



ICAN

International Conference for
Advanced Neurotechnology

جامعة حمد بن خليفة

HAMAD BIN KHALIFA UNIVERSITY

كلية العلوم الصحية والحيوية

College of Health & Life Sciences



INTERNATIONAL CONFERENCE FOR ADVANCED NEUROTECHNOLOGY

March 2 – 3, 2020

Minaretein

(College of Islamic Studies building)

Education City

AGENDA

Monday, March 2, 2020

7:30 am – 8:30 am	Registration	Lobby, Minaretein (CIS building), Education City
8:30 am – 8:35 am	Welcome	Dr. Edward Stuenkel, Dean, College of Health and Life Sciences
8:35 am – 8:45 am	Opening Remarks	Dr. Euisik Yoon (University of Michigan) Dr. Gyorgy Buzsaki (New York University)
8:45 am – 9:35 am	Plenary Keynote Presentation	Brain Machine Interface: Useful Signals from Motor Cortex Dr. Andrew B. Schwartz Professor of Neurobiology at the University of Pittsburgh
9:35 am – 10:35 am	Panel Discussion “AI, Future Robotics and Neuroscience” Moderator: Dr. Gyorgy Buzsaki Panelists: Dr. Tony Prescott, Dr. Andrew B. Schwartz, Dr. Dileep George, Dr. Ahmed K Elmagarmid	
10:35 am – 10:50 am	Break	

Session 1 (Chair, Patrick Ruther)

10:50 am – 11:40 am	Keynote	Building Robots to Understand Humans	Tony Prescott, Professor of Cognitive Robotics, The University of Sheffield, UK
11:40 am – 12:10 pm	Invited Speaker	Fast Oscillations in the Retrosplenial Cortex are Mechanistically Distinct From Ripples and Gamma	Dr. Omar Ahmed, University of Michigan, USA
12:10 pm – 12:40 pm	Invited Speaker	On Deep Reinforcement Learning with Applications to Traffic Signal Control	Dr. Sanjay Chawla, Qatar Computing Research Institute
12:40 pm – 1:40 pm	Lunch		

AGENDA

Monday, March 2, 2020

Session 2 (Chair, Euisik Yoon)			
1:40 pm – 2:30 pm	Keynote	Building Robots That Work Like the Brain to Understand the Brain	Dr. Dileep George, Co-founder, Vicarious AI
2:30 pm – 3:00 pm	Invited Speaker	Is AI Inspired by the Right Brain Model? Blame Neuroscience	Dr. Gyorgy Buzsaki, New York University
3:00 pm – 3:30 pm	Invited Speaker	Here and There, Present and Past, Who's in Control of the Hippocampus Spatial Memory System?	Dr. Andre Fenton, New York University
3:30 pm – 3:45 pm	Break		
3:45 pm – 4:15 pm	Invited Speaker	LED-Based Optogenetic Tools - Are Smallest LEDs Always Requested and Reasonable?	Dr. Patrick Ruther University of Freiburg, Germany
4:15 pm – 4:45 pm	Invited Speaker	Prefrontal Signaling of Approach/Avoidance Conflict	Dr. Gregory Quirk, Medical School, University of Puerto Rico
4:45 pm	Day Adjourn		

AGENDA

Tuesday, March 3, 2020

7:30 am – 8:30 am	Coffee Continental Breakfast	Lobby, Minaretein (CIS building), Education City	
Session 3 (Chair, Gyorgy Buzsaki)			
8:30 am – 9:20 am	Keynote	Bio-inspired Artificial Vision: What Can Robot Vision Learn from Insect Vision?	Dr. Abdesselam Bouzerdoum, College of Science and Engineering, HBKU
9:20 am – 9:50 am	Invited Speaker	Neuromorphic Artificial Compound Eyes for Micro Air Vehicles	Dr. Euisik Yoon, University of Michigan, USA
9:50 am – 10:20 am	Invited Speaker	Reinforcement Learning for Neurostimulation	Dr. Joschka Boedecker, Neurorobotics Lab, University of Freiburg
10:20 am – 10:35 am Break			
Session 4 (Chair, Dr. Edward Stuenkel)			
10:35 am – 11:25 am	Invited Speaker	Deep Learning for Brain Signals	Dr. Tonio Ball, Neuromedical AI Lab, University of Freiburg, FRG
11:25 am – 11:55 am	Invited Speaker	Optogenetic Probe of Inhibition Stabilization in Hippocampal Networks	Dr. Kamran Diba, University of Michigan, USA
11:55 am – 12:25 pm	Invited Speaker	D2R mediate a switch between reward and aversion of Drosophila	Dr. Mohammad Farhan, College of Health and Life Sciences, HBKU
12:25 pm – 2:00 pm	Lunch and Poster Presentation		

AGENDA

Tuesday, March 3, 2020

Session 5 (Chair, Dr. Gregory Quirk)			
2:00 pm – 2:30 pm	Invited Speaker	Vision Sensors: From Conventional Imaging to Bio-inspired Processing	Dr Amine Bermak, College of Science and Engineering, HBKU
2:30 pm – 3:00 pm	Invited Speaker	Network Activity Associated with Stress in Adrenal Medulla	Dr. Jose Roberto Lopez Ruiz University of Michigan, USA
3:00 pm – 3:30 pm	Invited Speaker	Novel Multi-Functional Electrodes and Robotic Micro-Drives for Neuroscience	Dr. Mladen Barbic, Director of Engineering, New York University, USA
3:30 pm – 4:00 pm	Invited Speaker	Fully Integrated Digital Neuronal Probes: Advances, Challenges and Applications	Mr. Daniel De Dorigo University of Freiburg, Germany
4:00 pm – 4:10 pm	Closing Remarks		
	Social Activity		