INSTITUTE OF COMPUTER SCIENCE



The Czech Academy of Science

Pod Vodárenskou věží 2, 182 00 Prague 8

1. General description of the institute

The ICS host institution has a robust and interdisciplinary research environment that will provide the researcher with access to a wealth of resources, expertise, and knowledge essential for the successful completion of the "Model theory, structural combinatorics, and algorithms" project. ICS is a leading institution in the field of computer science / <u>detailed areas</u> / and is ideally positioned to support cutting-edge research in these fields.

2. Ethics, Integrity, and Researcher Support

The ICS institution is committed to fostering a supportive, inclusive, and ethical academic environment. This commitment is rooted in the Code of Ethics for Scientific Research of the Academy of Sciences of the Czech Republic and is further reinforced by adherence to the principles of the European Charter for Researchers. Our practices are guided by the non-discriminatory Career Code of the Academy of Sciences and more detailed Career Code of the Institute, ensuring transparency, fairness, and equal opportunities at every stage of the research career path.

This dedication is also reflected in institutional policies such as the Gender Equality Plan, whistleblower protection mechanisms, and a range of measures designed to uphold integrity and accountability.

In line with the Czech Academy of Sciences Code of Ethics and the values it promotes, ICS also actively advances the principles of Responsible Research and Innovation (RRI). These include public engagement, gender equality, science education, open science, and strong ethical standards. ICS is committed to ensuring that research results are made openly accessible whenever possible, in accordance with FAIR data principles and the broader effort to democratize knowledge. By embedding RRI in its institutional culture and day-to-day research practices, ICS promotes transparency, societal relevance, and accountability in all areas of scientific work.

Throughout the fellowship, researchers will benefit from access to a dynamic network of peers, mentors, and dedicated administrative support. ICS offers comprehensive onboarding for international researchers, including assistance with relocation, administrative procedures, and cultural integration. The institution places a strong emphasis on researcher well-being, providing initiatives that promote work-life balance and offering access to both professional and personal support services.

3. Career development framework

ICS, as part of the Czech Academy of Sciences, benefits from a robust framework for professional development. The Czech Academy of Sciences is the largest non-academic research institution in the Czech Republic with 54 public research institutes.

Under a memorandum of cooperation, the Czech Academy of Sciences collaborates with the Technology Centre Prague - National Contact Point of the European Commission. This collaboration

provides access to a wide range of training and support within the Horizon Europe framework programme.

Beyond this, ICS offers a range of internal training opportunities such as academic writing and various language courses, as part of career development. Training is focused on areas like grant proposal writing, technology transfer, open science and data management, and science ethics. These trainings are tailored to equip researchers with comprehensive transferable skills crucial for diverse career paths, both within academia and in industry.

Individual mentoring is a foundation of supervision at ICS, with supervisors providing continuous guidance and feedback to young researchers. Supervisors are highly experienced, having successfully mentored doctoral and postdoctoral students to achieve significant research outcomes and advance their careers. This includes guidance on specific research methodologies, scientific writing, and strategic career planning, ensuring the researcher's long-term professional growth. (As of July 2025, ICS hosts 20 doctoral and 19 postdoctoral students).

Junior researchers at ICS are actively engaged in the Scientific Departments and their research working groups activities and meetings, focusing on interaction, cooperation, and support from senior researchers. From ICS ongoing projects researchers receive knowledge on managing budgets and project administration. Researchers are actively encouraged to engage in interdisciplinary collaborations across departments, developing a holistic and innovative research approach.

Researchers are encouraged to participate in regular seminars and conferences to present their work, network with the broader scientific community, and stay abreast of the latest developments in their fields. These activities provide platforms for researchers to discuss results with colleagues working on similar problems, to present their work to a wider audience, facilitate discussion and receive feedback. Participation at these events supports knowledge exchange and academic skills development such as communication and formulation of constructive feedback.

4. Access to Facilities and infrastructure

The researcher will gain full access to ICS facilities, including e.g. computing clusters for complex analyses, an equipped office, and a personal computer for routine tasks. These resources, coupled with ICS's expert IT and library services, will enable them to perform high-quality research and acquire practical experience with sophisticated equipment critical to the project's advancement.

The ICS library is well established and focuses on Open Science support—technical and training, including data management plan. ICS also focuses on Intellectual property problematics and has formalized researcher independence. The institution strongly supports innovation and the creation of intellectual property, with established processes for identifying and protecting novel research outcomes.

Grant Department: Assists with ongoing projects administration and new grant applications, manages resources and budgets, and offers training. The Grant Department boasts a high success rate in securing competitive grants, providing robust administrative support throughout the project lifecycle.

The research will further benefit from opportunities to participate in research group meetings, institutional and Academy of Sciences seminars, joint group sessions, and interdisciplinary collaborations. These activities will allow the applicant to engage with researchers from diverse fields, expanding their scientific outlook and strengthening their ability to integrate multiple approaches into their work.

ICS maintains a strong network of national and international partnerships, building active collaboration with leading academic institutions, research centers, and consortia worldwide. The researcher will have opportunities to participate in joint projects, exchange visits, and international conferences, enhancing the project's visibility and promoting knowledge exchange across borders. ICS actively supports mobility schemes and collaborative research, encouraging integration into the global scientific community and expanding interdisciplinary networks ties both nationally and internationally.

Through our transfer department, the researcher will have the opportunity to experience the technology transfer side of academic research and experience the research-to-market pipeline. This includes opportunities for interaction with industry partners and practical insights into commercializing research results.

5. Equipment

Linux cluster (CentOS) - 'Ariel'

The Linux cluster named Ariel is running CentOS as its operating system. It comprises 16 CPU nodes, each equipped with 80 Intel Xeon Gold cores and 380 GB of RAM. Additionally, there are 2 GPU nodes, with each node featuring 2 NVIDIA Quadro RTX 6000/8000 GPUs. This powerful computing infrastructure provides the necessary computational capacity for complex data analysis and large-scale simulations, essential for cutting-edge research.

Storage system: ICS offers three types of highly secure data storage.

#1: Offers a 7 TB directory for regular work without backups, a 15 TB directory for long-term storage with weekly backups, and a 9 TB directory without backups.

#2 and #3 each of them offer 10 TB for backups and day-to-day work. These robust and secure data storage solutions ensure data integrity and accessibility, crucial for long-term research projects.

6. Previous and current projects

ICS has a proven track record of successfully hosting and managing EU-funded projects, Operational programme projects as well as other national and international projects demonstrating its strong administrative and scientific capacity to support the proposed "Model theory, structural combinatorics, and algorithms" project. The institution's experience ensures smooth project execution and compliance with legal and providers' regulations.

Current research grants

Previous research grants