

Oxford Workshop to Establish an International 7T Glioma Magnetic Resonance Spectroscopy Network (GliMaRS-Net)

2nd and 3rd April 2020, Oxford UK

Wellcome Centre for Integrative Neuroimaging,
Nuffield Department of Clinical Neurosciences,
University of Oxford, Oxford UK
(<https://www.win.ox.ac.uk/>)

Research into the role of ‘metabolic reprogramming’ and so-called ‘oncometabolites’ in cancer has seen a renaissance since the discovery that mutations in enzymes of the tricarboxylic acid (TCA) cycle can act as oncogenic drivers. Specifically, mutations in IDH1 or IDH2 and the resulting production of D-2-hydroxyglutarate (D2-HG) have come to define diffuse gliomas in young adults. This has opened up exciting new opportunities for non-invasive molecular glioma imaging with magnetic resonance spectroscopy (MRS) for diagnostics, trial recruitment and assessment of treatments. Further, a better understanding of the molecular mechanisms of mutation-specific metabolic reprogramming is likely to offer new drug targets.

These exciting developments have prompted us to convene an international workshop to explore how we could work together to drive forward progress in the field of glioma metabolomics for our patients.

Workshop goals

- Find common ground on how MRS can contribute to ‘glioma precision medicine’ (and how it complements other imaging modalities)
- Explore what is needed to build a multi-centre consortium (e.g. protocol / data sharing)
- Identify scientific priorities at biochemical, cellular, tissue and whole brain imaging levels, and consider feasibility for integration of multimodal, multiscale data
- Identify funding possibilities
- Discuss options for writing a joint ‘perspectives’ paper about the potential of integrated MRS imaging in glioma precision medicine

We encourage attendance by neurooncologists, neurosurgeons, biochemists and pathologists, in addition to those involved in MRS.

We hope to see you in Oxford in person or via the web on 2nd/3rd April 2020!

(Olaf Ansorge, Uzay Emir, Jannie Wijnen, Evita Wieggers, Anja van der Kolk)

Programme Day 1 (April 2nd, 2020)

- Noon – 12:45 pm** Registration with lunch, getting to know each other
- 12:45 – 1:00 pm** Welcome, Introductions and Review of Meeting Goals
(Olaf Ansorge, Jannie Wijnen and Uzay Emir)
- 1:00 – 1:30 pm** **Keynote lecture: “‘Oncometabolites’ in cancer – mechanisms, drug targets, challenges: setting the scene for a 7T MRS network”**
Christopher J. Schofield, FRS
Head of Organic Chemistry at the University of Oxford and Fellow of the Royal Society
- 1:30 – 2:50 pm** **Plenary session: “Current status of glioma precision medicine”**
- “Molecular neuropathology and classification of gliomas”**
Olaf Ansorge, MD
Consultant neuropathologist and Head of the Academic Unit of Neuropathology, University of Oxford
- “Radiogenomics – MRI and MRS in brain cancer”**
Alexander Lin, MD, PhD
Director of the Center for Clinical Spectroscopy, Department of Radiology, Brigham and Women’s Hospital, Harvard Medical School
- “IDH-mutated gliomas: clinical challenges and opportunities”**
Clark C Chen, MD, PhD
Lyle French Chair in Neurosurgery and Department Head, University of Minnesota, USA
- “Intraoperative mass spectrometry of tumor metabolites”**
Graham Cook, PhD
Henry B. Hass Distinguished Professor – Analytical Chemistry, Purdue University, USA
- 2:50 - 3:00 pm** **BREAK**
- 3:00pm – 4:00 pm** **‘Pitch your best case’ on the use of MRI/S for clinical imaging of gliomas**
One 5-minute talk from each institution with 1-minute Q+A:
University of Pennsylvania, Utrecht University, Leiden University, Johns Hopkins University, University of Minnesota, University of Oxford, Harvard Medical School, Liverpool University, Lund University, University of Pittsburgh, University of California San Francisco

4:10 - 6:30 pm

Open discussion of goals & topics of workshop, formation of groups

Groups should cover the following topics:

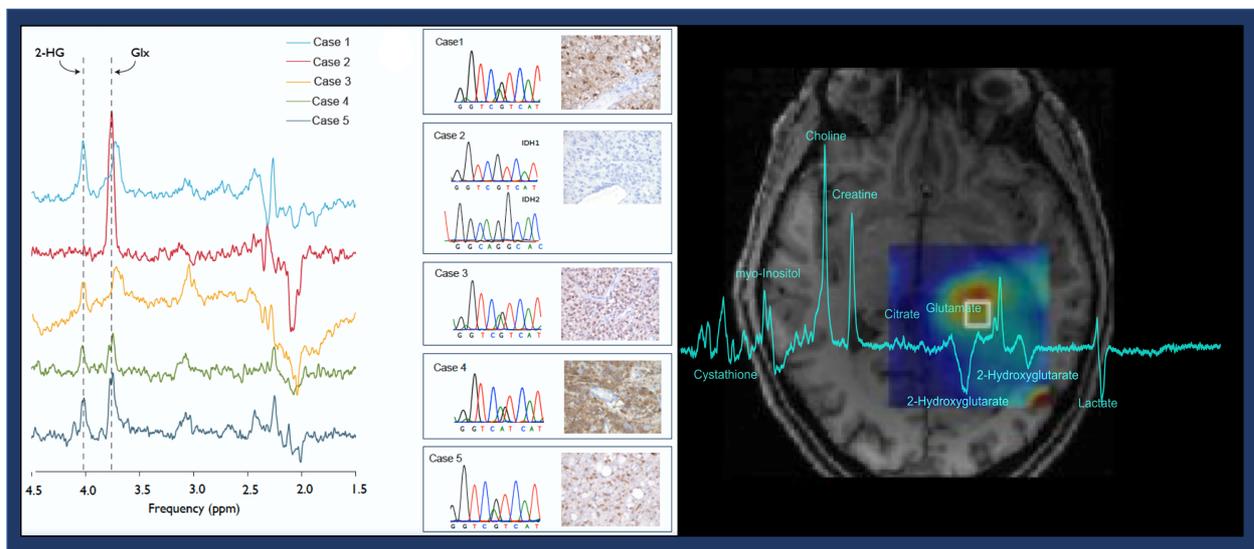
- Standardization of MRS protocols
- Integration of in vivo MRS with ex vivo tissue metabolomics and genomics
- Integration of in vivo MRS with other imaging modalities
- Patient recruitment and clinical trials
- From basic science to drug development and engagement with pharma
- Data / IP sharing across different jurisdictions

7:00 – 10:00 pm

GROUP PICTURE AND DINNER

End of Day 1

Let's continue the journey for patient benefit: From in vitro to in vivo and back!



Programme Day 2 (April 3rd, 2020)

- 9:00 – 10:00 am** **Tour of 7T site Oxford (William Clarke, Natalie Voets, Olaf Ansorge)**
- 10:00 – 10:15 am** **BREAK**
- 10:15 – 12:00 pm** **Finalizing discussions within individual small groups**
- 12:00 – 13:00 pm** **LUNCH**
- 13:00 – 14:30 pm** **Presentations of the groups' findings / consensus, part 1**
Each group to present followed by discussion (total: 30 min each)
- **Subgroup 1:** (Standardization of MRS protocols)
Subgroup Participants: *(TBC)*
 - **Subgroup 2:** (In vivo MRS and ex vivo human tissue analytics)
Subgroup Participants: *(TBC)*
 - **Subgroup 3:** (In vivo MRS and other imaging modalities)
Subgroup Participants: *(TBC)*
- 14:30 – 14:45 pm** **BREAK**
- 14:45 – 16:15 pm** **Presentations of the groups' findings / consensus, part 2**
Each group to present followed by discussion (total: 30 min each)
- **Subgroup 4:** (Patient recruitment and clinical trials)
Subgroup Participants: *(TBC)*
 - **Subgroup 5:** (From basic science to drug development and engagement with pharma)
Subgroup Participants: *(TBC)*
 - **Subgroup 6:** (Data / IP sharing across different jurisdictions)
Subgroup Participants: *(TBC)*
- 16:15 – 16:30 pm** **BREAK**
- 16:30 – 18:00 pm** **Summary of workshop results & discussion of next steps**
Anja van der Kolk and Evita Wieggers
- 18:00 pm – onward** **Drinks and goodbye**