Expert Panel: Recent Neurotechnology Innovations and Applications in Industry

List and Bios of Panelists

Tim Mullen, Moderator

Dr. Mullen obtained his Ph.D. from the Dept. of Cognitive Science at UC San Diego, affiliated with the Institute for Neural Computation and the Swartz Center for Computational Neuroscience. He is founder and CEO of Intheon, a San Diego neuro-technology company serving industry, clinical, and scientific communities with state-of-the-art statistical machine learning, signal processing and cloud computing infra-structure for bio/neural state decoding. He also directs Intheon's R&D division, which is committed to advancing applied and basic scientific research in neurotechnology.

Amy Kruse, Panelist

Dr. Kruse is the Chief Scientific Officer of the Platypus Institute, an applied neuroscience research organization that translates cutting-edge neuroscience discoveries into practical tools and programs which enhance the human experience. Dr. Kruse's primary focus at the Platypus Institute is a project entitled "Human 2.0" – a multi-faceted initiative that helps selected individuals and teams leverage neurotechnology to generate meaningful competitive advantages. Her ultimate goal with the Human 2.0 project is to create a vibrant, widespread neurotechnology industry that allows humanity to upgrade the human brain and, thereby, the human condition.

Amir Meghdadi, Panelist

Dr. Meghdadi is the Director of Research at Advanced Brain Monitoring in Carlsbad, California, USA. He received his Ph.D. in Electrical Eng. from the University of Manitoba, Canada and worked as a post-doctoral fellow at Psychological and Brain Sciences Dept. at the University of California, Santa Barbara. Amir and his team at ABM work on developing EEG-based biomarkers associated with central nervous system disorders, such as neuro-degenerative diseases or mood disorders. With a background in signal processing and human-computer interaction, Amir is passionate about using quantitative neuro-physiological and behavioral measures to study the human brain.

Emil Hewage, Panelist

Dr. Emil Hewage is Co-Founder and CEO at BIOS, a leading neural engineering startup. Emil undertook Ph.D. research in computational neuroscience and machine learning at the University of Cambridge and has used this knowledge to pioneer the use of artificial intelligence for interpreting neural data. He began working in startups at age 17 and held engineering and leadership roles across a range of industries from clean energy to advanced medical technologies. He was recently named to Forbes 30 Under 30.

Alex Bates, Panelist

Alex has spent the last decade bringing artificial intelligence and machine learning to the forefront of the industrial market. From leading DARPA funded research in neural networks, to applying analytics for the world's largest data warehouses at Teradata, to creating Mtell, a machine learning company acquired by Aspentech, he believes the coming wave of human-centered AI has the potential to make us superhuman and create a world of abundance. He is author of the book *Augmented Mind* which explores the potential of combining AI with human intelligence, or Intelligence Augmentation.

Lamija Pašalić, Panelist

Lamija Pašalić has over a decade of experience designing neuroimaging technology and supporting neuroscientists. She completed her BSc and MSc in biomedical engineering at Politecnico di Milano, focusing on processing of biomedical signals and images. She began her career working with EEG and TMS applications and has since become an expert with fNIRS technology as Head of Project Management co-manager at NIRx GmbH, Berlin, and as primary scientific consultant for fNIRS analysis. As Global Head of Support, she oversees NIRx's industry leading efforts and customer partnerships.

Javier Minguez, Panelist

Dr. Minguez is co-founder of BitBrain Technologies, a global leading neurotechnology company for health, market research, and entertainment applications. He is a Professor of Computer Science and Lecturer of Neurotechnology in the Neuroscience, Biomedical and Engineering School at the University of Zaragoza (Spain). He has 110+ research publications and 5 patents in the areas of neuroscience, neural engineering, BMIs, cognitive and motor neurorehabilitation, and market research. He has received numerous international awards, including the Iberoamerican Award to Innovation and Entrepreneurship, and the International Entrepreneur Award of the Everis Foundation.

Marc Saab, Panelist

Marc Saab is Founder and Managing Director of BML Technology, a biomedical engineering firm specializing in medical device, consumer wearables, and digital health. Marc is known as an expert in BCI/HCI and a thought leader on the technical aspects of digital health. His corporate work has involved all aspects of medical device and wearable product development from conception R&D to launch and commercialization for international markets. He holds a Bachelor of Applied Science from the University of Waterloo, with a major in Electrical Engineering and a minor in Biology, and a Master of Biomedical Engineering from McGill University and the Montreal Neurological Institute.

Zach McKinney, Panelist

Dr. McKinney is a post-doc researcher in the Wearable Robotics Lab at the BioRobotics Institute, Scuola Superiore Sant'Anna (Pisa), where he manages the development and clinical evaluation of exoskeletal robotic systems for applications in industry and neural rehabilitation. He chairs IEEE Working Group P2794, developing a Reporting Standard for in vivo Neural Interface Research. He also leads the user needs focus area of the IEEE Industry Connections Activity on Neurotechnologies for BMIs. Prior to his current roles, Zach was co-founder and Chief Science Officer at Spinal Singularity, where he developed a fully indwelling urinary prosthesis for males with neurogenic bladder dysfunction due to spinal cord injury and other neurological disorders.

Christopher Guger, Panelist

Christoph Guger is the founder and CEO of g.tec medical engineering GmbH. He studied Biomedical Engineering at the Technical University of Graz, Austria and at the John Hopkins University in Baltimore, USA. During his studies, he concentrated on BCI systems and developed many of the early foundations for bio-signal acquisition and processing in real-time. G.tec produces and develops BCIs that help disabled people communicate or control their environments by their thoughts and regain motor functions after a stroke. His work has been widely presented in peer-reviewed publications. He is running several international BCI research projects.