National Cyber Security Centre in collaboration with the Research Institute for Sociotechnical Cyber Security

Invites applications for

'RISCS Fellow'

on the research theme of

'Quantification and Cyber Risk'

Closing date: Friday 16th April 2021

The National Cyber Security Centre (NCSC), working in collaboration with the Research Institute for Sociotechnical Cyber Security (RISCS), is inviting proposals for a researcher to become a RISCS Fellow on the theme of 'Quantification and Cyber Risk'. The Fellow will play a leadership role in developing the strategic direction and community on the topic of the theme. To achieve that, the Fellow will shape RISCS research activities for the theme over the course of the next year. The RISCS Fellow will be provided with a £15,000 budget as well as all the support of the RISCS team to implement a package of work that develops the research theme. We see this as an exciting opportunity for early career academics to take on a research leadership role or for established researchers to extend or supplement their existing research agenda into a national stage, in such a way that benefits both them and the wider RISCS community.

Key information and dates

- **Deadline for submission of full proposal:** Friday 16th April 2021
- **Address for submission:** riscs.adminstrator@ucl.ac.uk
- **Address for enquiry:** riscs.adminstrator@ucl.ac.uk

Activity	Date
Call for RISCS Fellow published	April 1st, 2021
Full proposals to be submitted	April 16th, 2021
Assessment Panel meeting	April 23rd, 2021
Announcement of results	April 26th, 2021
Fellowship period starts	May 1st, 2021
Fellowship induction workshop	TBA (early May)
Fellowship period ends	March 31st, 2022

Call Overview

RISCS is a dynamic and rapidly expanding community of cybersecurity sociotechnical researchers. In 2020/21 we organised our programme around five research themes, each with a lead Fellow. In 2021/22 we are expanding on this model to include a further research theme on the theme of 'Quantification and Cyber Risk'. We are looking to harness the considerable expertise of the RISCS research ecosystem and appoint an outstanding scholar with the vision to take this research theme forward.

The Fellow will work within a team comprised of the RISCS leadership, an NCSC lead, a policy lead, and (where possible) an industry partner, to deliver research or research activities over a 11-month period. We're completely open to your suggestions of what is needed and what would be beneficial for this research theme - indeed, we're excited about drawing upon the creativity and innovation in our community to shape our activities. Proposals may include activities like workshops, focus groups, community building exercises. They may also include research support staff, in-bound or out-bound travel, placements etc.

Those proposals that provide benefit for the RISCS research sub-community and best promote the research theme will be most likely to be successful. We're looking for a Fellow who can consider the current landscape for the theme, identify gaps and key research questions, build the community that is needed to advance the theme and develop a strategic vision for future directions for the research theme. We're also looking for a Fellow who can consider how the research theme might grow both nationally and internationally beyond the initial period of a year. For those with a well-established research project, group or agenda that links to our research theme, your proposal might include ways to bring the broader RISCS community into a collaboration to help extend your project and to create pathways for others at different stages of their careers to contribute to the theme. For those early in your career, you may wish to propose work that catalyses ECRs, provides development opportunities, establishes pathways to develop a new research angle, or connects relevant communities that are currently disparate.

All Fellows will be invited to attend a virtual induction workshop in early May.

Support available: RISCS has a support infrastructure in place that will be available to support the work of the Fellows. We're looking for your intellectual leadership and research innovation and to maximise that, we can provide appropriate comms and web support, policy impact support and help to establish your own team / community of practice. We want you to come with ideas and we'll help you to implement them.

Research Theme: Quantification and Cyber Risk

The body of knowledge around cyber risk quantification has been growing in recent years as people seek methods to introduce more repeatability and objectivity to their risk management process and frame cyber risk in terms that stakeholders care about. Despite small pockets of people confident in putting quantification into practice, there are barriers to the wider adoption of quantification in cyber security. These may include but are not limited to: misconceptions about what cyber risk quantification is; lack of accessible tools and resources; lack of knowledge of good practice and how to integrate quantification into a wider risk management process; the risk of poor implementation of quantification driving perverse behaviours. How do we overcome these and other challenges and enable the cyber security community to use quantification to best effect in understanding cyber risk

and enabling effective cyber security decision-making? What further tools, support or research is needed to mature this theme to the benefit of the whole cyber security community? Can quantification play a role in bridging the gap between cyber risk and other areas of risk such as safety?

You can find further background on the NCSC's priorities in sociotechnical research by reading 'A Sociotechnical Approach to Cyber Security' blog and Problem Book.

1. How to Apply

Applications should be sent to riscs.adminstrator@ucl.ac.uk. We must receive your application by **10:00 am on Friday 16th April 2021**.

2.1 Proposal requirements:

These are relatively light touch applications in recognition of the compressed time frame. However, in order to make a strong case for funding, applications will need to include and demonstrate the following elements:

• **Case for Support:** all proposals must:

- explain how they will contribute to defining the problem and developing the strategic direction of the research theme.
- Develop and bring benefit to the RISCS research community relevant to that theme.
- have clear benefits for policy, industry, and/or other stakeholders.

• **Outputs:** The expected strategic and research outputs and how these will provide impact for different project stakeholders.

• **Workplan:** A brief plan to achieve the outcomes should be provided. A mid-term report will provide evidence that the work is progressing, and the final report should be submitted by 31 March 2022. The workplan should:

- clearly outline what you will deliver in the fellowship period.
- discuss how you will spend the budget.
- outline what additional resources you will draw upon from the RISCS team (events coordination, comms and web support, policy impact officer)

• **CVs:** Please provide your CV including any relevant background knowledge and expertise regarding the proposed area of work.

• If the recruitment of short-term staff is needed, please indicate the timing and cost.

• **Ethical considerations:** Consideration of any ethical issues concerning the methodology and data collection process, particularly where human participants and/or interviews will be involved. If approval is required from the research institution of the applicant(s), the procedure for obtaining such needs to be briefly explained along with the expected timeline. NCSC and RISCS reserve the right to reject applications if consideration of potential ethical issues and related institutional processes are not appropriately addressed.

• Confirmation that Fellows will make themselves available for key set-up, delivery and community meetings with RISCS, NCSC, Department of Digital, Culture, Media, Sports (DCMS) and relevant partners.

2.2 Additional details for proposals

- Final grants awarded will be subject to negotiation with NCSC and RISCS and agreement on the remit of the activities proposed for the Fellowship.

- NCSC will be the contracting authority and contracts formed will use the NCSC's standard terms and conditions plus any special requirements as agreed by the NCSC and RISCS.

2.3 How will proposals be assessed?

Following eligibility checks, research proposals will be reviewed by an expert assessment panel comprising representatives from academia, industry and the government. The panel will produce a ranked list of proposals based on consensus scores.

The assessment panel will consider the following criteria:

- **Quality** – this will consider the proposed workplan, and its potential to positively impact the relevant RISCS community and / or to move forward fundamental understanding within the field of the research theme.

- **Viability** – this will assess how feasible the Fellowship proposal is to carry out, e.g. whether the outcomes are achievable in the time and budget available. The panel will take into account the difficulty of the task, the logistical factors, and the track record of the applicant.

- **Significance** – this will consider the potential impact of the work on RISCS' research agenda. Note that the impact does not have to be immediate. A long term, highly aspirational piece of work could produce a higher "Significance" score than a more tactical "applied" piece of work (e.g. designed to produce an immediately tangible outcome). The proposal should outline the potential for transformative thought or progress within the cyber security field, whether this be near or long term.

All three criteria will be equally weighted. However, "Significance" will have a minimum threshold, below which proposals will be rejected.

2. Equality, Diversity and Inclusion

The long-term strength of the UK research base depends on harnessing all the available talent. In line with the UK Research and Innovation Diversity Principles, NCSC and RISCS expect that equality and diversity are embedded at all levels and in all aspects of research practice.

We are committed to supporting the research community in the diverse ways a research career can be built with our investments. This includes career breaks, support for people with caring responsibilities, flexible working and alternative working patterns. With this in mind, we welcome applications from academics who job share, have a part-time contract, need flexible working arrangements or those currently committed to other longer, large existing grants.

3. About RISCS

3.1 Background

RISCS was founded in 2012 as the first of four Institutes set up by the UK Government in conjunction with the Engineering and Physical Sciences Research Council (EPSRC). Its early focus was to improve cyber security within organisations – both in the public and private sectors – with an emphasis on securing the UK and safeguarding UK economic prosperity. RISCS was renewed and relaunched in summer 2016, with funding for a further five years, now sponsored by the NCSC in partnership with EPSRC.

Working in conjunction with NCSC whilst undertaking research which is published in the public domain, RISCS has a strong track record of delivering high-quality academic research with the potential to significantly improve the field of cyber security. The RISCS community is multidisciplinary in nature and includes a significant number of stakeholders in cyber security practice, drawn from across government and industry.

Our vision for RISCS involves carrying out high-quality research which advances knowledge in research areas identified as having the greatest potential to transform the academic state of the art and user practice. In addition, it is anticipated that RISCS will provide a focus for liaison with stakeholders from the NCSC and other parts of government and business.

EPSRC and the NCSC aspire to promote wide visibility of the outputs of RISCS in order to enable fast dissemination and, where appropriate, application of the research to improve cyber security in the UK as a whole.