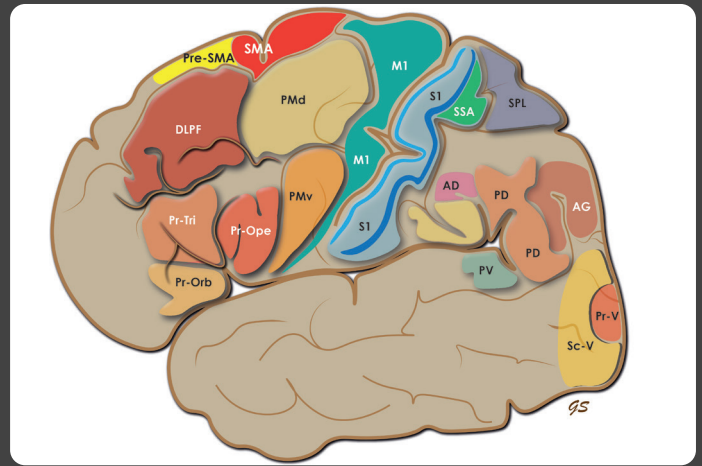


# SAMANDOURAS LAB

The National Hospital for Neurology and Neurosurgery, Queen Square, London

**Brain networks connectivity, cortex parcellation, tumour biology, anatomy & functional neuroimaging employed to study brain function, plasticity & patient care outcomes**



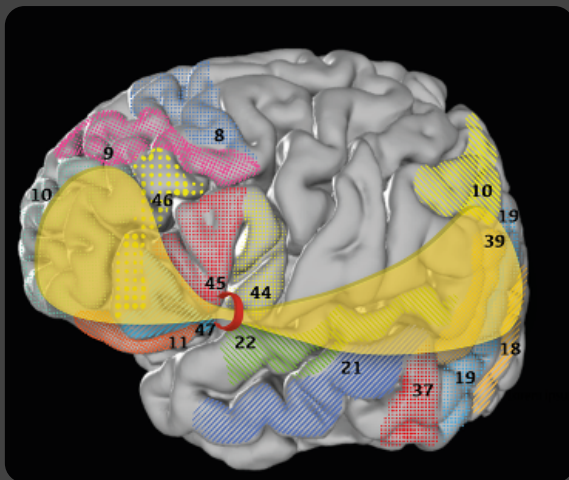
## Invitation

Applications are invited for UCL MSc or advanced medical students to join Samandouras research group at the National Hospital for Neurology and Neurosurgery, Queen Square, London. Mr Samandouras is a Consultant Neurosurgeon at Queen Square, with interest in brain tumour surgery, awake craniotomies and advanced monitoring, using brain mapping paradigms, functional neuroimaging, brain parcellation and advanced intraoperative technologies.

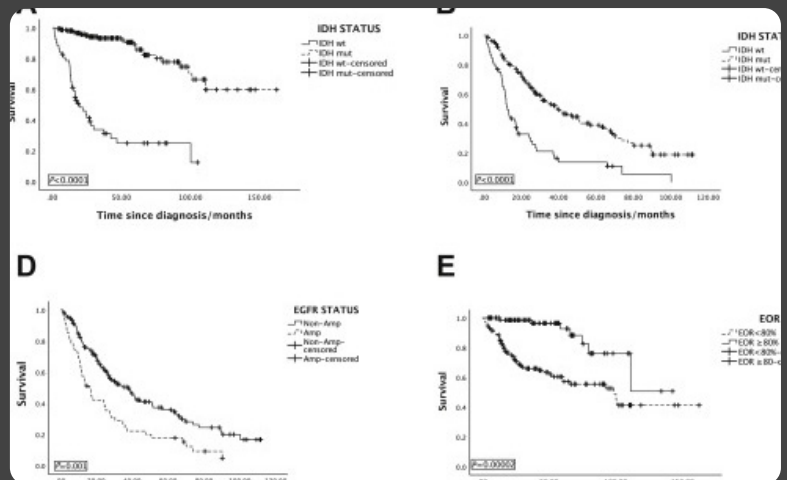
## Aim

The aim of the group is **not surgical**, and includes:

- Studies involving **brain connectivity** and white matter tracts, subserving semantic, phonological and **cognitive aspects of language**, and cognitive aspects of movement.
- Advanced **functional neuroimaging** and white matter tractography studies
- Review of **molecular biology and genetics of brain tumours** in our patient cohorts and impact on prognosis and survival
- Large **case series** with results of surgical techniques and patient outcomes
- **Systematic reviews** on original topics in brain tumour and oncological issues



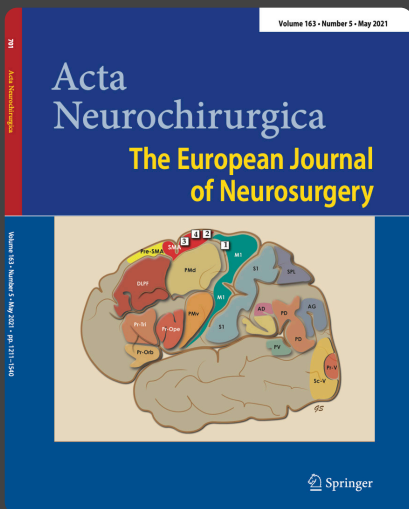
Original demonstration and research concepts of white matter connectivity of semantic language subserving inferior fronto-occipital fasciculus and corresponding Broca's areas (From Seřcikova V et al, *Converting sound to meaning with ventral semantic language networks; integration of interdisciplinary outputs on brain connectivity, direct electrical stimulation and clinical disconnection syndromes Brain Structure and function*, under review)



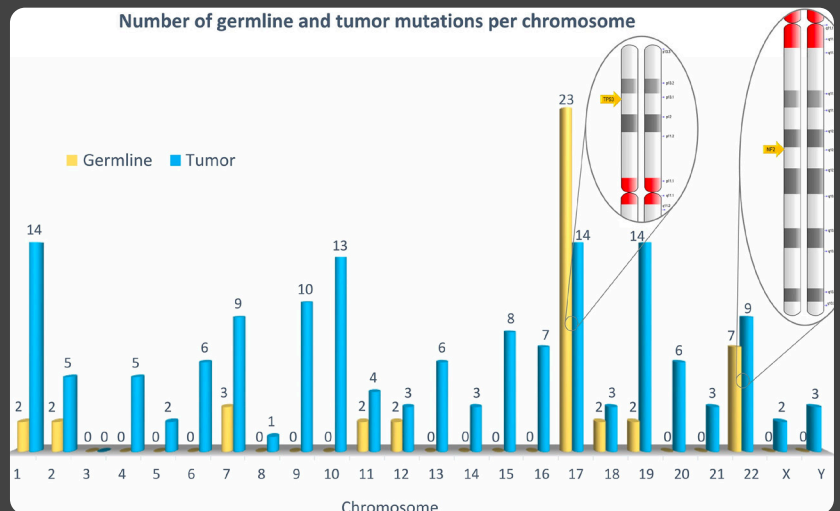
Kaplan-Meier survival analysis of IDH status, EGFR amplification, and extent of resection (EOR) in relation to overall survival (OS) and progression-free survival (PFS). IDH mutation (mut) was associated with longer OS (A) and PFS (B) versus their wild-type (wt) counterparts ( $P < 0.0001$  and  $P < 0.0001$ , respectively). EGFR-amplified tumors tended to have shorter OS (C) and PFS (D) compared with EGFR nonamplified tumors. (From Lasica A et al *Genomic Prognosticators and Extent of Resection in Molecularly Subtyped World Health Organization Grade II and III Gliomas—A Single-Institution, Nine-Year Data*)

# Benefits

- Successful candidates would be able to work as **members of a driven, dedicated and highly active team**, on articles on relevant topics and have their work published.
- You will be **mentored**, assisted and **learn about medical research**.
- Lab members who complete their work are typically listed as **first author(s)**
- **Co-authorship in book chapters** in international, multi-authored publications is possible .
- Renowned, high profile invited speakers, often **Editors-in-Chief** of neuroscience journals will explain the fundamentals of academic research, **exclusively to Lab members** and answer questions. Recorded lectures from previous years will be available **exclusively to Lab members** including basic and advanced biostatistics; **what editors-in-chief are looking for authors**; how to build a manuscript, and many more.
- Lab members may also affiliate with the brain mapping society (**www.lamBrain.Org**) featuring some of the top cognitive neuroscientists in the world.
- **Participation in high profile educational events**, including white matter tracts dissection and neuro-oncology conferences is possible.
- Finally, at the end of the academic year, an **award**, the **Annual Brodmann Award for excellence in clinical neuroscience research**, with also a financial value, will be externally assessed and given to the Samandouras Lab member with the **best work/publication**, which will enhance CV and competitive career applications.
- If you are a UCL MSc student you can have your **primary thesis or library project** with Mr Samandouras or you can have an **entirely independent project** within Samandouras Lab.
- The positions are voluntary and **not funded** and there are **no financial benefits to anyone** involved in the Lab.



Cover page at the European Journal of neurosurgery, May 2021, featuring work of Samandouras Lab (from Klitsinikos et al, Mapping and anatomico-surgical techniques for SMA-cingulum-corporus callosum gliomas; how I do it)



Bar chart containing the number of germline and tumor abnormalities according to chromosome number, as well as the most frequently affected genes, (from Anca-Mihaela Vasilica et al, Genetic alterations in non-syndromic, familial gliomas in first degree relatives: A systematic review)

# Requirements

- You must be **enthusiastic** about **brain research/understanding** brain and neural function, advanced brain imaging or biology of neurons and brain tumours
- You must be able to **work within teams**, keen to learn, **deliver within deadlines**, be punctual and **reliable**. You must pay **attention to detail** and be **precise**. Previous research experience is welcome but not prerequisite
- You must be able to allocate **2-3 hours of personal time** every week and be available **every Tuesday 5:30-6:30 pm**, for the Lab meeting, currently via Zoom.
- You must be an MSc or a medical student, but (currently) **not necessarily London-based**.

## Selected publications from Samandouras Lab (2019-2021)

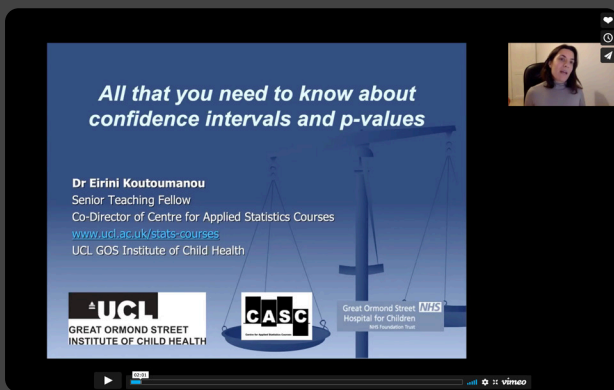
1. Genetic alterations in non-syndromic, familial gliomas in first degree relatives: A systematic review. Vasilica AM, Sefcikova V, Samandouras G. Clin Neurol Neurosurg. 2020 Nov;198:106222. doi: 10.1016/j.clineuro.2020.106222. Epub 2020 Sep 10. PMID: 33039851 Review.
2. The use of multiparametric 18F-fluoro-L-3,4-dihydroxy-phenylalanine PET/MRI in post-therapy assessment of patients with gliomas. Fraioli F, Shankar A, Hyare H, Ferrazzoli V, Militano V, Samandouras G, Mankad K, Solda F, Zaccagna F, Mehdi E, Lyasheva M, Bomanji J, Novruzov F. Nucl Med Commun. 2020 Jun;41(6):517-525. doi: 10.1097/MNM.0000000000001184. PMID: 32282634
3. Systematic Review - Time To Malignant Transformation In Low Grade Gliomas: Predicting A Catastrophic Event With Clinical, Neuroimaging And Molecular Markers, Zabina Satar, MBBS, iBSc, Gary Hotton, MD, George Samandouras, MD, FRCS, Neuro-Oncology Advances, 2021;, vdab101, <https://doi.org/10.1093/nojnl/vdab101> (In press)
4. Experience with awake throughout craniotomy in tumour surgery: technique and outcomes of a prospective, consecutive case series with patient perception data. Leon-Rojas JE, Ekert JO, Kirkman MA, Sewell D, Bisdas S, Samandouras G. Acta Neurochir (Wien). 2020 Dec;162(12):3055-3065. doi: 10.1007/s00701-020-04561-w. Epub 2020 Oct 2. PMID: 33006649
5. High Interrater Variability in Intraoperative Language Testing and Interpretation in Awake Brain Mapping Among Neurosurgeons or Neuropsychologists: An Emerging Need for Standardization. Sefcikova V, Sporrer JK, Ekert JO, Kirkman MA, Samandouras G. World Neurosurg. 2020 Sep;141:e651-e660. doi: 10.1016/j.wneu.2020.05.250. Epub 2020 Jun 6. PMID: 32522656
6. Commentary: Post-Acute Cognitive Rehabilitation for Adult Brain Tumor Patients. Sefcikova V, Christofi G, Samandouras G. Neurosurgery. 2021 Mar 24;nyabo64. doi: 10.1093/neuros/nyabo64. Online ahead of print. PMID: 33763696
7. Pineal region tumours in the sitting position: how I do it. Sharma P, Abdul M, Waraich M, Samandouras G. Acta Neurochir (Wien). 2021 May 2. doi: 10.1007/s00701-021-04821-3. Online ahead of print. PMID: 33934182
8. Mapping and anatomo-surgical techniques for SMA-cingulum-corpora callosa gliomas; how I do it. Klitsinikos D, Ekert JO, Carels A, Samandouras G. Acta Neurochir (Wien). 2021 May;163(5):1239-1246. doi: 10.1007/s00701-021-04774-7. Epub 2021 Mar 29. PMID: 33779836
9. Effect of Treatment Modalities on Progression-Free Survival and Overall Survival in Molecularly Subtyped World Health Organization Grade II Diffuse Gliomas: A Systematic Review. Ghaffari-Rafi A, Samandouras G. World Neurosurg. 2020 Jan;133:366-380.e2. doi: 10.1016/j.wneu.2019.08.111. Epub 2019 Aug 29. PMID: 31473344
10. Genomic Prognosticators and Extent of Resection in Molecularly Subtyped World Health Organization Grade II and III Gliomas-A Single-Institution, Nine-Year Data. Lasica AB, Jaunmuktane Z, Fersht N, Kirkman MA, Dixon L, Hoskote C, Brandner S, Samandouras G. World Neurosurg. 2021 Jul;151:e217-e233. doi: 10.1016/j.wneu.2021.04.026. Epub 2021 Apr 15. PMID: 33866029

## Selected Lab members awards (2019-2021)

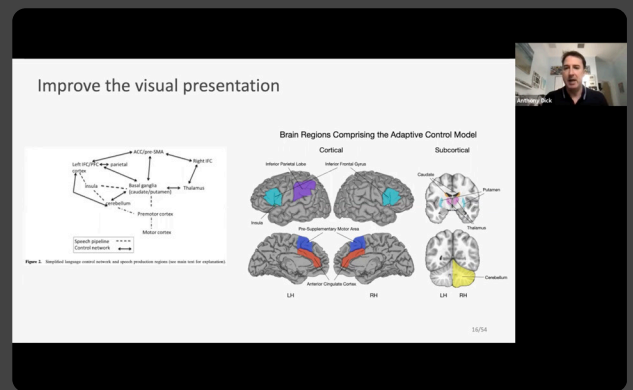
1. Aleksandra Lasica - 1st prize for an oral presentation entitled "EGFR amplification as a prognostic marker in WHO grade II and grade III gliomas" at the 2019 KCL International Neurosurgical Conference
2. Jose Leon-Rojas Best poster award "A new paradigm of awake throughout craniotomies (ATC) in brain tumour surgery; a prospective, consecutive series of 46 patients" at the 2019 A-Z in Glioma surgery.
3. Jose Leon-Rojas, Viktoria Sefcikova, Juliana Sporrer. International observership award (funded) at the 2019 Congress of Neurological Surgeons, San Francisco, USA

# Selection process

- The available places are **extremely competitive**. The selection process is based on CV, personal statement and performance during interviews.
- Informal queries should be addressed to Viktoria Sefcikova, senior Lab member, at [viktoria.sefcikova@mail.utoronto.ca](mailto:viktoria.sefcikova@mail.utoronto.ca)
- **Deadline** for submitting **1) your CV** and a **2) personal statement** (500 words on why you are interested specifically in being part of the Samandouras Lab) is **Monday 5 pm, 20 September 2021**.
- **Interviews** will take place via Zoom, in the afternoon of **Monday 27 September 2021**.
- The **first Lab meeting** will take place via Zoom on **Tuesday 5 October, 5:30 pm**.
- The placement is for 9 months in the first instance with an opportunity to renew for a further 9 months upon satisfactory progress. For any additional questions please email [viktoria.sefcikova@mail.utoronto.ca](mailto:viktoria.sefcikova@mail.utoronto.ca)



Dr Koutoumanou, UCL, (Zoom screenshot) while teaching **medical statistics exclusively** to Samandouras Lab members (these videos are not available on YouTube or any other online sources)



Professor Anthony Dick, University of Miami, (Zoom screenshot) while teaching **how to write medical papers and reviews exclusively** to Samandouras Lab members (these videos are not available on YouTube or any other online sources)



Members of the **Samandouras Lab (2018-2019)** with Mr Samandouras (right) and Professor Susan Chang, UCSF (left) renowned neuro-oncologist and former Editor-in-Chief of *Neurooncology Practice*.