

**JOB DESCRIPTION:**

**Research Associate**

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| **Ref Number:** |  |
| **Salary Scale:** | **Grade 7** |
| **Contract:** | **12 months (from the start date)** |
| **School/Department:** | **CEMS, School of Computing** |
| **Location:** | **University of Kent, Canterbury Campus** |
| **Responsible to:** | **Vineet Rajani** |
| **Interviews are expected to be held on:** | **March 2024** |
| **Expected start date:** | **April/May 2024** |

**The Role**

We seek a talented and motivated postdoctoral Research Associate to join the School of Computing at the University of Kent. The Research Associate will take the leading role in type-based enforcement and compilation techniques for enforcement of security properties. The position is on an EPSRC funded project titled "TYPDSEC: Type-based information declassification and its secure compilation".

The role will require leadership, research and software development skills with knowledge of in relevant areas like type theory and information flow control. You must have a problem solving approach to meeting the overall project objectives. This work will be conducted in collaboration with external collaborators from Chalmers university, so it is important to be able to work well as part of a team.

**Key Accountabilities / Primary Responsibilities**

* To meet the objectives of the relevant project work packages according to the direction of the investigators.
* To support the research of other team members under the direction of the principal investigator. To enable the successful practical undertaking of research by others.
* To contribute to internal research progress meetings with other investigators and researchers.
* To contribute in developing and implementing ideas that lead to publications in top tier channels.
* To read literature and share appropriate articles with the investigator team. Regular literature reviews should be undertaken.

**Key Duties**

* To work with modal type theory for enforcing security properties particularly pertaining to confidentiality preservation.
* To do both mathematical proof and formal analysis
* To mechanise the development in HOL4 theorem prover
* To record and write up research in association with research colleagues and investigators. To prepare and submit manuscripts to journals and conferences.
* To publish research which demonstrates excellence in terms of research quality.
* To facilitate effective training and technical achievements.

Such other duties, commensurate with the grading of the post that may be assigned by the Head of Department or their nominee.

**Health, Safety & Wellbeing Considerations**

This role involves undertaking duties which include the Health, Safety and wellbeing issues outlined below. Please be aware of these, when considering your suitability for the role.

* Regular use of Screen Display Equipment

**Internal & External Relationships**

**Internal:** The principal investigator, and other research associates in the School of Computing at the University of Kent.

**Person Specification**

The Person Specification details the necessary skills, qualifications, experience or other attributes needed to carry out the job. Please be aware that your application will be measured against the criteria published below.

Selection panels will be looking for clear evidence and examples in your application, or in your cover letter where applicable, which back-up any assertions you make in relation to each criterion.

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| **Qualifications / Training** | **Essential** | **Desirable** | **Assessed via\*** |
| PhD (or close to completion), or equivalent experience in Computing or a related discipline | **X** |  | **A** |

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| **Experience / Knowledge** | **Essential** | **Desirable** | **Assessed via\*** |
| Experience in conducting literature review | **X** |  | **A,I** |
| Experience in formal analysis and proofs | **X** |  | **A,I** |
| Experience in mechanisation |  | **X** | **A,I** |
| Experience in writing reports and papers | **X** |  | **A,I** |
| Experience of presenting to a scientific audience |  | **X** | **A,I** |
| Experience of determining research methodologies in association with a supervisor | **X** |  | **A,I** |

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| **Skills / Abilities** | **Essential** | **Desirable** | **Assessed via\*** |
| Team working skills | **X** |  | **A,I** |
| Self-management and Organisational Skills | **X** |  | **A,I** |

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| Additional Attributes | **Essential** | **Desirable** | **Assessed via\*** |
| Be prepared to travel within the UK and abroad to conferences to present work |  | **X** | **I** |

**\*Criterion to be assessed via:**

**A = application form or CV/cover letter**

**I = interview questions**

**T = test or presentation at interview**