FIFTH ANNUAL COURSE ON BRAIN MAPPING

A WORLDWIDE VIDEO SYMPOSIUM

SATURDAY 20 & SUNDAY 21 MARCH, 2021
2:00 pm - 9:30 pm (London) / 10:00 am - 5:30 pm (New York)

FULL PROGRAM

FREE - PREREGISTERED USERS ONLY

www.IamBrain.org

Dear colleagues

Brief Course History - In the last several years we started an effort to bridge the gap between surgical brain mapping and cognitive neuroscience, bringing together specialisms including fibre dissection, functional neuroimaging, neuropsychology, speech and language, motor neuroscience, computer science and AI, and clinical and cognitive neurology.

During the last four years, every March, we run a two-day course in London, with the first day dedicated to cadaveric white matter dissections for experienced neurosurgeons while the second day was devoted to theoretical and cognitive aspects of brain mapping.

Worldwide Video Symposium - For March 2021, we were planning to hold a three-day World Course in London, but not surprisingly, this has coincided with efforts to emerge from a global pandemic that still, takes a heavy toll in human lives, healthcare systems, global and national economies, and personal lifestyles. We have no doubt that you are all contributing to support your Hospital teams and your colleagues outside your specialty, overcoming an unprecedented crisis.

As we have not yet emerged from these trying times, we are conducting our fifth annual course online but entirely live. We elected to run this course over a weekend, accommodating transitions of world time zones, and allowing some time for our delegates to rest for a very intellectually demanding timetable.

International Association for Mapping the Brain (IamBrain.org) - In 2020, we established a truly multidisciplinary society, continuing the efforts of interspecialty collaboration in understanding the many facets of brain function from different angles and perspectives. We are thrilled to welcome some of the most well known neuroscientists in the world, pillars of current thinking, hoping that this newly established, and very special, community, will inspire further collaborations and research efforts to better understand the many, still hidden, brain functions.

Online Organisation - Our video symposium, despite its online platform, adheres strictly to the same principles of high educational content, professionalism, originality, and attention to detail, that our Course delegates expect from us. We are committed in delivering the same high standards, in every detail possible, during this course.

To that end, we also expect our online delegates to participate from start to finish, taking only the allocated breaks, and contributing within our online community with the same spirit of collegiality. For this reason, personalised links will be sent to individual subscribers, subject to terms and conditions.

2021 Course Faculty - The people who will be talking live during the two days, March 20 & 21, are an extraordinary array of experts, never been before, in a single event, together. Without any exaggeration, their expertise, understanding and research drive is unparalleled, some are *"living legends"*, and having them discussing their concepts is a dream come true.

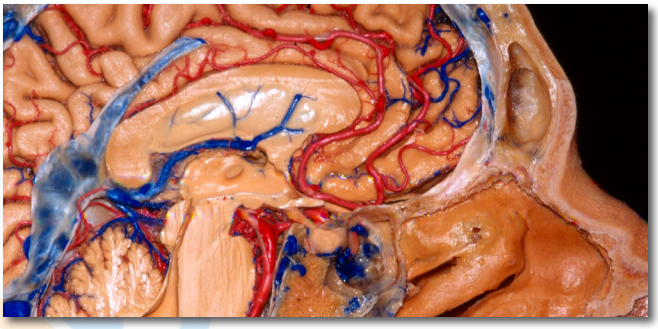
We would like to welcome you, wholeheartedly, to a unique educational endeavour, aiming to replicate the very high standards of our Annual Course to an online platform. We very much hope that we will meet all in person, in London, in March 2022.

The Course Organising Committee & The International Association for Mapping the Brain

KEY TERMS AND CONDITIONS (24 JANUARY 2021)

By participating in this video symposium you confirm that:

1. You are a qualified healthcare professional or an academic researcher with interest in brain mapping, brain research or treating brain tumour patients
2. The aim of your participation is to enhance your personal education and personal studies
3. You will not pass or transfer your allocated, individualised connection link to another person.
4. **You will not record, store, disseminate, post online or publish any of the material, regardless of duration, including videos, presentations slides, photographs, screen-shots, or voice recordings for any personal or public use, either currently or in the future.**
5. For full terms and conditions please visit the website **www.brainmappingsoceity.org**



SATURDAY 20 MARCH PART 1/3
CORTICAL & WHITE MATTER ANATOMY PREREQUISITES

Time	Speaker		Theme
2:00 - 2:10 pm **London** (10:00-10:10 am **New York**)	George **SAMANDOURAS** **UNIVERSITY COLLEGE LONDON** London, UK		Introduction to the Worldwide Video Symposium
2:10-2:30 pm **London** (10:10-10:30 am **New York**)	Guilherme **RIBAS** **UNIVERSITY OF SÃO PAULO** São Paulo, Brazil		Applied anatomy of inferior frontal, supramarginal and angular gyri
2:30-2:50 pm **London** (10:30-10:50 am **New York**)	George **SAMANDOURAS** **UNIVERSITY COLLEGE LONDON** London, UK		Eloquent and silent white matter tracts
2:50-3:10 pm **London** (10:50-11:10 am **New York**)	Juan Carlos **FERNANDEZ-MIRANDA, STANFORD UNIVERSITY** Palo Alto, CA, USA		Anatomic and tractographic dissections of the language white matter tracts; advantages and limitations
3:10-3:30 pm **London** (11:10-11:30 am **New York**)	Christos **KOUTSARNAKIS** **UNIVERSITY OF ATHENS** Athens, Greece		Language and middle & inferior longitudinal fasciculi
3:30-3:50 pm **London** (11:30-11:50 am **New York**)	Eduardo **RIBAS** **UNIVERSITY OF SÃO PAULO** São Paulo, Brazil		The insula and peri-insular white matter tracts & central core
3:50-4:15 pm **London** (11:50-12:15 am **New York**)	**FACULTY**		Round table & Case discussion

PROFESSOR G. RIBAS, Brazil, a renowed expert on cortical anatomy will discuss the applied anatomy of the eloquent inferior frontal, supramarginal and angular gyri.

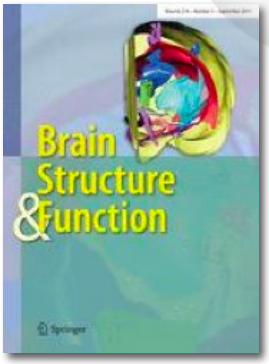
PROFESSOR J. FERNANDEZ-MIRANDA, Director of the Neurosurgical Training and Innovation Center, Stanford, will discuss both fibre dissection and tractographic techniques.

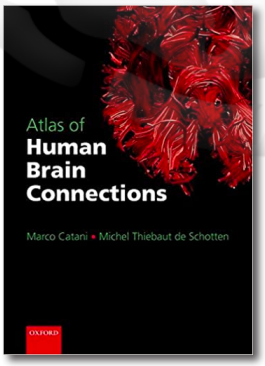
SATURDAY 20 MARCH PART 2/3
ADVANCED FUNCTIONAL IMAGING - PROGRESS & LIMITATIONS

Time	Speaker		Theme
4:30 - 4:50 pm **London** (12:30-12:50 am **New York**)	Alexandra **GOLBY** **HARVARD MEDICAL SCHOOL** Boston, USA		Intraoperative technologies to identify and preserve language; how reliable are they?
4:50-5:10 pm **London** (12:50-1:10 pm **New York**)	Juan Carlos **FERNANDEZ-MIRANDA, STANFORD UNIVERSITY** Palo Alto, CA, USA		Surgical and anatomical simulation & virtual reality models
5:10-5:30 pm **London** (1:10-1:30 am **New York**)	Michel **THIEBAUT DE SCHOTTEN UNIVERSITY OF BORDEAUX** Bordeaux, FRANCE		Inter-hemispheric compensation of functional deficits after brain damage
5:30-5:50 pm **London** (1:30-1:50 am **New York**)	Anastasia **YENDIKI** **HARVARD MEDICAL SCHOOL** Boston, USA		Real and spurious white matter tracts and the accuracy of tractography
5:50-6:10 pm **London** (1:50-2:10 pm **New York**)	Patricia K. **KUHL UNIVERSITY OF WASHINGTON** Seattle, USA		Language wiring in the developing nervous system
6:10-6:30 pm **London** (2:10-2:30 pm **New York**)	David **VAN ESSEN** **WASHINGTON UNIVERSITY** St Louis, USA		Cerebral cortical parcellation and connectivity
6:30-6:50 pm **London** (2:30-2:50 pm **New York**)	Evelina **FEDORENKO** **MASSACHUSETTS INSTITUTE OF TECHNOLOGY** Boston, USA		Broca's area is not a natural kind
6:50- 7:10 pm **London** (2:50-3:10 pm **New York**)	**FACULTY**		Virtual round table

PROFESSOR NINA DRONKERS, University of Berkley, isolated numerous brain regions that play critical roles in the processing of speech and language and was able to scan the brains of Broca's two historic patients, with significant conclusions on functional imaging

PROFESSOR GOLBY directs the Image-Guided Neurosurgery Center at the Brigham and Women's Hospital, Harvard Medical School.





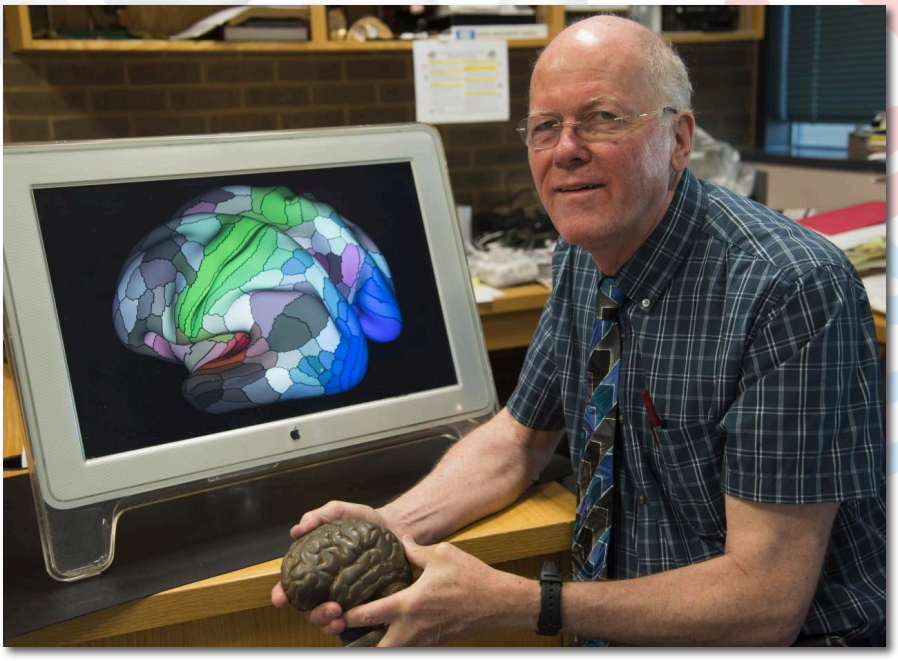
MICHEL THIEBAUT DE SCHOTTEN Editor in Chief of *Brain Structure & Function* and co-author of the *Atlas of Human Brain Connections* will discuss tractography techniques and interhemispheric compensations

ANASTASIA YENDIKI works to develop publicly available, open-source algorithms for studying white-matter anatomy at the A. Martinos Center for medical neuroimaging, Boston

SATURDAY 20 MARCH PART 3/3

IMAGING AND SURGICAL APPLICATIONS IN BRAIN TUMOURS

Time	Speaker		Theme
7:10 - 7:30 pm **London** (3:10-3:30 pm **New York**)	Sotirios **BISDAS** **UNIVERSITY COLLEGE LONDON** London, UK		Multiparametric tumour imaging
7:30-7:50 pm **London** (3:30-3:50 pm **New York**)	Kevin **O'NEIL** **IMPERIAL COLLEGE LONDON** London, UK		The use of clinical spectroscopy in brain mapping and neurosurgery
7:50-8:10 pm **London** (3:50-4:10 pm **New York**)	Andrew **MCEVOY** **UNIVERSITY COLLEGE LONDON** London, UK		Experience with robotic brain surgery
8:10-8:30 pm **London** (4:10-4:30 pm **New York**)	Edward **CHANG** **UNIVERSITY OF CALIFORNIA, SAN FRANCISCO**, USA		Language maps based on awake brain surgery
8:30-8:50 pm **London** (4:30-4:50 pm **New York**)	Anthony **DICK** **FLORIDA INTERNATIONAL UNIVERSITY** Miami, USA		Pros and cons of diffusion tensor imaging in language mapping
8:50-9:10 pm **London** (4:50-5:10 pm **New York**	Phiroz **TARAPORE** **UNIVERISTY OF CALIFORNIA, SAN FRANCISCO**, USA		Studying language with navigated transcranial magnetic stimulation
9:10-9:30 pm **London** (5:10-5:30 pm **New York**)	**FACULTY**		Round table & Case discussion
9:30 pm **London** (5:30 pm **New York**)	**END OF DAY 1**		



PROFESSOR VAN ESSEN, USA, leading scientist behind the Human Connectome Project and multi-modal cortical parcelations maps

The Brain Mapping Society was founded in 2020 as a multidisciplinary, international community of clinicians, scientists and researchers, strongly interested in brain mapping despite their diverse backgrounds and specialisms; fostering collaborations and networking; and participating in clinical and research initiatives, and exchange of ideas.

The Society has contributions from a number of clinical specialities (neuroscience, neurology, neurosurgery, psychology, speech and language therapy, neuroimaging) and research specialities (anatomy, tractography, atlasing, computer science and AI) aiming to study and understand the brain from its multiple facets.

The Society also aims to create a community of members participating in the above principles and contributing throughout the year and particularly through the Annual Meeting with oral and poster presentations and interactive discussions during the scientific sessions.

For those deeply interested in brain mapping for clinical care or scientific research, we extend a warm welcome and look forward to their contributions.

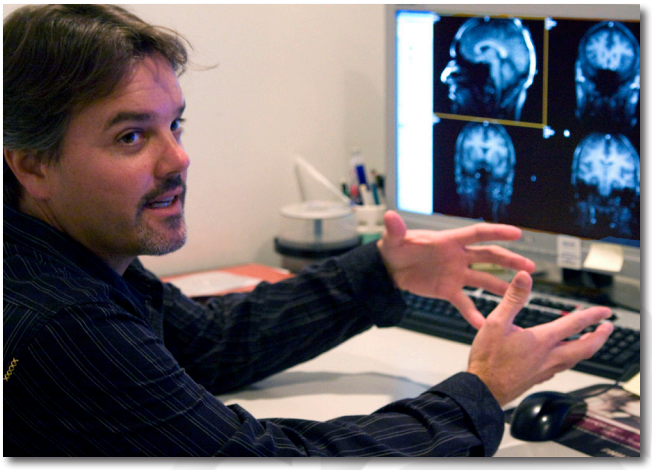
International Association for Mapping the Brain

www.IamBrain.org

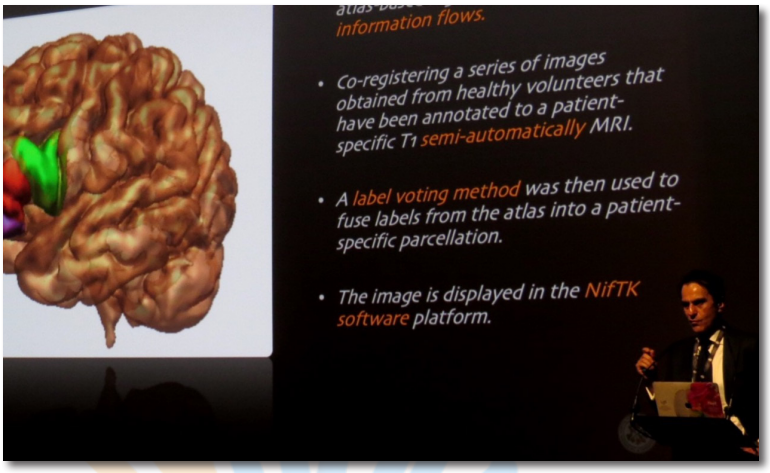
SUNDAY 21 MARCH PART 1/3 LANGUAGE AND COGNITIVE NEUROSCIENCE			
Time	**Speaker**		**Theme**
2:00 - 2:10 pm **London** (10:00-10:10 am **New York**)	George **SAMANDOURAS** **UNIVERSITY COLLEGE LONDON** London, UK		Introduction to day 2 of the Worldwide Video Symposium
2:10-2:30 pm **London** (10:10-10:30 am **New York**)	Marsel **MESULAM** **NORTHWESTERN UNIVERSITY** Chicago, USA		Geschwind, 60 years of disconnection syndromes, and neurocognitive networks
2:30-2:50 pm **London** (10:30-10:50 am **New York**)	Simon B **EICKHOFF** **INSTITUTE OF NEUROSCIENCE AND MEDICINE** Julich, GERMANY		Searching for brain maps with regional segregation and system wide integrations
2:50-3:10 pm **London** (10:50-11:10 am **New York**)	Gregory **HICKOK** **UNIVERSITY OF CALIFORNIA IRVINE**, USA		Evolution of dual stream language models
3:10-3:30 pm **London** (11:10-11:30 am **New York**)	Christof **KOCH** **ALLEN INSTITUTE FOR BRAIN SCIENCE** Seattle, USA		Neural networks subserving consciousness
3:30-3:55 pm **London** (11:30-11:55 am **New York**)	**FACULTY**		Round table & Case discussion
3:55- 4:10 pm **London** (11:55-12:10 am **New York**)	**QUICK BREAK**		

PROFESSOR MARSEL MESULAM

Director of the renowned *Mesulam Center for Cognitive Neurology and Alzheimer's Disease* and Chief of Behavioral Neurology, at Northwestern University, Chicago, is one of the most important contributors of modern cognitive neurology and behavioural neuroanatomy, with stellar work spanning five decades. He has received numerous prestigious awards including the Bengt Winblad Lifetime Achievement Award, Alzheimer's Association, the Lishman Lectureship Award, International Neuropsychiatric Association and the Potamkin Prize, American Academy of Neurology.



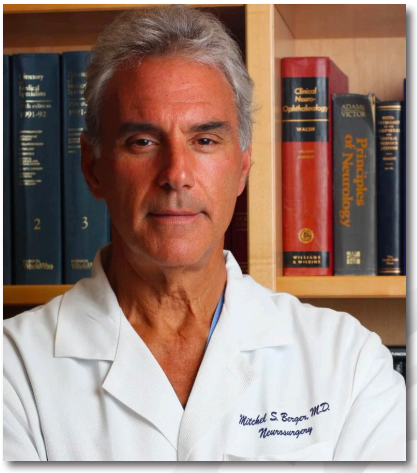
GREGORY HICKOK introduced the now widely accepted now, "dual stream" model of language



GEORGE SAMANDOURAS will be discussing new models of clinicians-scientists collaboration in awake brain mapping

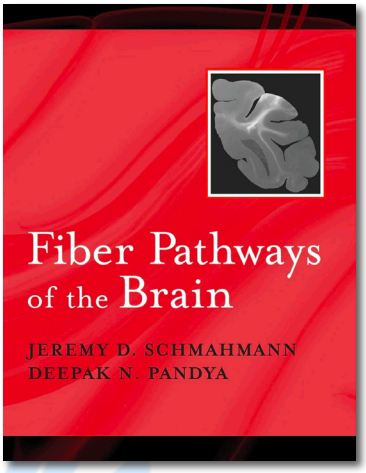
SUNDAY 21 MARCH PART 2/3
NEURAL NETWORKS FOR COGNITION AND SPECIAL SENSES

Time	Speaker		Theme
4:10 - 4:30 pm **London** (12:10-12:30 am **New York**)	Marsel **MESULAM** **NORTHWESTERN UNIVERSITY** Chicago, USA		Neuroanatomy of word comprehension: Lessons from primary progressive aphasia
4:30-4:50 pm **London** (12:30-12:50 am **New York**)	Gregory **HICKOK** **UNIVERSITY OF CALIFORNIA IRVINE,** USA		Neural basis of syntax & grammar
4:50-5:10 pm **London** (12:50-1:10 pm **New York**)	Nina **DRONKERS** **UNIVERSITY OF CALIFORNIA BERKELEY,** USA		Scanning Broca's patients brains; what have we learnt?
5:10-5:30 pm **London** (1:10-1:30 pm **New York**)	George **SAMANDOURAS** **UNIVERSITY COLLEGE LONDON** London, UK		Novel models of clinicians/scientists collaboration with the Brain Mapping MDT
5:30-5:50 pm **London** (1:30-1:50 pm **New York**)	Daniel **MARGULIES** **FRENCH NATIONAL CENTRE FOR SCIENTIFIC RESEARCH (CNRS),** Paris, FRANCE		Gradients in cortical organization
5:50-6:10 pm **London** (1:50-2:10 pm **New York**)	Roger **LEMON** **UNIVERSITY COLLEGE LONDON** London, UK		Functions of SMA, primary motor and somatosensory cortices
6:10-6:35 pm **London** (2:10-2:30 pm **New York**)	**FACULTY**		Round table and case discussion
6:35-6:55 pm **London** (2:35-2:55 pm **New York**)	**QUICK BREAK**		



MITCHEL BERGER is a pioneer in awake brain mapping in brain tumour patients

CHRISTOF KOCH, President and Chief scientist of the renowned Allen Institute, Seattle

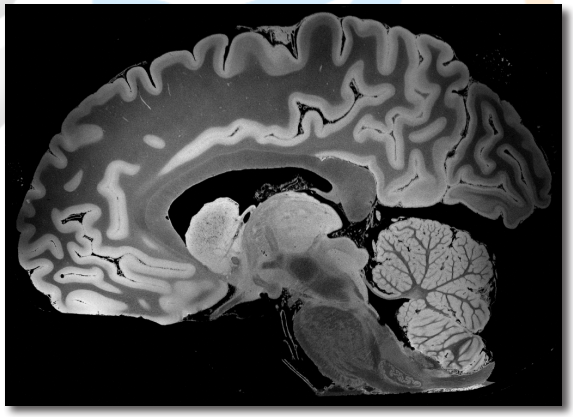


DR SCHMAHMANN will disucss fibre pathways of the brain based on his own extensive work

SUNDAY 21 MARCH PART 3/3
LAB, FUNCTIONAL IMAGING, ANATOMY AND SURGICAL MAPPING

Time	Speaker		Theme
6:55-7:15 pm **London** (2:55-3:15 pm **New York**)	Aina **PUCE** **INDIANA UNIVERSITY, BLOOMINGTON**, USA		Visual information routes in face processing
7:15-7:35 pm **London** (3:15-3:35 pm **New York**)	Mitchel **BERGER** **UNIVERSITY OF CALIFORNIA, SAN FRANCISCO**, USA		Evolution of brain mapping – From Penfield to present
7:35-7:55 pm **London** (3:35-3:55 pm **New York**)	Jeremy **SCHMAHMANN** **HARVARD MEDICAL SCHOOL** Boston, USA		White matter pathways in monkey; what have we learnt that has relevance for language fibre tract anatomy?
7:55-8:15 pm **London** (3:55-4:15 pm **New York**)	Brian **EDLOW** **HARVARD MEDICAL SCHOOL** Boston, USA		Developing a 7 Tesla/100 micron resolution brain MRI atlas; what's next?
8:15-8:40 pm **London** (4:15-4:40 pm **New York**)	Fion **BREMNER** **UNIVERSITY COLLEGE LONDON** London, UK		Mapping visual pathways
8:40-9:00 pm **London** (4:40-5:00 pm **New York**)	George **OJEMANN** **UNIVERSITY OF WASHINGTON,** Seattle, USA		Old and new lessons learnt in a lifetime of awake brain mapping
9:00-9:30 pm **London** (5:00-5:30 pm **New York**)	**FACULTY**		Round table & Case discussion

GEORGE OJEMANN has introduced awake brain mapping in epilepsy patients setting the foundation and practices of most of current techniques. He will share live with the delagates invaulable lessons from a lifetime in awake brain mapping at the University of Washington.



BRIAN EDLOW and colleagues from the Massachusetts General Hospital and A. Martinos center developed an extraordinary 7 Tesla MRI of the ex vivo human brain at 100 micron resolution, ultra-high resolution MRI dataset

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