

## Scientific committee and invited speakers

### Scientific committee :

Persons coming from different domains and backgrounds will compose the summer school scientific committee:



**Philippe Robert** (health domain) is professor of Psychiatry at the Nice School of Medicine, Director of the Nice Memory Centre for Care and Research (CMRR), Director of the Cognition, Behaviour & Technology Unit (CoBTeK) at the University of Nice-Sophia Antipolis, and coordinator of the French National Alzheimer data bank. His domains of expertise include behavioral and psychological symptoms of dementia, apathy assessment and treatment, and the use of new technologies for diagnosis and stimulation in elderly people. Philippe Robert is with Nicholas Ayache the coordinator of the Idex<sup>Jedi</sup> MNC<sup>3</sup> project.



**Nicholas Ayache** (technology domain) is Research Director at INRIA where he leads the EPIONE project-team whose research activities are focusing on the Analysis and Simulation of Biomedical Images. This includes the analysis of medical and biological images with advanced geometrical, statistical, physical and functional models, the simulation of physiological systems with computational models built from biomedical images and other signals, and the application of these tools to medicine and biology to better assist prevention, diagnosis and therapy of diseases. Nicholas Ayache is with Philippe Robert the coordinator of the Idex<sup>Jedi</sup> MNC<sup>3</sup> project.



**Marco Lorenzi** (technology domain) is a tenured research scientist (CR2) at Université Côte d'Azur, Inria Sophia Antipolis. He obtained his PhD from the University of Nice in 2012, and from 2014 to 2016 worked as research associate in the Centre for Medical Image Computing of the Biomedical Engineering Department of University College London, UK. His research interest is in the development of computational and statistical methods for the joint analysis of biomedical data and brain images, with application to the study of neurodegenerative disorders. He is also interested in the statistical analysis of clinical trials data, time-series analysis, and in the latest advances in machine learning for the analysis of high dimensional data.



**François Brémond** (technology domain) is a Research Director at INRIA Sophia Antipolis. He created the STARS team on the 1st of January 2012. He obtained his Master degree from ENS Lyon. He has conducted research work in video understanding since 1993 both at Sophia-Antipolis and at USC (University of Southern California), LA. In 1997 he obtained his PhD degree from INRIA in video understanding and he obtained in 2007 his HDR degree (Habilitation à Diriger des Recherches) from Nice University on Scene Understanding: perception, multi-sensor fusion, spatio-temporal reasoning and activity recognition. He is co-director of CoBTek team.



**Joseph Sfeir** (business domain) is Director of Business Development at LitePoint, California. Joseph brings 10 years of international experience in engineering, marketing and business development for high tech companies. He is also an active investor in medical startup. He holds an MBA and a degree in Electronic engineering.

## Summer school coordinator :



**Valeria Manera** (health and research domain) is a postdoctoral fellow at the INRIA (STAR team) and the CoBTeK unit of the University of Nice-Sophia Antipolis (France). She has a Master degree in Clinical Psychology and a PhD in Cognitive Science. She spent long research periods at the University of Leuven (Belgium) and at the Stanford Psychophysiology Laboratory (California). Her domains of expertise include biological motion perception, emotion recognition and regulation in different neuropsychiatric pathologies, the use of Virtual Reality in older adults, and dementia prevention.

## Invited speakers :



**Antitza Dantcheva** is a Postdoctoral Fellow at the STARS team, INRIA, France. Previously, she was a Marie Curie fellow at INRIA and a Postdoctoral Fellow at the Michigan State University and the West Virginia University, USA. She received her PhD in Signal and Image Processing in 2011 from Eurocam / Telecom ParisTech in France. In 2017 she has received the French National Research project “Automated holistic human analysis”. She was the recipient of the Best Presentation Award in ICME 2011, the Best Poster Award in ICB 2013, the Tabula Rasa Spoofing Award in 2013, as well as the Best Paper Award (Runner Up) at the IEEE ISBA 2017. Her research interests are in automated facial analysis for healthcare and security.



**Maarten De Vos** (Director of the Oxford Biodesign Programme) is Associate Professor at the IBME, in the University of Oxford, following a Junior Professorship at the University of Oldenburg, Germany. His academic work focuses on innovative biomedical monitoring and signal analysis, in particular the derivation of biosignatures of patient health from data acquired via wearable sensors and the incorporation of smart analytics into unobtrusive systems.

He has a strong interest in translational research and consults for different digital health and medical innovation companies. His pioneering research in the field of mobile real-life brain-monitoring led to the formation of mBrainTrain, which he supported with scientific advice and which has won several prizes for their mobile EEG innovation. His work on neonatal brain monitoring also achieved impact in patient care through the Neoguard implementation project. After successful completion of the Biodesign faculty training at Stanford University, he started the Oxford Biodesign programme.



**Baptiste Fosty** is the CEO of Ekinnox, a startup stemming from Inria Sophia Antipolis. With a master degree in Artificial Intelligence and 5 years spent in STARS team of Inria, he created Ekinnox to develop and commercialize a medical device to improve the treatment of patients in rehabilitation by simplifying gait analysis. He is in charge now of the business aspects (strategy, finance, commercial, marketing, administration) while his main partner, Méline Gautier, is responsible for the technical development of the solution.



**Ian Sosso** founded Monte Carlo Capital in 2009 as an angel investor to invest his own capital. Monte Carlo Capital now invests globally and looks for businesses with a clear edge, strong intellectual property or looking to disrupt an industry, and has built a portfolio of exceptional companies in sectors ranging from biotech and medical devices to artificial intelligence, robotics, fintech, robotics and consumer products. Ian started his career in 1993 and previously worked in Paris, London, Tokyo, Singapore and Hong Kong with HSBC, UBS and JPMorgan, holding positions in trading, sales and financial engineering. Over the years, Ian has been a keynote speaker in numerous conferences in Monaco, Europe, the US, Russia, China, HK, Singapore, Taiwan, Korea and Malaysia. Ian currently lectures venture capital and entrepreneurial finance to MBA and finance MSc students at the International University of Monaco.

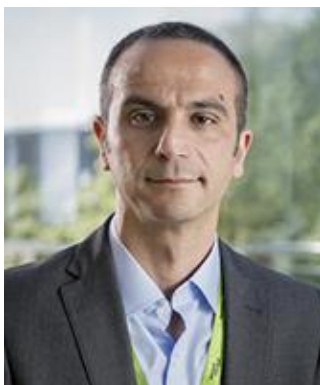


**Juan Domingo Gispert** is a post-doc fellow at the BioRobotics Institute of Scuola Superiore Sant'Anna. Previously she was appointed as Visiting Scholar at Bristol Robotics Laboratory (UK) from April to October 2015. She received the Laurea (MSc Biomedical) with honours at the University of Pisa, Italy, on April 2012 and the PhD in BioRobotics (with honours) from the Biorobotics Institute of Scuola Superiore Sant'Anna on February 2016. Her research interests include Ambient Assisted Living, Cloud Service Robotics, ICT system for dual-task cognitive activation, pattern recognition, signal processing and experimental protocol definition. She has experience in interdisciplinary research in healthcare technologies, e.g. the H2020 ACCRA project (2016-2019) for the development of assistive robotics solution for personal mobility with a co-creative approach. FP7 ROBOT-ERA project (2012-2015) concerning the implementation and evaluation of 3D robotic services for supporting the elderly in daily life activity. Other european and national projects where she is/was actively involved are SI-ROBOTICS, CloudIA and AALIANCE2. She serves the scientific community as editor of informatics (MDPI) and as advisory board member of Sci (MDPI). Additionally she is a programme committee member of International Conference On Ubiquitous Computing And Ambient Intelligence (UCAmi) from 2016.





**Alexandra König** is a trained neuropsychologist at the Memory Clinic and Research Center at the University hospital in Nice and an associate clinical researcher at the Cobtek (Cognition, Behaviour, Technology) lab at the University Côte d'azur and the French Institute for Research in Computer Science and Automation (INRIA), Sophia Antipolis in France. She graduated with a BSc in Psychology from University of Montreal, Canada and a MSc in Neuropsychology from Maastricht University, Netherlands. In 2015, she obtained her Phd in Neuroscience from the School of Mental health and Neuroscience at Maastricht University, Netherlands, and fulfilled a post-doctoral fellowship at the Intelligent Assistive Technology and Systems Lab (IATSL) at the University of Toronto and the Computational Health Informatics Lab (CHIL) at the University of Waterloo, Canada. Her primary research domains are Neuropsychology, Geriatrics, Neurology and Psychiatry with a focus on the intersection of Ageing and Technology, namely the use of Artificial Intelligence for improved and timely neurocognitive assessments in neurodegenerative and neuropsychiatric diseases. Furthermore, she is involved in the design of non pharmacological interventions for dementia patients involving assistive technologies. She worked in various national and international research projects, coordinated for the French Memory clinic the European FP7 project 'Dem@care', and the EIT Digital project 'ELEMENT'. She is co-founder of the start-up 'ki-elements', which develops a software for digitalized cognitive tests supplemented by automatic speech analysis.



**Juan Domingo Gispert** research interests include the use of neuroimaging techniques to better understand the pathophysiology of the preclinical stages of Alzheimer's disease (AD) and to assess the impact of preventive interventions in the brain. He is also specialized in the cerebral correlates healthy aging, AD biomarkers, as well as those of genetic and environmental risk for AD and for cardiovascular disease.



**Maria Capovilla** is a CNRS researcher at the Molecular and Cellular Pharmacology Institute (Valbonne, Sophia Antipolis). She has a strong background on *Drosophila* genetics and molecular biology acquired during ten years of research at Baylor College of Medicine in Houston. She also worked on fly immunity with the Nobel Prize Jules Hoffmann in Strasbourg and was a lab leader of the Dulbecco Telethon Institute of the Italian Telethon Foundation. She is currently working on *Drosophila* as a model to study Fragile X Syndrome in the team RNA metabolism and neuro-related diseases directed by Barbara Bardoni.



**Helen Barelli** (CR1 Inserm, HDR) is a senior researcher in the team “Dynamics of lipid membranes and protein coats” (Institut de Pharmacologie Moléculaire et Cellulaire UMR CNRS/Université Côte d’Azur, Valbonne). She has biochemistry, cell biology, cell imaging and lipidomics expertises. She is coordinator of the cell biology axis on phospholipid polyunsaturation and membrane dynamics in Bruno Antony group. Her topics are amphipatic helices bioprobes and lipid remodeling, with a special focus on omega 3 and 6 and their particular importance in neurodegenerative diseases such as Alzheimer disease.

Recent findings:

- Phospholipids with omega 3 acyl chains boost membrane deformation and fission.
- Atomic description of the packing of lipids in membranes of various curvature and composition