.

Ana Maiques

CEO & Co-Founder, Neuroelectrics, Spain.

Ana Maiques is the CEO of Neuroelectrics, a company aiming to change the way we interact with the brain, developing innovative technologies to monitor and stimulate the brain to help many patients in need. She was nominated by IESE Business School as one of the most influential entrepreneurs under 40 in Spain in 2010. She received the EU Prize for Women Innovators from the European Commission EC in 2014. In 2015 & 2016, she was named one of the most inspiring women on the Inspiring Fifty list in Europe. In 2022, together with 8 other spanish scaleups, she co-founder, EsTech, an organization of high-growth companies that want to make more visible the impact of a new productive model. Ana recently joined the European Innovation Council Advisory Board, the pan European organism that aims to scale up European companies. She continues breaking the barriers of science and technology in an impactful way with Business Ethics.

Andreu Oliver

Account Manager scientific research, Tobii, UK.

In the intersection between technical understanding and a business mindset, Andreu Oliver enjoys helping find the right market fit and interacting with all the stakeholders to understand how to match technology and research with the best chances of success. His primary role as an account manager is growth and exploring new opportunities and markets to capitalise on the products and the team. He has a PhD in Cognitive Psychology by training and have been working in neurotechnology in the academic and commercial sectors since 2015.

Rafael Yuste

Full Professor of Biological Sciences, Columbia University, USA.

Rafael Yuste, a neuroscientist, is Professor of Biological Sciences at Columbia University in New York. He studies the function and pathology of the cerebral cortex, using optical methods to measure and modify the activity of its neural circuits.

Yuste grew up in Madrid, Spain and obtained his M.D. at the Universidad Autónoma in Madrid. After working in Sydney Brenner's laboratory at the Medical Research Council in Cambridge, UK, he was a Ph.D. student with Larry Katz in Torsten Wiesel's laboratory at Rockefeller University in New York, and postdoctoral student of David Tank at Bell Laboratories in New Jersey. He joined Columbia in 1996 and since 2014 is director of its Neurotechnology Center.

In 2011 Yuste led a small group of researchers who proposed the Brain Activity Map, precursor to the US BRAIN Initiative, and in 2016 he helped coordinate the launch of an International BRAIN Initiative. In 2017, he also led the "Morningside" group of 25 researchers and clinicians who proposed novel human rights ("Neurorights") to protect citizens from potential abuses from neurotechnologies and AI.

Yuste's is a member of Spain's Royal Academies of Medicine and of Science and was a member of the Howard Hughes Medical Institute. His scientific contributions have been recognized by awards from the Mayor of New York City, the US Society for Neuroscience, the Director of the U.S. National Institutes of Health and the Cajal Institute. He shared the Eliasson Global Leadership Prize from the Tällberg Foundation in 2018 for his advocacy work.

For information about his research see:
https://blogs.cuit.columbia.edu/rmy5/
and for his advocacy work see:
https://neurorightsfoundation.org/

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