PI profile

## James McCullagh

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| http://research.chem.ox.ac.uk/Data/Sites/4/media/McCullagh/mccullagh-for-website.jpg | **Professor James McCullagh****Titles**: Director of the Mass Spectrometry Research Facility and group leader, Associate Professor of Analytical Chemistry**Location**: Chemistry Research Laboratory**Department**: Department of Chemistry**Group**: McCullagh**Webpage**: <http://research.chem.ox.ac.uk/james-mccullagh-.aspx>**Email**: james.mccullagh@chem.ox.ac.uk |

### GMS themes:

### Research Overview

**McCullagh group**: Understanding the chemistry of small molecules in complex biological systems.

Our aim is to better understand how small biological molecules function in the context of complex natural systems and what happens when these systems are purturbed. For example we focus on developing highly efficeint analytical approaches for comprehensive analysis of metabolites in cells, tissue and bio-fluids and applying these to understand how fundamental metabolic processes are altered in disease. We apply a multi-technique approach, including metabolomics, live cell imaging and real-time analysis of metabolism, to focus on comprehensive molecular phenotyping and capturing small molecule interactions at a systems-wide level.

Project areas:

### Specific project proposals:

Please contact directly for further information.

*These pages were reviewed/updated:* ***10/06/2022***

Project proposal

# **Title**: **[Project title here]**

Supervisors: [name and title of relevant individuals]

Wet/dry lab mix (approx): X% wet lab, X% dry lab

### Description:

[Write a ~ half-page page description of the project here].

### Training Opportunities:

[Write a brief description of the training opportunities the project will provide].

### Background reading / references:

Please include references as desired. Suggested format:

* [Surname] [Firstname], [other authors]… **(year in bold)** . [Title]. [Journal name], [other details]. Available at: [link]

Insert any additional project description(s) on subsequent pages if applicable. Please use the same template and use separate pages for each project.