

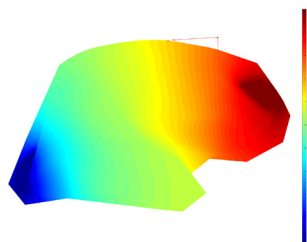
VERTEX – simulating interventions on the mammalian brain

CRACK IT Solutions

Researchers from Newcastle University are seeking partners to develop Vertex, their computational model of mammalian brain tissue capable of replacing the use of animals during basic research, pharmacological drug discovery and medical device development.

What could the Solution be used for?

Vertex simulates the effect of intervention (electrical, magnetic, ultrasound, drugs) on brain tissue from multiple species (rat, mouse, ferret, primate and human). Only the most promising interventions would progress to regulatory required animal studies, reducing the number of animals required, costs and time to market of new therapies. Furthermore, the computational model could indicate the most suitable species for later animal experiments.



Need for collaboration

Collaborators with expertise in various brain diseases, and different animal species and brain tissues are being sought to test the reach of the model. Alliances are also being sought with pharmaceutical and biotechnology companies to explore the utility of the computational models in improving safety and efficiency of drug development aimed at brain disorders.

3Rs impact assessment

In Great Britain in 2016, over 200,000 experimental procedures were carried out on animals to study the nervous system. Using Vertex, as a predictive tool to pre-screen potential compounds, could replace the need for the significant number of *ex vivo* brain slice recordings carried out in neurobiology. This would reduce the number of animals used and improve the translation of drugs into the clinic.

For more information or to contact the Solution provider:

<https://crackit.org.uk/vertex-%E2%80%93-simulating-interventions-mammalian-brain>



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