JOB OFFER

PhD Position in Secure Cloud Systems

Scalable and confidential unikernels

Operating Systems Teaching and Research Unit | RWTH AACHEN UNIVERSITY

SALARY	START	DURATION	APPLY BY
TV-L E13, 100% ≈ €4,850 gross/month	**Early 2027**	**3 years**	**30 November 2026**

About us

The Operating Systems group designs, builds and evaluates operating systems and low-level system software. Our research covers scheduling, memory management, unikernels, virtualisation and binary translation. We build real systems, often in the Linux kernel, and publish at the top venues of the field. We are part of RWTH Aachen University, one of Germany's top research universities, on the Belgian and Dutch borders.

Research topic. Cloud providers isolate tenants with VMs, unikernels and confidential computing (AMD SEV, Intel TDX), but this isolation makes communication between services expensive. We rethink OS and hypervisor design to reconcile security and performance: how can a single unikernel safely scale to many processes and applications? How can confidential VMs communicate both efficiently and securely? This position is funded by the DFG as part of SDCOS, a French-German project with LIP6, Paris.

Your tasks

- Design, implement and evaluate new OS and hypervisor mechanisms as part of your PhD
- Contribute to the group's teaching activities
- Present your work at top international venues
- Release your work as open-source software
- Co-supervise Bachelor's and Master's theses

Your profile

- Master's degree in computer science or similar
- Solid knowledge of OS and virtualisation
- Strong C skills; kernel/hypervisor work is a plus
- Very good English, our working language; German is not required

What we offer

- Close supervision in a small, supportive team
- A funded position in a French-German project
- Travel to top conferences (EuroSys, SOSP, …)
- Flexible hours, partial remote work, 30 days of paid leave, health benefits, and more

How to apply

Please send the following documents in **PDF format**: a statement of purpose (max. 2 pages) describing your motivation and research interests, your CV, your transcripts, and the contact details of two referees.

E-mail contact@os.rwth-aachen.de
Subject [Application] PhD position – SDCOS
Contact Prof. Redha Gouicem, Ph.D.

RWTH is proud to be certified as a family-friendly university. RWTH is an equal opportunities employer. We welcome and encourage applications from all qualified candidates and make employment decisions without regard to national or ethnic origin, sex, sexual orientation, gender identity, religion, disability or age. RWTH is especially committed to supporting the advancement of women in academia. When women are underrepresented in a university unit, preferential consideration will be given to female applicants among candidates of equal merit and professional standing, unless compelling reasons favor another individual.

In keeping with RWTH's commitment to equality of opportunity, we ask that you do not include a photo with your application.

Please refer to rwth-aachen.de/applicant-privacy-policy for information about how we collect and process applicant data in accordance with Articles 13 and 14 of the European Union's General Data Protection Regulation (GDPR).