UK Research and Innovation

[redacted]

31 May 2024

Dear [redacted],

Freedom of Information request: FOI2024/00334

Thank you for your Freedom of Information request received on the 19 April, and subsequent clarification received on the 9 May, in which you requested the following:

Your request:

Please accept a FOI request for UKRI's umbrella organisations, including yourself (MRC).

The request is for all research and study using EMF; and also cancer research and study - between 2000 and 2024 for both subject areas.

Your Clarification:

For the "168 EM+Field" I'd like to add that it's the studies and trials into the effects on the human body that I'd like detail of, please, and...

For the "Cancer" request, I'd like to add that it's the effects of EMF on cancer trials & studies that I'd like detail of, please.

Can I please have results on any/every project in these categories.

Our response:

I can confirm that UK Research and Innovation (UKRI) holds some information relevant to your request. Please see the information below.

In order to identify research projects funded by UKRI that are in scope of your request, we conducted a keyword search of "Electromagnetic fields" (EMF) and then manually reviewed the results to check for relevance to the effects on health and effects on cancer. During this search, we also identified additional projects that may be of interest, related to the health effects of Transcranial Magnetic Stimulation (TMS). The results in each area are listed below:

UKRI Funded Projects involving EMF and the effects on health

- G0701888/1 – Finding the right words: predicting, and treating, spoken language production deficits after aphasic stroke[1]
- EP/G062692/1 – Measurement and Modelling of Electric Fields Induced in the Human Body by Temporally Changing Magnetic Fields[2]
- EP/H024883/1 – Towards an integrated neural field computational model of the brain[3]

[1] https://gtr.ukri.org/projects?ref=G0701888%2F1

[2] https://gtr.ukri.org/projects?ref=EP%2FG062692%2F1

[3] https://gtr.ukri.org/projects?ref=EP%2FH024883%2F1

- G1000566/1 – Imaging sensorimotor interactions during speech communication[4]
- EP/K011383/1 – 3-Dimensional Wearable Patch Antennas with Improved Bandwidth and Efficiency for Athlete, Patient, Firefighter and Soldier Applications[5]
- EP/M00855X/1 – Cardiff University-Equipment Account[6]
- 1973720 – Using multimodal neuroimaging to predict responses to electrical brain stimulation in disorders of consciousness[7]
- 1978588 – Non-invasive, targeted bioelectronic brain modulation for enhancing cognition[8]
- 2218828 – Magnetic Resonance Imaging of Moving Patients at Ultra-high Field: Real-Time Motion Corrected Parallel-Transmit Pulse Design[9]
- 2224989 – Development of Real-Time Neurofeedback System[10]
- 2274392 – Cognitive neurostimulation as an antidepressant strategy?[11]
- 2596952 – The role of electromagnetic fields in neuronal health[12]
- 10038101 – 5G expOsure, causaL health effects, and rIsk perception in children and workers through stAkeholder engagemenT (GOLIAT)[13]
- 10040206 – GOLIAT: 5G expOsure, causaL effects, and rIsk perception through citizen engAgemenT[14]
- 2886505 – Better localisation for epilepsy surgery by optimising simultaneous EEG and functional MRI recordings at 7T[15]

UKRI Funded Projects involving EMF and the effects on cancer

- 2601924 – Development of Targeted Cancer Cell Hyperthermia Technique[16]

UKRI Funded Projects involving the health effects of TMS

- MR/J004162/1 – Testing a Neuropsychological Model of Depersonalization with TMS[17]
- MR/J004588/1 – Investigating the neural substrates of saccadic plasticity and the mechanisms of transcranial direct current stimulation[18]
- MR/J001953/1 – Investigating the neural basis for checking, selective attention and working memory in obsessive compulsive disorder, through MEG and TMS[19]
- MR/K023772/1 – Enhancing speech fluency with non-invasive brain stimulation in Developmental Stuttering[20]
- MR/P006671/1 – Improving the effectiveness of therapeutic protocols of repetitive transcranial magnetic stimulation (rTMS)[21]
- MR/P006183/1 – An exploration of the application of non-invasive cerebellar stimulation in the neurorehabilitation of dysphagia after stroke[22]
- MR/P02596X/1 – The potential for transcranial direct current stimulation to restore motor function in the vegetative state[23]

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4 https://gtr.ukri.org/projects?ref=G1000566%2F1
5 https://gtr.ukri.org/projects?ref=EP%2FK011383%2F1
6 https://gtr.ukri.org/projects?ref=EP%2FM00855X%2F1
7 https://gtr.ukri.org/projects?ref=studentship-1973720
8 https://gtr.ukri.org/projects?ref=studentship-1978588
9 https://gtr.ukri.org/projects?ref=studentship-2218828
10 https://gtr.ukri.org/projects?ref=studentship-2224989
11 https://gtr.ukri.org/projects?ref=studentship-2274392
12 https://gtr.ukri.org/projects?ref=studentship-2596952
13 https://gtr.ukri.org/projects?ref=10038101
14 https://gtr.ukri.org/projects?ref=10040206
15 https://gtr.ukri.org/projects?ref=studentship-2886505
16 https://gtr.ukri.org/projects?ref=studentship-2601924
17 https://gtr.ukri.org/projects?ref=MR%2FJ004162%2F1
18 https://gtr.ukri.org/projects?ref=MR%2FJ004588%2F1
19 https://gtr.ukri.org/projects?ref=MR%2FJ001953%2F1
20 https://gtr.ukri.org/projects?ref=MR%2FK023772%2F1
21 https://gtr.ukri.org/projects?ref=MR%2FP006671%2F1
22 https://gtr.ukri.org/projects?ref=MR%2FP006183%2F1
23 https://gtr.ukri.org/projects?ref=MR%2FP02596X%2F1

- MR/T001402/1 – Stimulating language recovery after stroke: Tailored non-invasive electrical stimulation of the domain-general frontoparietal network[24]
- MR/T023880/1 – Spinal cord stimulation for gait dysfunction in Parkinson's disease[25]
- MR/V003623/1 – Causal roles of neural synchrony in signal transmission and cognition in the human brain[26]
- MR/W02912X/1 – The influence of individual differences in brain rhythms on speech perception with and without age-related hearing loss[27]
- MR/X01357X/1 – Control of focal brain stimulation with high-precision robotic aid[28]

Where available, details of publications and outcomes of these projects are included within the relevant tab of its Gateway to Research entry. Some of these projects are still ongoing (indicated by 'Active' or 'Closed' under 'Project Status'), and therefore may not yet include this information.

If you have any queries regarding our response or you are unhappy with the outcome of your request and wish to seek an internal review of the decision, please contact within the next 40 working days:

Head of Information Governance
Email: foi@ukri.org

Please quote the reference number above in any future communications.

If you are still not content with the outcome of the internal review, you may apply to refer the matter to the Information Commissioner for a decision. Generally, the ICO cannot make a decision unless you have exhausted the review procedure provided by UKRI. The Information Commissioner can be contacted at: www.ico.org.uk.

If you wish to raise a complaint regarding the service you have received or the conduct of any UKRI staff in relation to your request, please see UKRI's complaints policy: https://www.ukri.org/about-us/policies-and-standards/complaints-policy/

Yours sincerely,

[redacted]
Information Governance
Information Rights Team
UK Research and Innovation
foi@ukri.org | dataprotection@ukri.org

[24] https://gtr.ukri.org/projects?ref=MR%2FT001402%2F1
[25] https://gtr.ukri.org/projects?ref=MR%2FT023880%2F1
[26] https://gtr.ukri.org/projects?ref=MR%2FV003623%2F1
[27] https://gtr.ukri.org/projects?ref=MR%2FW02912X%2F1
[28] https://gtr.ukri.org/projects?ref=MR%2FX01357X%2F1