



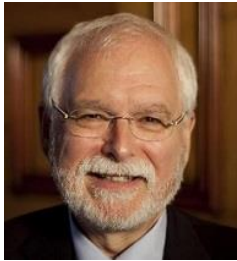
B-CRATOS SUMMER SCHOOL PROGRAMME

Next Generation Wireless Brain Machine Interface

Sept. 27-29, 2023
Trondheim- NORWAY

	Wednesday 27 Sep.	Thursday 28 Sep.	Friday 29 Sep.
8:30	Registration Opening	Wireless communication and powering for implants Dr. Ali Khaleghi, NTNU	E-skin: Fundamentals Dr. Zhibin Zhang, UU
9:00	Introduction of course Dr. Robin Augustine, UU		
9:30	B-CRATOS: goals, roles, partners, sponsors etc	Antenna technologies for medical implants Dr. Ali Khaleghi, NTNU	E-skin: Technology Dr. Zhibin Zhang, Uppsala
10:00	<i>Coffee break</i>		
10:30	The fundamentals of BCI	<i>Coffee break</i>	
11:00	How does the wireless tech impact the world of BCI? Dr. Hans Scherberger, DPZ Dr. Paul Wanda, BRME	Fat-IBC Dr. Robin Augustine, Uppsala	Lecture (Guest speaker TBC: Market oriented discussion / Clinical neuroscience research topic)
12:00	Guest Lecture History of BCI technology and Braingate Dr. John Donoghue	Microwave Phantoms Dr. Mauricio Perez, Uppsala	Guest Lecture(s) (COMSOL)
13:00	<i>Lunch</i>		
14:00	Ethics discussion: Nicola Di Stefano	State of the art for BCI What are the limitations that the wireless tech addresses? Dr. Paul Wanda, BRME	Overview of Standards for Medtech Prof. Ilanko Balasingham, NTNU
15:00	Deep-learning related to neural decoding Paolo Viviani & Letizia Bergamasco - LINKS	Robotics/Mechatronics Dr. Marco Controzzi, SSSA	Closing
16:00	<i>Coffee break</i>		
16:30	Guest Lecture Microwave Sensing & Imaging Paul Meaney, Dartmouth College	Robotics/Mechatronics Dr. Robinson Guachi, SSSA	
17:30	Poster session	B-CRATOS DEMO Followed by City visit	
19:00			
20:00:23:00	Networking activities/Dinner	Networking activities/Dinner	

Invited speakers:



Prof. John Donoghue is the H.M. Wriston Professor of Neuroscience and Engineering at Brown University. He is known for translational research in human brain computer interfaces to restore movement for people with paralysis (known as 'BrainGate', as well as for fundamental research to explain how networks of cortical neurons compute actions from plans. At Brown, he was the founding Chair of the Brown Department of Neuroscience, the founding director of the Brown Institute for Brain Science (now the Carney Institute) and the Department of Veterans Affairs Center of Excellence in Neurorestoration and Neurotechnology.



Dr Paul Meaney has extensive industrial experience from working with millimeter-wave technology at both Millitech Corporation, USA, and Alpha Industries, MA. He has been a Professor with Dartmouth College since 1997, with Chalmers University of Technology and is also the President and Co-Founder of Microwave Imaging System Technologies, Inc., Hanover. His current research interests include microwave tomography, which exploits the many facets of dielectric properties in tissue and other media, and in particular, for breast cancer imaging, where his group was the first to translate an actual system into the clinic.

Lecturers:

- Ilangko Balasingham (Professor, Norwegian University of Science and Technology)
- Robin Augustine (B-CRATOS coordinator, Professor, Uppsala University)
- Ali Khaleghi (B-CRATOS WP leader, Research Professor Norwegian University of Science and Technology)
- Hansjörg Scherberger (B-CRATOS WP leader, Professor, DPZ)
- Nicola Di Stefano, Chair of the B-CRATOS Ethics board)
- Paul Wanda (B-CRATOS WP leader, Blackrock Microsystem Europe GmbH)
- Marco Controzzi (B-CRATOS WP leader, Scuola Superiore Sant'Anna)
- Zhibin Zhang (Associate professor, Uppsala University)
- Mauricio Perez (Senior Researcher, Uppsala University)
- Paolo Viviani (Senior Researcher, LINKS Foundation)
- Letizia Bergamasco (Researcher, LINKS Foundation)
- Robinson Guachi (Researcher, Scuola Superiore Sant'Anna)

The B-CRATOS summer school will offer a unique opportunity to learn from experts in various fields and explore the latest advancements in BMI technology.

Organizing committee:

- Ilangko Balasingham - Norwegian University of Science and Technology
 - Ali Khaleghi - Norwegian University of Science and Technology
- It is organized by the expert teams from

- **UPPSALA UNIVERSITY,**
- **SINANO INSTITUTE,**
- **SCUOLA SUPERIORE SANT'ANNA,**
- **BLACKROCK MICROSYSTEMS EUROPE GMBH,**
- **LINKS FOUNDATION,**
- **DEUTSCHES PRIMATENZENTRUM GMBH,**
- **NORWEGIAN UNIVERSITY OF SCIENCE AND TECHNOLOGY (NTNU).**

Sponsor:

The event is sponsored by the company COMSOL, which develops mathematical modeling software that drives new breakthroughs in physics and engineering.



www.b-cratos.eu

