# CRUK Convergence Science Centre - EPSRC Center for Doctoral Training in Statistics and Machine Learning PhD Studentship Proposal Application Form

This form must be completed and submitted electronically, please do not submit a scanned document. If successful, aspects of the information will appear on external websites to advertise the studentship.

**Notes on completing the form:**

Please complete all sections of the form and refer to the accompanying guidelines before doing so. Completed forms should be emailed to [icr-imperial-convergence.centre@imperial.ac.uk](mailto:icr-imperial-convergence.centre@imperial.ac.uk)) and [g.caminotto@imperial.ac.uk](mailto:g.caminotto@imperial.ac.uk), using the email title **PhD Studentships 2025**.

**SUBMISSION DEADLINE: 14th October 2024, 9 am**

Applicants are advised to read the MIT White Paper “[The Third Revolution: The Convergence of the life sciences, physical sciences and engineering](http://www.aplu.org/projects-and-initiatives/research-science-and-technology/hibar/resources/MITwhitepaper.pdf)” which outlines key concepts of convergence science.

Cancer Research UK Case Studies on multidisciplinary research which can found [here](https://www.cancerresearchuk.org/funding-for-researchers/research-features/2016-11-04-combining-models-and-molecules-to-understand-metastasis) and [here](https://www.cancerresearchuk.org/funding-for-researchers/research-features/2016-12-06-bubbles-ultrasound-and-radiotherapy-creating-a-new-approach-to-drug-delivery).

These articles are key examples of convergence research and give insights on the type of proposals we are looking for.

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| **Proposal Title:** |

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| Tick to confirm that the project is cross-institutional (i.e. there is at least [1 supervisor from the Department of Mathematics, Imperial College London](https://www.imperial.ac.uk/mathematics/about-us/people/academic-and-research-staff/), and 1 from [Institute of Cancer Research (ICR).](https://www.icr.ac.uk/our-research/researchers-and-groups) |
| **Lead Supervisor 1**  **Name:**  **Institution/Department**:  **Email:**  **Phone number:**  **Number of research degree students previously supervised to completion**:  **Tick appropriate**  Cancer  Maths  Biology  Other (Please indicate):  **Tick to confirm that you will hold my (academic) position until the end of the studentship** |
| **Lead Supervisor 2**  **Name**:  **Institution/Department**:  **Email**:  **Phone number**:  **Number of research degree students previously supervised to completion**:  **Tick appropriate**  Cancer  Maths  Biology  Other (Please indicate):  **Tick to confirm that you will hold my (academic) position until the end of the studentship** |
| **Additional Supervisor(s) e.g. Backup/Institute Recognised Supervisor Partner\***  **Name**:  **Institution/Department**:  **Email**:  **Tick appropriate**  Cancer  Maths  Biology  Other (Please indicate):  **Tick to confirm that you will hold my (academic) position until the end of the studentship** |
| **Additional Supervisor(s) e.g. Associate**  **Name**:  **Institution/Department**:  **Email**:  **Tick appropriate**  Cancer  Maths  Biology  Other (Please indicate): |
| We confirm that we can provide a potential student with appropriate office/lab space and necessary equipment, including a workspace computer |
| **ICR applicant:**  Please tick the box to confirm that you have sought and received your Head of Division approval to apply for a studentship  Please tick the box to confirm that you have completed the Research Degree Supervisor Form |
| **Imperial applicant:**  Please tick the box to confirm that you have sought and received your Head of Department /Division approval to apply for a studentship |

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| **Proposal outline** (*up to 1000 words*)  (Outline the scientific aims and approaches to be employed explaining why this meets StatML and CSC remit, in particular the application of novel statistical and machine learning methodologies that addresses an unmet need in cancer and any translational potential; include any relevant preliminary data that support your hypothesis; no more than 1 additional page of figures and figure legends may be included but these should not be used to add further experimental details) |
| **Feasibility** (*up to 300 words*)  Describe the suitability of the project for a PhD, include a timeline describing how the project will be achieved in four years). |
| **Convergence Science Approach** (*up to 500 words*)  (State the novelty of the methodologies that will be developed from the different disciplines to be employed. Outline the roles and contributions of the supervisors/teams, provide a tailored strategy for training the student in convergence research. Explain how students will share their time across the participating teams). |
| **Research Theme Alignment** *(up to 300 words)*  (Identify the priority themes to which your work aligns and outline how your work addresses our research [theme(s](https://www.convergencesciencecentre.ac.uk/research/resesearch-themes)). |
| **Literature references**  (Provide a bibliography of any cited literature in the proposal). |

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| **Advertising details**  (Key words or short phrases that students might type into search engines for PhD projects similar to yours).  1.  2.  3.  4.  5. |
| **Project suitable for a student with a background in:**  Please tick all that apply:  Computer Science  Physics or Engineering  Mathematics, Statistics, Epidemiology  Other (please detail below) |

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| **One page summary of Project**  (This will be sent to short-listed candidates during the admissions process. It should include a description of the 3 month mini-project, demonstrate clear scope for it being extended into a full PhD project, and suitable references. It should appeal to candidates coming from a maths/quantitative background). |

*NB: The projects should be cross-institutional. There should be at least* [*1 supervisor from the Department of Mathematics, Imperial College London*](https://www.imperial.ac.uk/mathematics/about-us/people/academic-and-research-staff/)*, and 1 from* [*Institute of Cancer Research (ICR).*](https://www.icr.ac.uk/our-research/researchers-and-groups) *Imperial supervisors outside the Department of Mathematics are also eligible as supervisors.*