



Human-Like Computing

Imperial College
London

EPSRC
Engineering and Physical Sciences
Research Council

<http://hlc.doc.ic.ac.uk/>

HLC YEAR 4 CALL FOR PROPOSALS FOR KICK-START GRANTS 2021

Closing date:
7th May 2021

Funded by the Engineering and Physical Sciences Research
Council (EPSRC)

SUMMARY

The EPSRC Network+ on Human-Like Computing is inviting proposals for Kick-start grants.

This call is for two Kick-starts of approximately £80K each. The two £80K Kick-Starts are ideal for short-term projects between 6 to 8 months*.

*The length of the project is dependent on the salary scale of the research assistant/associate hired on the project. The project can run for longer however we are unable to cover the continued costs associated with the research. The research period is between 1st December 2021 and 31st July 2022.

BACKGROUND

Human-Like Computing (HLC) research aims to endow machines with human-like perceptual, reasoning and learning abilities which support collaboration and communication with human beings. Such abilities should support computers in interpreting the aims and intentions of humans based on learning and accumulated background knowledge.

The development of computer systems which exhibit truly human-like computing and co-operative properties requires sustained inter-disciplinary collaboration between disparate and largely disconnected research communities within AI and Psychology. The proposed Network is needed in order to forge a new UK-based scientific community involving collaboration between leading groups in these disciplines. The Network builds on the successful interactions of leading AI and Psychology groups represented at the EPSRC work- shop on Human-Like Computing meeting (Bristol, 17-18 February 2016) and the EPSRC funded Machine Intelligence 20 workshop on Human-Like Computing (Cumberland Lodge, 23-25 October 2016). Machine Intelligence 21 workshop on Human-Like Computing took place at Cumberland Lodge from 30th June to 3rd July 2019.

A book, co-authored by HLC network members, entitled 'Human-like Machine Intelligence' is due to be published by Oxford University Press during 2021. Additionally, the Royal Society has agreed to support a Hooke Scientific meeting at their London premises during 2022 on "Cognitive Artificial Intelligence", associated with the HLC network, with papers published in the Proceedings of the Royal Society.

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THIS CALL

The Network+ will provide funds for Kick-start projects. These funds will cover PDRA time and a contribution towards staff supervision at the Institution to which the Kick-start is awarded by the Network. Kick-start projects are planned to be awarded until year four. Each project will be funded at an approximate level of £80K for this call.

Key objectives for the HLC area were identified by the community during the MI20 HLC meeting (October, 2016). We aim to order these community-generated objectives into a series of Roadmap Themes which relate to key topics associated with the development of HLC from **Foundational Components of HLC** (Years 1+2), **Scaling-up HLC systems** (Year 3) to **Applications of HLC** (Years 4+5).

Year	Phase	Topic 1	Topic 2
Y1	Foundational (1)	Comprehensibility	Representation Change
Y2	Foundational (2)	Small data learning	Memory and forgetting
Y3	Scaling-up	Bridging high and low-level	Verbal and non-verbal
Y4	Applications (1)	Intelligent tutoring	Programming assistance
Y5	Applications (2)	Social agents	Scientific assistance

The topics above will be used by the Management and Grants Committee as a guide to preferred areas for funding of submitted Kick-start projects in successive years of the network. Although Kick-start submissions will be encouraged in the indicated areas, the committee will also support strong Kick-start applications in other areas of HLC research.

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APPLICATION GUIDELINES FOR KICK-START GRANTS

The application process for this call is deliberately lightweight. The submission should contain:

- A maximum of a 3-page project proposal with an additional page for references, following EPSRC formatting guidelines. Your proposal is expected to include the track record, background, research programme and justification of resources.
- All submissions should be in single column format and use 11-point fonts for the main text. We strongly encourage using EPSRC proposal styles: "all (PDF) attachments must be completed in single-spaced typescript in Arial 11 or other sans serif typeface of equivalent size, with margins of at least 2cm Arial narrow and Calibri are not allowable font types. Text in embedded diagrams or pictures, numerical formulae or references can be smaller, as long as it is legible. Text in tables and figure labels not within embedded diagrams or pictures should be at least 11 point."
- CVs of the investigators and named researchers.
- A detailed breakdown of costs with justification including, for example, investigator time & research assistant time. An outline budget will not be accepted and **a full costing is required** on your institutes costing tool at the time of submission (for e.g. Infoed, Worktribe, pFACT, X5, Lucre or Unit 4).
- Prices should be quoted without VAT.
- The research should be costed at 100% full economic cost however it will be funded at 80% full economic cost.
- A maximum of 8 months kick-start funding is available per project.
- Directly incurred salary budget will be awarded up to a maximum of £4,439 (100% FEC) per month as per the table below.
- Directly allocated and indirect budgets will be awarded at a fixed monthly amount of 100% FEC as per the table below. These costs will be funded at 80% FEC.

		100% FEC	Funding (80% FEC)
Directly Incurred Costs	Research Assistant/Associate salary	£4,439	£3,551
Directly Allocated Costs	Academic Supervision (lead institute only)	£159	£127
Directly Allocated Costs	Technician	£116	£93
Directly Allocated Costs	Estates	£1,583	£1,266
Indirect Costs	Indirect/Overheads	£4,078	£3,262

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APPLICATION GUIDELINES FOR KICK-START GRANTS - *CONTINUED*

- Please note that no travel, subsistence, consumables and other related costs will be allowed.
- Your proposal can include a co-investigator. No co-investigator costs will be provided.
- All HLC supported Kick-start projects should submit a final report within one month from the end date of the project. The final report should be 2 to 6 pages long and should be in single column format and use 11-point fonts for the main text. The final report should include: 1) Project summary, 2) Objectives, 3) Results (inc. publication and follow-up grants) and 4) staffing (details of the researchers involved in the project and where they are working at the end of the project). The final report should be submitted via EasyChair and will be reviewed by the original reviewers of the proposal. The final report is also used to evaluate the success of each HLC supported project and top rated reports will be made available from the HLC website.
- We also expect each HLC supported Kick-start project to interact with the Technical Director of the HLC network to develop and support standards for evaluating experiments carried out in the project. These experiments should be included in the final report.
- **HLC Network reserve the right to reject applications that do not meet these requirements.**

ELIGIBILITY AND CONDITIONS

Applicants must be based in institutions eligible to apply for EPSRC funding. An investigator can submit at most one Kick-start proposal for this call. Grants will not be made retrospectively.

Your submission title on EasyChair should include "Proposal for X: ...", where X is either for Network membership or for a Kick-start grant. You do not need to first apply for membership before applying for funding.

Please note that when you apply for a grant then everybody named in the application, will automatically be added to the HLC Network membership list. If you don't wish to be added to the HLC Network membership list, please email Bridget Gundry on bridget.gundry@imperial.ac.uk to opt out.

Only investigators need apply for network membership although researchers are also welcome to apply.

The investigators of projects funded in this call are expected to become core members and play an active role in Human-Like Computing Network+. **They are required to complete a final report.**

The funders are committed to full and open publication of the research outputs, in line with normal academic practice. The funding and contract will be subject to the EPSRC's standard terms and conditions; a draft copy of the contract can be made available on request.

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APPLICATION AND SELECTION

All submissions are via EasyChair (<https://easychair.org/conferences/?conf=hlc2021>) and should be submitted by Tuesday 7th May 2021. In the box for "Keywords", please include HLC topics which are most relevant to your proposal.

Proposals will be assessed by a panel of experts from academia, industry and government, who will judge the proposals on quality, viability and significance.

Enquiries regarding the academic scope and objectives of this call should be directed to [Dr Alireza Tamaddoni-Nezhad](#), Technical Director. Enquiries regarding the application process should be addressed to [Bridget Gundry](#), Administrator.

KEY DATES:

CALL PUBLISHED	8 th March 2021
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PROPOSALS SUBMITTED	7 th May 2021
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RESULT ANNOUNCEMENT	By 9 th July 2021
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RESEARCH PERIOD	1 st December 2021 – 31 st July 2022
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