

# The Centre of Excellence Programme for 2018-2025



**CENTRES OF EXCELLENCE  
IN RESEARCH**



**ACADEMY  
OF FINLAND**



## CENTRES OF EXCELLENCE IN RESEARCH

The Academy of Finland's Centre of Excellence Programmes are a success story in Finnish research. Centres of Excellence (CoE) are at or near the international cutting edge of research in their field. They carve out new avenues for research, develop creative research environments and innovations, and train new talented researchers for the Finnish research and business sectors.



## CENTRES OF EXCELLENCE IN RESEARCH

### Finnish Centres of Excellence in Research

The units granted Centre of Excellence (CoE) status by the Academy of Finland are scientifically first-rate research communities that have capacity for renewal and high societal impact. Thanks to the long-term funding provided by the Academy in collaboration with CoE host organisations, the funding instrument effectively facilitates risk-taking and new initiatives in research.

CoEs are jointly funded by the Academy of Finland, universities and research institutes. Funding is also made available through other sources.

The 2018–2025 Centre of Excellence Programme includes 12 centres. These are composed of research teams from twelve universities or research institutes. The Academy has earmarked a total of 106,5 million euros for the 2018-2025 CoE programme.


[www.aka.fi/coe](http://www.aka.fi/coe)

#CentresOfExcellence

# Centre of Excellence in Law, Identity and the European Narratives

The EuroStorie Centre of Excellence seeks to critically investigate the foundations of the European narrative about a shared heritage of law, values and ideals. The purpose is to examine crises through the development of conflicting narratives of Europe in 20th-century thinking and its impact on contemporary policies and popular perceptions. The historical narrative of totalitarianism and, ultimately, the Holocaust, pervades European historical consciousness, but equally it serves to legitimate the idea of shared European legal roots in democracy, rule of law and legality.

[Website](#)

 [@eurostorie](#)

Director:  
Professor **Kaius Tuori**,  
University of Helsinki



# Centre of Excellence in Research on Ageing and Care

The Centre of Excellence AgeCare studies the transformation of ageing and care for older people using new conceptual and interdisciplinary perspectives. The research of the CoE combines an analysis of the diversification of everyday life with an analysis of ongoing profound societal and policy changes. In particular, the CoE explores the implications of transnationalisation and digitalisation for ageing and care. The CoE combines scholarship from social policy, sociology and gerontology, analysing older people's care needs, agency and equality as well as the changing character of care work.

[Website](#)



[@CoE\\_AgeCare](#)

Director:  
Professor **Teppo Kröger**,  
University of Jyväskylä



# Centre of Excellence of Inverse Modelling and Imaging

The Centre of Excellence of Inverse Modelling and Imaging explores the use of inverse modelling methods in solutions to inverse problems. The objective is to create fundamentally new, efficient and theoretically sound solutions to practical inverse problems. A particular focus is on application areas such as medical imaging, geophysics, space research, remote sensing and environmental and climate research.

[Website](#)



[@InverseFinland](#)

Director:  
Professor **Matti Lassas**,  
University of Helsinki



# Centre of Excellence in Stem Cell Metabolism

The Centre of Excellence in Stem Cell Metabolism studies how stem cell function can be modified by regulating their metabolism. The CoE produces new research knowledge on what role the distinctive metabolism of stem cells plays in stem cell biology. Research in the CoE will advance the development of novel stem-cell-based therapies, for example for ageing-related diseases, tissue renewal and organ replacement. In addition, the research performed in the centre will develop cell-based treatments for diabetes.

[Website](#)



[@MetaStem\\_Center](#)

Director:  
Professor **Pekka Katajisto**,  
University of Helsinki





# Centre of Excellence in Tumour Genetics Research

The Centre of Excellence in Tumour Genetics Research investigates how the genome affects tumour properties. Tumours are a challenging disease group as every single case is unique. Environmental factors, genomes, epigenetic modifications and combinations of these all play a significant role in the disease process. The CoE aims to improve our understanding of tumour function. Another aim is to bring genomic medicine into practice.

[Website](#)



[@CoEinTG](#)

Director:  
Professor **Lauri Aaltonen**,  
University of Helsinki





# Centre of Excellence in Research of Sustainable Space

The Centre of Excellence in Research of Sustainable Space examines how space can be used sustainably for the benefit of science, technology and business. Its objective is to secure safe orbits for the future and revolutionise experimental space physics based on nanosatellites. The CoE performs cutting-edge experimental analysis utilising international space missions and the world's best supercomputer modelling tools.

[Website](#)



[@cleanorbits](#)

Director:  
Professor **Minna Palmroth**,  
University of Helsinki



# Centre of Excellence in the History of Experiences

The HEX Centre of Excellence studies the role and place of experiences in society and in explaining history. It presents a new approach, history of experiences, as a way to establish how people's experiences are formed, how they are interpreted and how they influence individuals' relationships to their community and to society at large. Research in the CoE focuses on three social constructions: (lived) religion, (lived) nation and (lived) welfare state. Much research has been done on experiences, but they have not been systematically studied as part of the individual-society relationship or when explaining the history of institutions and ways of thinking through a combination of micro and macro analysis. The research is based on the history of Finland and Europe.

[Website](#)



[@HEXhistory](#)

Director:  
Professor **Pirjo Markkola**,  
Tampere University



# Centre of Excellence in Complex Disease Genetics

The Centre of Excellence in Complex Disease Genetics aims to improve our understanding of molecular mechanisms to better predict, prevent, diagnose and treat complex diseases. The CoE aims to develop and apply a powerful, reliable and general strategy for comprehensive identification of risk and protective variants. The

COE will also develop and pilot strategies to implement genomic findings into prevention and personalised treatment of common complex diseases.

[Website](#)



[@CoECDG](#)

Director:  
Professor **Samuli Ripatti**,  
University of Helsinki



# Centre of Excellence in Quantum Technology

The QTF Centre of Excellence studies the use of quantum phenomena in quantum devices and applications. Research in the CoE is a combination of experimental, theoretical and applied expertise. New technological applications are expected in, for instance, quantum sensors, simulators, communication and computing, with considerable scientific, economic and societal benefits.

[Website](#)



[@QTFinland](#)

Director:  
Professor **Jukka Pekola**,  
Aalto University



# Centre of Excellence in Body-on-Chip Research

The Centre of Excellence in Body-on-Chip Research aims to develop a new body-on-chip platform for the study of the basic biology of human tissues and for the modelling of both systemic diseases and trauma. The resulting expertise and technologies will improve, for instance, the development of new personalised treatments and drugs. To achieve this goal, the researchers will combine multidisciplinary expertise on human stem cells, biomaterials, sensors, microfluidics, biomodelling and bioimaging.

[Website](#)



[@coeboc](#)

Director:  
Professor **Minna Kellomäki**,  
Tampere University



# Centre of Excellence in Ancient Near Eastern Empires

The ANEE Centre of Excellence studies the imperial impact on the formation and function of social groups in the ancient Near East. A special focus is on local and minority social group identities. Research in the CoE combines history, archaeology and social sciences to increase our understanding of how changing power ratios affect people's identities and lifestyles. The centre will also develop methods of digital humanities in the fields of language technology and network analyses and involve local communities in the protection of cultural heritage.

[Website](#)



[@ANEE\\_Helsinki](#)

Director:  
Associate Professor **Saana Svärd**,  
University of Helsinki



# Centre of Excellence in Game Culture Studies

The Centre of Excellence in Game Culture Studies develops original theoretical and empirical approaches that are crucial for understanding, anticipating and influencing the impact games have on culture and society. The CoE's work is focused on four interconnected themes: the meaning and form of games; the creation and production of games; players and player communities; and the societal framing of games.

[Website](#)



[@CoEGameCult](#)

Director:  
Professor **Frans Mäyrä**,  
Tampere University







# ACADEMY OF FINLAND

The Academy of Finland funds high-quality scientific research, provides expertise in science and science policy and strengthens the position of science and research in society.

We work to contribute to the renewal, diversification and increasing internationalisation of Finnish research. We support and facilitate researcher training and research careers, internationalisation and the utilisation of research results.

Our activities cover the full spectrum of scientific disciplines.

In 2022, our funding for research amounts to 468 million euros. We are a government agency within the administrative branch of the Finnish Ministry of Education, Science and Culture.

[www.aka.fi/en](http://www.aka.fi/en)



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