

Invitation to tender: neurotechnology literature review

June 2024

Commissioner: Nuffield Council on Bioethics

Duration: 10 weeks

Key dates:

- Application closing date: 5 July 2024
- Expected start date: 18 July 2024
- Deadline for final submission: 26 September 2024

Fee: £7,000 (inclusive of VAT)

Background and overview

We launched our current strategy, Making Ethics Matter, in 2024. It identified three priority areas for the next few years which encompass some of today's most urgent and important developments in biomedicine and health, and that raise critical ethical, social and policy issues to which we can offer a distinctive contribution.

One of these three priority areas is the "Mind & Brain". As part of our work in this area, we will consider developments in neurological, neurodevelopmental and psychiatric research, how these intersect with social and policy contexts, and the ethical questions raised. One of our most recent publications in this area is our [2024 briefing note on neural organoids](#).

As part of the Mind & Brain priority area, we are also looking to further consider developments in brain interventions, the opportunities and concerns they may give rise to, and the action needed from researchers, policymakers and others to ensure they are developed and used safely and responsibly whilst still encouraging innovation. We have previously explored this area, resulting in our [2013 report on novel neurotechnologies](#), but the pace of research and development since publication requires us to reflect on the report and how its findings might translate into the present-day and a future-focused context. Our first step in doing so is to commission a literature review on neurotechnology to inform our further work.

The literature review

The aim of the literature review is to give a broad overview of (1) key developments, and (2) applications and impacts of neurotechnologies over the last decade.

To do so, the literature review should answer the following questions:

- a) What neurotechnologies are in use today, and how are they used?
- b) Does the taxonomy of neurotechnologies identified in the 2013 report encompass those that are in use or in development today?

- c) Which neurotechnologies have become obsolete in the last decade, and why?
- d) What impact have UK policy, legal or regulatory developments over the last decade (including recommendations from relevant independent inquiries) had on the development, application or obsolescence of neurotechnologies?

Relevant literature may therefore come from a range of disciplines, including (but not limited to) medicine/biomedicine and other natural sciences, social sciences, philosophy, bioethics and computing, and our expectation is that the successful applicant will take an interdisciplinary approach.

Scope

The review should identify literature within the following parameters:

1. Neurotechnologies within the taxonomy identified in the 2013 NCOB report that have been developed since publication AND are in active use in 2024;
2. Neurotechnologies developed since 2013 that *materially differ* from the taxonomy identified in the 2013 NCOB report; and
3. Neurotechnologies developed or in active use between 2013 and 2024 that are now obsolete.

We are primarily interested in literature which looks at the applications of neurotechnology as part of healthcare delivery, or as 'self-care' for management of symptoms and/or diagnosable health conditions (although relevant insights from applications in non-healthcare contexts/sectors are welcomed). We are particularly interested in literature which examines global perspectives on (and applications of) relevant neurotechnologies, although we expect the majority of literature identified to be published in the English language.

Output

The review should be concise (maximum 12,000 words, excluding references) and written in accessible language to account for NCOB's diverse stakeholder base. It should include the following:

- Executive summary
- Methods and approach
- Overview of relevant literature, including identification of any key gaps

Once the final review is signed off by NCOB, it will be published on the NCOB website and credited to the author(s).

Timescale

The successful applicant will have a period of 10 weeks to undertake and deliver the final literature review to NCOB. It is expected that regular update meetings will take place between the reviewer and NCOB staff within that period, and that NCOB will feedback on a complete draft of the review before delivery of the final document.

Application guidelines

Applications may come from individuals or small teams with relevant expertise and a demonstrable interest in neurotechnology.

Applications should contain the following as a minimum:

- Your CV (and the CVs of any co-authors/collaborators)
- Cover letter (1 page maximum) setting out your interest and suitability for the commission
- A proposal setting out how you will conduct the literature review, including methods, rationale and a timeline of how the work will be structured over the 10-week period
- A sample of recent, relevant writing (either already published, or finalised with the intention to publish)
- Details of two referees (we won't contact them without telling you first).

Skills, qualifications and experience required:

- A relevant degree. PhD students, early career researchers or those with equivalent relevant professional experience are particularly encouraged to apply
- Excellent research skills, including desk-based research
- Ability to write about complex subjects clearly and accurately
- Excellent time management
- A collaborative outlook

Applications, and questions in advance of application should be directed to Natalie Michaux, Research & Policy Manager at nmichaux@nuffieldbioethics.org.

The deadline for applications is **5pm on 5 July 2024**. Please note that we will not be holding interviews as part of the selection process, but may contact you for an informal conversation to discuss your application.