

Digital Catapult Researcher in Residence (RiR) Programme: Applicant guidance

OVERVIEW

The residency programme is designed to enable researchers at any career stage to spend time within either the Digital Catapult or a relevant partner organisation, undertaking a project that will generate impact for the digital economy in the broadest sense. Projects can either be applied or more strategic in nature:

Applied projects will generally be user-centred and focused on impact generation in the short to medium term. Proposals should be relevant to one or more of the current Digital Catapult Focus Areas (listed at the end of this document), or to related areas of interest.

Strategic projects will help shape current Catapult projects, and drive the creation of new activities or projects relevant to the overall mission of the Catapult. Proposals that highlight potential new directions, new users and novel means of impact generation are encouraged. The focus should be impact generation in the broadest sense. Projects could be undertaken on either a full time basis or via a series of short secondments to the Catapult.

Holders will be able to access the Digital Catapult's extensive partner network (from start-ups to major multi-nationals, and public sector organisations), as well as the Catapult's significant in-house expertise in taking ideas to market, and the resources they have on hand. Potential applicants are encouraged to discuss their proposals in the first instance with Marko Balabanovic, CTO at the Digital Catapult (marko@digicatapult.org.uk).

The RiR programme runs a series of dedicated networking events to maximise the potential for successful applicants to collaborate and develop relationships with peers, industry and the public sector throughout and beyond the residency. Holders are expected to attend at least three of these events over the duration of the scheme (mid 2018). Less experienced RiR awardees will also receive informal mentorship from more experienced award holders where appropriate.

The Digital Catapult operates according to an open innovation model: "*What is yours is yours, and what is ours is ours, and by being involved in the RiR scheme, neither of us grants any licence to the other to use their existing IP. If you are accepted into the scheme to pursue your own research, then we will do all we can to assist you and would not assert any claims over any IP in your research. If you are participating in Catapult research and focus areas, then for any contributions you make to our projects our preference is that any resulting IP is jointly owned, subject to more detailed discussion on a case-by-case basis.*"

In addition to the immediate outputs, it is expected that holders will improve their understanding of the challenges involved in turning research into impact, and develop networks and industry relationships that continue to be of benefit on return to their host institution.

REQUIREMENTS AND ELIGIBILITY

In order to apply, you must have submitted your PhD by the call closing date, with no upper limit in terms of years since submission. We expect those applying to undertake more strategic projects to have a strong track record in research and impact generation related to the digital economy. There is no requirement in terms of duration of the residency itself, rather, you should ensure that your project is achievable within the proposed timeframe. Careful consideration should be given to the balance of time requested: if applications are not made on a full time basis, justification will need to be provided.

Awards will be made conditional to agreement to the following:

- Production of a short impact report (see 'impact report guidance'), which the Digital Catapult can assist with
- Attendance of at least three scheme events during the three years of operation
- Response to three short surveys: pre-, during and post-award

Location

The majority of Digital Catapult staff are based at the Digital Catapult Centre in London, near King's Cross. However there are also a number of local centres around the UK. If you wish to base your residency at the local centres in Bradford (Digital Catapult Yorkshire), Sunderland (Digital Catapult North East and Tees Valley), Brighton (Digital Catapult Brighton) or Belfast (Digital Catapult Northern Ireland) then *you will need prior support from the appropriate centre director*. In the first instance please contact Marko Balabanovic to discuss. Note that anyone based outside of London should budget to travel to London approximately once a month for a full-time residency, or suggest an appropriate frequency if the residency is part-time.

APPLICATION PROCESS

Application forms and other supporting documentation (see below) will initially be assessed by Digital Catapult staff to determine the degree of alignment with current and upcoming Catapult projects and priorities. Those applications deemed to have sufficient relevance will be sent out for peer review (by a minimum of three reviewers), and then ranked by the scheme Management Committee. Applicants will be assessed on the merits of their proposal, its relevance to the Digital Catapult, their relevant expertise and the expected impact(s) of their project.

APPLICATION FORM

More information on what is expected in each of the sections is given below.

Proposal: Please set out the work you intend to undertake, including why a residency within the Digital Catapult or a relevant partner organisation is appropriate. If there are particular Digital Catapult resources (equipment, expertise, etc.) that you would use, please state this explicitly. In particular, you should also address the following questions:

- Why is your proposal of relevance to the digital economy?

- How does it align with the mission of the Digital Catapult?
- Why do you feel you are the appropriate person to undertake these activities?

You should ensure that what you are proposing is achievable within the timeframe of your residency, including the generation of initial impacts (or at least present a clear plan as to how these will be pursued afterwards, and by whom).

Relevant expertise and track record: Explain how your experience and research interests align with the mission of the Digital Catapult, as well as how they link to the digital economy. Give details of any relevant industry or user collaborations, and any previous experience of generating impact from academic research.

Expected impact: Clearly state the expected impact(s) of the proposed activities, including who will be affected by the impact, when, the extent of the impact, and how this will be achieved. Also identify any likely risks to generating the levels of impact stated. You should also set out what you feel you will achieve during your residency and how you will communicate your work to the intended audiences (this could include showing prototypes, holding workshops, etc.).

Budget: The total funding applied for should not exceed £25K at 100% FEC (awards will be made on the basis of 80% FEC). A high-level breakdown should be included, which can encompass any contribution to salary costs, equipment and resources, caring responsibilities such as childcare costs, and travel and accommodation, in addition to overheads if your institution will not waive these. The budget should also include an allowance for attendance at the three events that you are expected to attend during the duration of the scheme. Decisions will not be dependent on whether you have requested salary support or not. Those without an employing institution will receive payment via the Horizon Digital Economy Hub at the University of Nottingham.

The Digital Catapult will provide desk space and associated basic office support. Any specialised requirements or additional expenses should be discussed with Marko Balabanovic, CTO at the Digital Catapult (marko@digicatapult.org.uk) in advance of making an application.

Timeline: Give an estimated start date and duration for the residency, as well as expectations of timing within this (e.g. periods spent at the Catapult, or embedded with industry partners). If there is flexibility or particular constraints around timing, state them here.

OTHER DOCUMENTATION REQUIRED

In addition to the application form, you are required to provide a CV (2 pages, incl. key papers) and a letter of support from your Head of Department (or equivalent). This should include a statement that you will be granted leave from institutional or departmental responsibilities for the duration of the residency.

FURTHER INFORMATION

Before applying, you may find it helpful to discuss your proposal with Marko Balabanovic, CTO at the Digital Catapult (marko@digicatapult.org.uk) or Christian Wagner, RiR Programme Director (christian.wagner@nottingham.ac.uk). Enquiries concerning the application process can be addressed to Dr Andrea Kells, the Programme Administrator, at ark20@cam.ac.uk.

SUBMISSION

Completed applications (PDF format, in minimum font size 11) should comprise:

- The application form
- A 2 page CV
- A letter of support from your Head of Department or equivalent

These should be sent to Dr Andrea Kells at ark20@cam.ac.uk by the call deadline.

SUCCESSFUL APPLICANTS

Prior to starting, successful applicants will discuss their projects with Marko Balabanovic in order to ensure that any necessary equipment and support is available in the Catapult or via its partners, and that the project outcomes can be delivered within the suggested timeframe. There will be the opportunity to make relevant adjustments to the proposal in light of these discussions.

CATAPULT FOCUS AREAS

Digital Catapult helps startups grow and scale faster and it supports larger corporates in their digital transformation. We do this through programmes of collaboration and open innovation, by bringing academic leading edge expertise into the mix combined with the organisations' own business and technological expertise.

We work across a range of technology layers:

- **Connected:** including the Internet of Things and applications of 5G
- **Immersive:** including virtual and augmented reality
- **Data-driven:** including trust in the use of personal data, blockchain and distributed ledger technologies and cybersecurity
- **Intelligent:** including machine learning and artificial intelligence

We will initially innovations from these technology layers in three market sectors:

- **Digital Manufacturing** - Accelerating adoption of digital technologies to increase productivity and the creation of new value in UK manufacturing. Enabling adoption of digital technologies in the production process, in the supply chain and in the life cycle of products.
- **Digital Health and Care** - Enabling people to live longer, happier, healthier lives through digital technology

Creative Industries - Creating new markets for the UK's Creative Industries using emerging digital technologies such as blockchain and smart contracts, virtual, augmented and mixed reality systems; Making the UK the best place in the world to create content for Virtual Reality..

Projects that address any of these focus areas in the broadest sense will be considered. To get an idea of both current and past projects the Digital Catapult has been involved in have a look here <https://www.digitalcatapultcentre.org.uk/about/projects/>.

In terms of specific academic areas of interest, Digital Catapult would encourage applicants with proposals covering:

- applying anonymization, differential privacy, re-identification and homomorphic encryption
- secure multi-party computation, trust and identity
- distributed ledgers and blockchain, smart contracts, new kinds of distributed organisations or marketplaces
- distributed or privacy preserving architectures for personal data exchange
- IoT – architectures, security, data visualisation, managing systemic risk
- business models for personal data exchanges and for the IoT
- evaluation and measurement of economic impact for marketplace interventions
- 5G as part of future internet network architectures and services, with specific focus on network softwarisation.
- Federated infrastructure testbeds (tools, experimentation and sustainable engagement models)
- “Small data” technologies at the edge
- Edge to cloud orchestration of computation (fog computing, computing fluidity)
- Governance, security and liability in decentralized systems
- Machine learning and machine intelligence (ML), autonomous systems (not including robotics)
- Data science and machine learning techniques for aggregation, analytics, insight, inference of personal data at scale
- Human-AI collaborative systems, conversational systems, smart assistants
- Creative content formats or standards for virtual, augmented and mixed reality
- New forms of interaction for immersive technologies
- Research into socio-cultural and human factors impacting all of the above, including privacy/ data protection law and regulation, internet governance, data and AI ethics, end-to-end security, psychology, sociology

