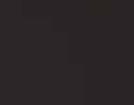


UNIVERSITY OF COLOGNE

Annual Report 2016



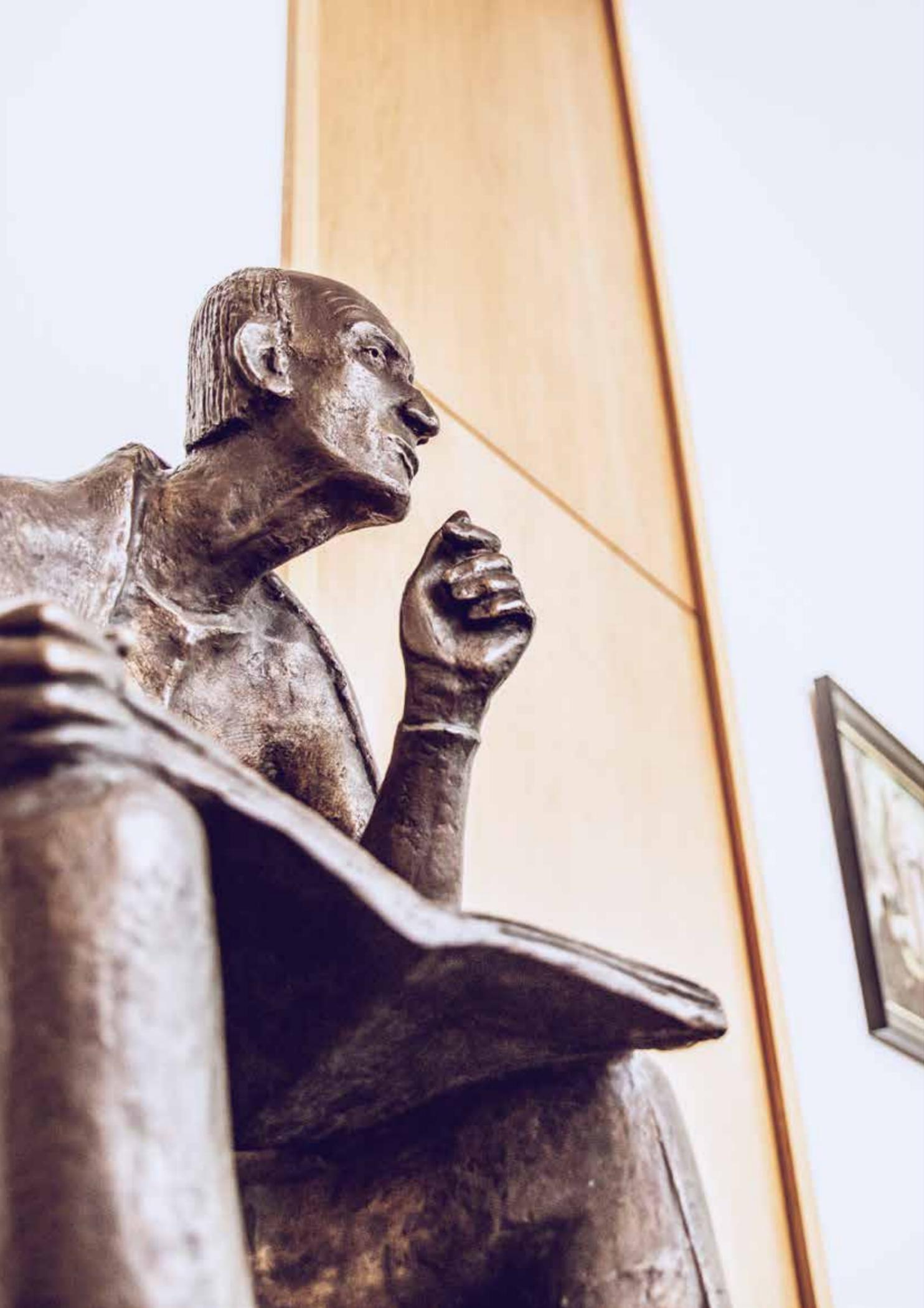
UNIVERSITY OF COLOGNE

Annual Report 2016



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Professor Dr Axel Freimuth

With its educational mandate and as an engine for research and innovation, the University of Cologne is making a major contribution to the development of our society.

Universities stand for new ideas and change, often coming from a completely unexpected direction. They are an engine for research and innovation and help to solve pressing problems in our society. Moreover, they are in increasing demand as educational institutions: Today, one in two young people in Germany starts a degree programme. Besides preparing our students for a professional career, the UoC's study programmes convey knowledge and skills. But it is more than that – higher education also helps to strengthen young people's capacity for social responsibility and their critical faculties, encouraging them to become involved in society. In view of the current social, political and economic situation around the world, not losing sight of the bigger picture appears more important than ever.

The University of Cologne is rising to this challenge with its wide range of programmes for study and education and by promoting cutting-edge research and innovation. One of our priorities is to support young talents in their professional and academic careers. Our key research and teaching areas are at the forefront of

current scientific developments and firmly embedded in social discourse. Our dynamic international network – with 85 partner universities and more than 500 Faculty partnerships – as well as the international and diverse life on campus create a cosmopolitan and stimulating atmosphere and excellent opportunities for academic exchange.

This Annual Report provides information about the UoC's wide range of activities in 2016 and gives an overview of key trends and developments. I would like to offer my heartfelt thanks to all those involved for their commitment to teaching and research and to our university. Over the years, the University of Cologne has repeatedly adapted its orientation as a result of fundamental reforms and viable new ideas. We intend to document this process with this and subsequent Annual Reports.

I would also like to thank the many supporters and friends of our university, in particular the state, for steadily increasing our financial endowment in recent years and for granting us substantial autonomy, which opens up a wider scope of

opportunities and makes it possible for us to become involved in a diverse range of areas. Moreover, I would like to thank our many friends and benefactors as well as our collaboration partners for their continuous and generous support. Their commitment helps to stimulate social discourse with and within our university, thus creating a fertile environment for contemporary research and teaching.

I hope you will all enjoy this report.

Professor Dr Axel Freimuth
Rector of the University of Cologne

HIGHLIGHTS 2016



1 Poetica II

'Blue Notes – living in sentences, dancing in verses' was the theme of the 'Poetica' Festival for World Literature in 2016, which took place at the end of January. The German Academy for Language and Literature and the Morphomata Center for Advanced Studies in the Humanities organized the event for the second time now. From 9 to 14 January, twelve international writers brought their works to the UoC, performed them in public at various venues in Cologne and discussed them with countless visitors to the event. The curator of the 2016 festival was the Slovenian author and publisher Aleš Šteger.



2 Ethics Forum 'Freedom and Relevance of Science'

Demographic change and climate change are among the challenges that science and politics now have to face. In early February, leaders from academia, politics and culture discussed the goals and limits of science policy management within the setting of the Ethics Forum at the UoC. An evening lecture by Charité Executive Board Member Professor Dr Klaus Zöllner opened the event.



3 Digital Transformation

On 19 February, the conference 'Digital transformation – on the future of society' took place. It was organized by the Cologne Center for Ethics, Rights, Economics and Social Sciences of Health (ce-res). High-ranking experts from science and industry, including the former Prime Minister of North Rhine-Westphalia (NRW), Hannelore Kraft, discussed the question how digital technologies will change our lives in the future.

4 NRW Innovation Prize

On 29 February, the NRW Minister of Science at the time, Svenja Schulze, presented the Innovation Prize to four excellent researchers. The prize was awarded in three categories. In the 'Innovation' category, the prize was awarded to Professor Dr Jürgen Wolf, Head of the Centre for Integrated Oncology at Cologne University Hospital. Wolf developed personalized therapeutic approaches for cancer patients that can lead to a higher life expectancy, especially in patients with lung cancer. The Innovation Prize is endowed with a sum of 150,000 euros and, after the Future Prize, awarded by the Federal President, it carries the highest prize money of any award of this kind in Germany.

5 COPT Building Opened

On 20 May, the COPT Center for Organic Electronics was scientifically inaugurated with a one-day conference. Experts in materials and applied research from Germany, the USA and the UK reported on the latest developments in organic electronics. Under the leadership of Professor Dr Klaus Meerholz, the COPT Center fosters technology transfer between the UoC and small and medium sized enterprises.



6 Judith Butler is Albertus Magnus Professor 2016

The US philosopher and philologist Professor Dr Judith Butler is one of the most important representatives of gender research and cultural research on sexual identity. Her lectures met with an extraordinary amount of interest and were also streamed live from the packed 1,200-seat auditorium to the equally full lecture halls. The Albertus Magnus Professorship of the University of Cologne was established in memory of the mediaeval polymath Albertus Magnus. Each year, a personality with an international reputation is appointed to the professorship.



HIGHLIGHTS 2016



Federal Minister for Research Professor Dr Johanna Wanka at the University of Cologne

7 What happens in our body's cells when we age? How do Parkinson's disease, Alzheimer's disease, diabetes and cancer come about and what are their molecular foundations? On the second day of her summer trip to the Max Planck Institute for Biology of Ageing and the Cluster of Excellence for Aging Research CECAD at the UoC, Federal Minister for Research Professor Dr Johanna Wanka found out all about the research work currently being carried out on the subject 'The Future of Life in Old Age'.



First Further Training Programme at the Business School

8 In cooperation with the Rotterdam School of Management, Erasmus University, the UoC launched the Cologne-Rotterdam Executive MBA in the winter semester, an internationally-focused programme tailored specifically to managers. The programme is offered at the Business School, founded in 2015 by the Faculty of Management, Economics and Social Sciences. The Business School serves as the umbrella organization for further training in management at the UoC.

Five Years of the Centre for Teacher Education

9 With around 14,000 teacher trainees, the UoC is one of the largest locations in Europe for training for the teaching profession. On 24 October, the Centre for Teacher Education celebrated its fifth anniversary with a podium discussion on the future of school. As a central academic institution, it makes a major contribution to the cross-Faculty and cross-University design of the teacher training degree programmes at the UoC.



Leibniz Prize for Cologne Expert in African Studies

10 In December, the Cologne expert in African Studies Professor Dr Anne Storch received the prestigious Gottfried Wilhelm Leibniz Prize from the German Research Foundation for her outstanding research achievements. With her linguistic analyses, Storch, whose areas of focus include taboos and secret languages, has made a decisive contribution to understanding contemporary Africa from a cultural anthropology perspective.



Honorary Doctorate for Professor Dr Klaus Müllen

11 On 15 December, the chemist Professor Dr Klaus Müllen, long-standing member of the Scientific Advisory Board of the UoC, received an honorary doctorate from the Faculty of Mathematics and Natural Sciences. The UoC was thus honouring his pioneering work on the synthesis and application of organic semiconductor materials. In the early 1980s, Müllen taught at the UoC as Professor for Organic Chemistry. Most recently, he served as the Director of the Max Planck Institute for Polymer Research in Mainz. His work has been rewarded with countless grants and prizes, including the Max Planck Research Prize and the ERC Advanced Grant.





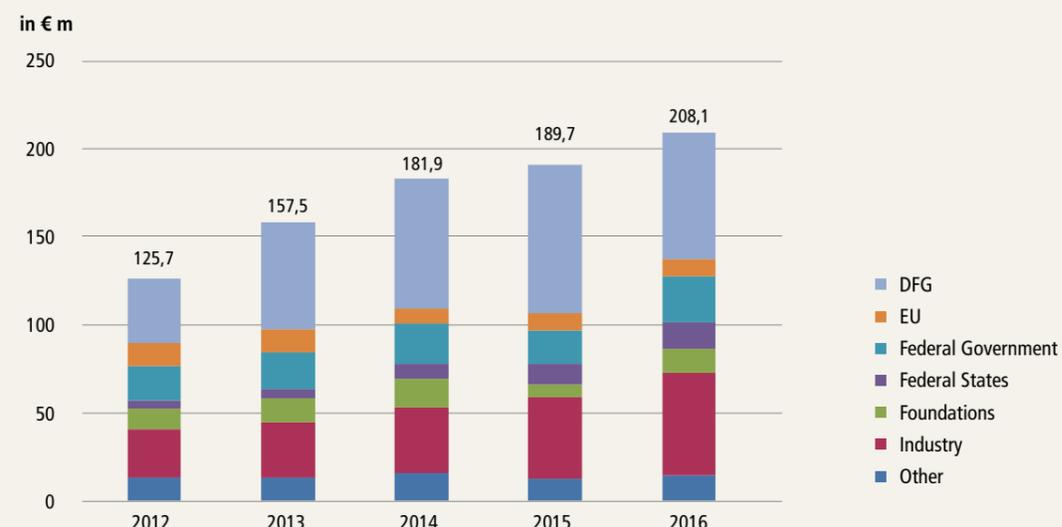
RESEARCH

The University of Cologne has consolidated its position as an internationally renowned research institution. Many individual achievements contributed to this success in 2016, including extensive external funding: the UoC was able to initiate seven new Collaborative Research Centres and five projects funded by the European Research Council (ERC). Moreover, we won the Gottfried Wilhelm Leibniz Prize and Alexander von Humboldt Professorships. Last but not least, a multitude of highly regarded publications added to our prestige.

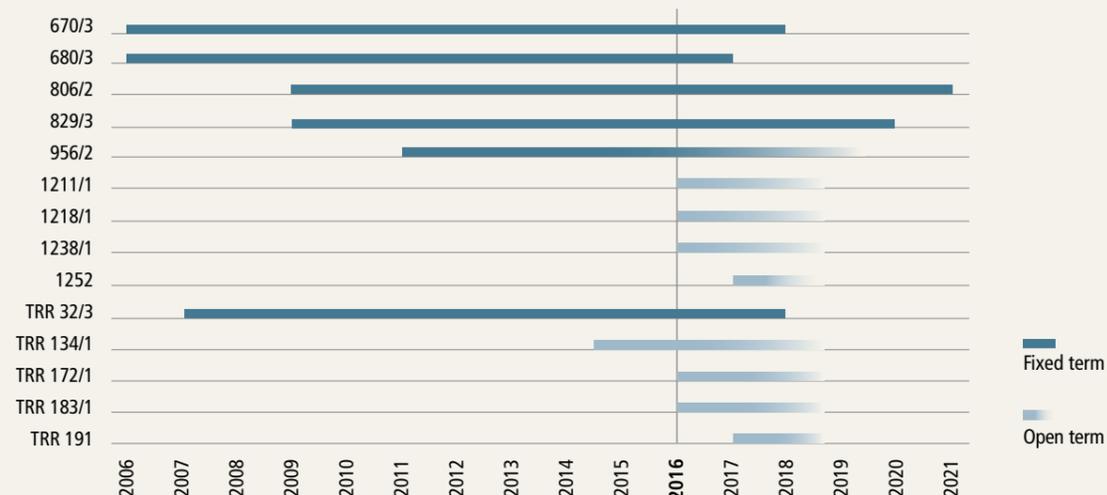
*Vice-Rector for Research
Professor Dr Bettina Rockenbach*

Research in Figures

Development of external funding income according to funding providers



DFG Collaborative Research Centres and transregional research areas according to term



10 financially strongest externally funded projects at UoC in terms of annual external funding budget	Duration (years)	Funding sum (total) in €
'Cellular Stress Responses in Aging-Associated Diseases'	5	20,513,815
Establishing additional study places for teacher training for special needs education	5	19,126,800
BISS – Education through language and writing: consortium of sponsors to implement the joint initiative of the federal government and federal states to promote language and linguistic diagnostics and to encourage reading	6	12,196,326
'Conditions and Impact of Star Formation – Astrophysics, Instrumentation and Laboratory Research', central project	3	11,052,620
Mercator DaZ framework programme	5	10,650,000
Graduate School 1094 'a.r.t.e.s. Graduate School for the Humanities Cologne'	5	9,346,920
Encouraging the establishment of a Centre for Teacher Training NRW Ministry of Culture and Science	5	8,170,000
Graduiertenschule 260/2: „Graduiertenschule Bonn-Köln in Physik und Astronomie“	5	7,589,920
National Grant Programme ('Deutschlandstipendium – NRW Ministry of Culture and Science and Foundation')	6	4,889,700
Our Way to Europe: Culture-Environment Interaction and Human Mobility in the Late Quaternary, TP Z1	5	4,515,550

Whether in the arts and social sciences, in natural sciences or life sciences – excellent appointments, top-notch prizes and success in gaining external funding provide evidence of the quality and attractiveness of the UoC as a research location across all Faculties. The awarding of an Alexander von Humboldt Prize, a Leibniz Prize and five European Research Council (ERC) grants have given particular acknowledgement to the research achievements of our scholars and scientists this year.

The research strengths and competitiveness of the UoC were also demonstrated by the first-time granting or continuation of seven Collaborative Research Centres (CRC) and Transregional Collaborative Research Centres (TRR), the successful application for a second phase of funding by the Mercator Foundation for the 'Mercator Institute for Literacy and Language Education' and the procurement of EU funding from the COFUND programme for the 'a.r.t.e.s. Graduate School for the Humanities Cologne'. Overall, the UoC has been able to increase its income from external funds by 65% in the last four years, from 125.7 million euros in 2012 to 208.1 million euros in 2016.

In addition to the individual achievements of specific scholars and scientists, the development of profiles in the Key Profile Areas and Competence Areas proved particularly successful. In the Key Profile Areas Aging-associated Diseases; Behavioral Economic Engineering and Social Cognition; Quantum Matter and Materials; Socio-economic, Cultural and Political Transformations in the Global South; and Plant Science, internationally visible research centres have been founded which act as a driving force for new research projects. ///

	KPA I	Aging-Associated Diseases (CECAD)
	CA I	Aging and Demographic Change
	KPA II	Behavioral Economic Engineering and Social Cognition
	CA II	Social and Economic Behavior
	KPA III	Quantum Matter and Materials
	CA III	Quantitative modeling of Complex Systems
	KPA IV	Socio-economic, Cultural, and Political Transformations in the Global South
	CA IV	Cultures and Societies in Transition
	KPA V	(in development)
	CA V	Social Inequalities and Intercultural Education
	KPA VI	Plant Science (CEPLAS)
	CA VI	Food Security

The abbreviations refer to the terms Key Profile Area (KPA) and Competence Area (CA)

Successful Profile Development

Key Profile Areas

As part of the Institutional Strategy, five thematic Key Profile Areas were defined that form internationally competitive research centres with a high level of scientific, technological and societal relevance. They benefit from strong networks and close collaboration with many regional non-university research institutes as well as partners from industry.

Since the start of funding in 2012, 19 new professorships, including ten W3 positions and nine other W1/W2 Tenure Track positions, have been successfully filled with excellent

candidates in all Key Profile Areas. Furthermore, the applications of KPA II, KPA III and KPA IV to become Centers of Excellence in the course of the UoC Excellent Research Support Programme were also successful. The resulting Centers of Excellence now receive funding of up to 640,000 euros per year for a term of five years each. As Clusters of Excellence, KPA I and KPA V have also been awarded the status of a UoC Center of Excellence. ///

Competence Areas

Each Key Profile Area is embedded into an interdisciplinary Competence Area. The Competence Areas strengthen cross-Faculty research in selected areas and help to integrate the Key Profile Area into the UoC. They bring together the projects and activities of scholars and scientists from the most varied disciplines.

Examples of successful collaboration and profile development in the Competence Areas are: the Cologne Center for Ethics, Rights, Economics, and Social Sciences of Health (ceres), which was established in 2013 within the framework of CA I. In CA V, the Mercator Institute for Literacy and Language Education has received eight million euros for a second funding period until 2022. ///

Record Year

Seven Approved Collaborative Research Centres at the University of Cologne

With six new and one continued Collaborative Research Centres, 2016 was an exceptionally successful year for the University of Cologne. This means that there are currently 14 CRCs and TRRs with Cologne participation.

It is especially pleasing that three of the new CRCs evolved from projects initially funded by the UoC's Excellent Research Support Programme. Below, the six newly approved CRCs provide an insight into their research.



CRC 1211 | Earth – Evolution at the Dry Limit

In extremely arid areas of the world, biological activity and the processes of the earth's surface are much slower because of the shortage of water. Scientists from the Universities of Cologne, Aachen and Bonn, Forschungszentrum Jülich and the German Research Centre for Geosciences in Potsdam aim to identify the key features influencing biological processes and changes to the earth's surface in such an area – the Atacama Desert in Chile. The researchers want to determine the critical threshold in the environmental conditions that enable the settlement of life and changes in the landscape. To do so, the scientists are studying the interactions between

the temporal and spatial patterns of biological settlement processes and landscape development and how these are influenced by the climate.

The latest methods in genetics and isotope geology are being used, some of which are being developed specifically for and within the scope of this CRC. Among other things, the studies are intended to provide information on periods of evolutionary delay, processes of the earth's surface where water is largely absent and the influence of geographical barriers on the climate-related migration of species. ///

Professor Dr Tibor Dunai Speaker – CRC 1211

Institute for Geology and Mineralogy

'The scientific environment at the University of Cologne and our partners in the region were key to the success of this interdisciplinary CRC.'

Atacama Desert, Chile



Professor Dr Thomas Langer Speaker – CRC 1218

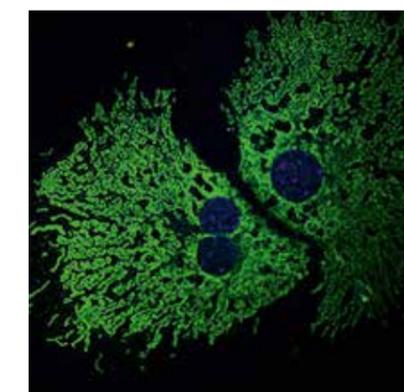
Institute for Genetics & CECAD

'The combined expertise of the working groups involved in CRC 1218 allows new approaches to better understanding the effects of faulty mitochondria on the cell and organism.'

CRC 1218 | Mitochondrial Regulation of Cellular Function

Mitochondria are the powerhouses of our cells and, among other things, responsible for cell respiration. According to the latest findings, however, they play a more complex role than previously assumed. Mitochondria are dynamic structures that communicate with their cellular environment in many ways and have a key influence on apoptosis, the programmed dying off of cells. As a result, mitochondria also influence the course of diseases such as Alzheimer's, diabetes and heart disease. CRC 1218 is researching the interactions between mitochondria

and their cellular environment. The aim of the research is to explain the influence of mitochondria on the activity, differentiation and survival of cells. Research results will help us to gain a better understanding of the origin and development of diseases resulting from dysfunction of the mitochondria, and to fight them with the help of new therapeutic strategies. ///



Mitochondria in primary hepatocytes labelled with Tom20 antibody



**Professor Dr Paul van Loosdrecht
Speaker – CRC 1238**

University of Cologne
Institute of Physics II

CRC 1238 | Control and Dynamics of Quantum Materials

The development of new materials is an important basis for technological innovations that are fundamentally changing our everyday lives. One example of this is the manufacture of innovative data storage media. Without basic research, however, these innovations would not be possible. Right at the top in this area is the study of quantum materials, for example topological insulators and strongly correlated oxides in which the interaction of spin-orbit coupling, correlations and topology lead to a number of fascinating phenomena, such as Majorana bound states in topological superconductors and in Kitaev quantum spin liquids or magnetic vortex structures, skyrmions in chiral magnets.

CRC 1238 is working at the interface of these research areas with a diverse team of outstanding scientists from experimental and theoretical physics and from the field of crystallography. They are examining physical phenomena and materials from various angles in order to understand their dynamism, be able to control them and enable new functionalities. CRC 1238 is enhancing Cologne's solid-state research and its network with the associated groups in Bonn and Jülich, making it an internationally leading centre of research into quantum materials. ///



Ultra high vacuum Raman spectrometer

CRC 1252 | Prominence in Language

Prominence describes a communication strategy that enables a single linguistic element to be particularly emphasized in comparison to other similar elements, both in speaking and in writing. Thus, linguistic elements are weighted and structured for various communicative goals. For example, through emphasis – to convey particular information, it is not appropriate to put the same emphasis on all of the words in a sentence; it is only the prominent emphasis of a specific word that draws the most attention to this word. In addition to emphasis, sentence structure or word choice can help to structure the communication of linguistic information. How prominence works in detail, how it is used and which languages in the world make use of prominence are the subject matter of CRC 1252 'Prominence in Language'. For the linguists, this research project represents a first comprehensive attempt

at modelling linguistic prominence on the basis of various European, African, Asian and South American languages and language families. The research will provide a better understanding of the enormous flexibility of language. With a limited lexicon of words, an enormous variety of communicative messages can be created. CRC 1252 is using various empirical and experimental methods for the analyses – from recording poorly documented languages in the field to evaluating brainwaves when people are speaking and understanding language. ///



**Professor Dr Klaus von Heusinger
Speaker – CRC 1252 with members
of his working group**

Institute for German Language
and Literature I

In July 2017, speaker Professor Dr Klaus von Heusinger (2nd from right) and his colleague, the neurolinguist Professor Dr Ina Bornkessel-Schlesewsky (3rd from right), invited guests to their opening ceremony.



Professor Dr Alexander Altland talking to students



Professor Dr Alexander Altland
Speaker – CRC/TRR 183

University of Cologne
Institute for Theoretical Physics

CRC/TRR 183 | Entangled States of Matter

Complex quantum systems can have entangled states of matter in which various physical states overlap. Studies on these key properties of quantum mechanics are at the centre of the work of the CRC/TRR 'Entangled States of Matter'. For example, the bits of a classic computer can exist in only two mutually exclusive states that are termed 'on' or 'off'. In quantum bits, by contrast, 'on' and 'off' states can overlap. Consequently, a multi-bit quantum computer could process information with much greater computational power. However, entangled quantum states are highly sensitive to disruptive factors from the environment – one of the main reasons why quantum information processing has not been realised to date.

CRC 183 intends to contribute towards overcoming this challenge. In addition to work on theoretical foundations, specific proposals for the design of efficient components for quantum information processing form a part of the research programme. In the long term, the project aims to develop components for quantum information processing. The CRC is based on collaboration with scientists at Freie Universität Berlin, the Weizman Institute (Israel) and the University of Copenhagen (Denmark). ///



Professor Dr Hansjörg Geiges
Speaker – CRC/TRR 191

University of Cologne
Mathematical Institute

CRC/TRR 191 | Symplectic Structures in Geometry, Algebra and Dynamics

Symplectic geometry has its origins in the mathematical formulation of classic mechanics, in particular the equations of motion of Hamiltonian dynamics. Planetary or satellite orbits, for example, can be studied using this formalism. Symplectic geometry and topology developed as a separate field of mathematics around 30 years ago. But there have repeatedly been surprising applications in other fields of mathematics, for example in knot theory.

CRC 191 brings experts in symplectic geometry together with mathematicians from other fields where symplectic methods are used, the full implications of which have not yet been researched. One goal of this collaboration is to develop a broader spectrum of methods for symplectic geometry. One example is the symplectic packing problem, which will be addressed using algorithmic methods and highly efficient computers. This symplectic analogue of the question as to how greengrocers should most effectively stack their oranges is of fundamental importance in many areas of geometry. ///



How does the greengrocer stack oranges most effectively?

Collaborative Research Centres

as of December 2016

Nr.	Titel	seit
SFB 670/3	Cell-Autonomous Immunity	2006
SFB 680/3	Molecular Basis of Evolutionary Innovations	2006
SFB 806/2	Our Way to Europe	2009
SFB 829/3	Molecular Mechanisms Regulating Skin Homoeostasis	2009
SFB 956/2	Conditions and Impact of Star Formation	2011
SFB 1211/1	Evolution at the Dry Limit	2016
SFB 1218/1	Mitochondrial Regulation of Cellular Function	2016
SFB 1238/1	Control and Dynamics of Quantum Materials	2016
SFB 1252	Prominence in Language	2017
SFB/TRR 32/3	Patterns in Soil-Vegetation-Atmosphere Systems	2007
SFB/TRR 134/1	Ingestive Behaviour: Homoeostasis and Reward Speaker: University of Lübeck	2014
SFB/TRR 172/1	Arctic Amplification: Climate-Relevant Atmospheric and Surface Processes and Feedback Mechanism (AC)3 Speaker: University of Leipzig	2016
SFB/TRR 183/1	Entangled States of Matter	2016
SFB/TRR 191	Symplectic Structures in Geometry, Algebra and Dynamics	2017

Researcher Groups

as of December 2016

No.	Title	Spokesmen
FOR 1371	Design and Behaviour – Economic Engineering of Firms and Markets	Prof. Dr. Axel Ockenfels
FOR 1882	Psychoeconomics. Interacting Decision Processes and Their Consequences for Economic Performance	Prof. Dr. Carlos Alós-Ferrer
FOR 2150	Relativity in Social Cognition: Antecedents and Consequences of Comparative Thinking	Dr. Christian Unkelbach
FOR 2240	(Lymph)angiogenesis and Cellular Immunity in Inflammatory Diseases of the Eye	Prof. Dr. Claus Cursiefen
FOR 2495	Inductive Metaphysics	Prof. Dr. Andreas Hüttemann
KFO 219	Basal Ganglia - Cortex Loops: Mechanisms of Pathological Interactions and Their Therapeutic Modulation	Prof. Dr. Gereon Fink
KFO 286	Exploiting defects in the DNA damage response for the treatment of chronic lymphocytic leukaemia	Prof. Dr. Michael Hallek

Research Highlights in 2016 (selection)

Extinction of Species, Better Wound Healing and Black Holes

Hope for better wound healing for diabetics

In Germany alone, around six million diabetics often struggle with poorly healing wounds. Researchers at the Cologne Max Planck Institute for Biology of Ageing, at the Center for Molecular Medicine Cologne, at the CECAD Cluster of Excellence and at the UoC's Institute for Genetics found out that an inhibited insulin metabolism at the site of the wound is often the cause of the delayed wound healing. Previously, doctors had assumed that high levels of glucose in the blood lead to blood vessel and nerve cell damage and a reduced immune response, thus triggering the problems. Professor Dr Linda Partridge, Director of the Max Planck Institute

for Biology of Ageing in Cologne and Professor Dr Maria Leptin, Research Group Leader at the UoC's Institute for Genetics at the UoC, have deciphered the actual mechanism using the fruit fly *Drosophila melanogaster*. The flies serve as a model for diabetes because the insulin metabolisms of flies and mammals are very similar.

Normally, neighbouring cells form an actomyosin cable immediately after an injury. This forms a ring around the site of the injury, pulls together and thus closes the gap. However, if the insulin metabolism is disrupted, this cable is weaker and forms much later. This results in incomplete or slower wound healing. These findings foster hope for new treatment for diabetics. In future, it may be possible to treat the wound site locally with medication that will activate the insulin metabolism locally and encourage healing. ///

sible to treat the wound site locally with medication that will activate the insulin metabolism locally and encourage healing. ///

[nature.com/articles/incomms12972](https://www.nature.com/articles/incomms12972)

Was early *Homo sapiens* a climate refugee?

Starting out from Ethiopia, *Homo sapiens* conquered the world approximately 300,000 years ago. But precisely when and why did our ancestors set off to discover and populate other parts of the world? CRC 806 of the Universities of Cologne, Aachen and Bonn is exploring these questions on the basis of sediments from Lake Chew Bahir in the south of Ethiopia, also known as Lake Stefanie. 'On the basis of the lake sediments, we can reconstruct the climate and the environmental conditions of the last 200,000 years and examine factors that ultimately encouraged the dispersal and migration of modern humans', says Professor Dr Frank Schäbitz from the UoC. To do this, the researchers drilled up to 280 metres into the bed of Lake Chew Bahir and brought up the 3,500 kilograms of sediment they are currently evaluating. ///

[sfb806.de/media](https://www.sfb806.de/media)



Staff and scientists from Germany, Ethiopia and the UK came together in Ethiopia to study the climate history of the region.

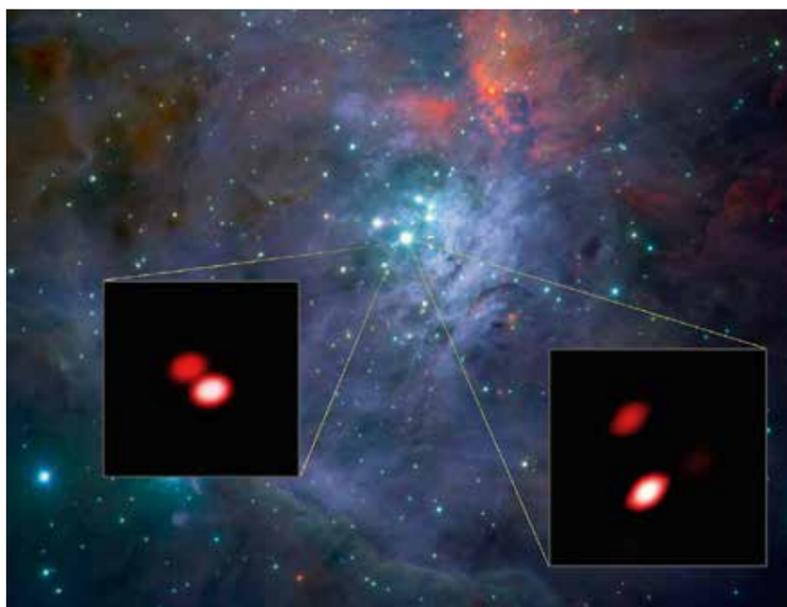
Focus on Black Holes

The large telescope in Chile's Atacama Desert is the showcase observatory of European ground-based astronomy. The European Southern Observatory operates what is probably the most highly developed optical instrument in the world. In 2016, scientists from Cologne, Heidelberg and Garching commissioned a new instrument called GRAVITY on the telescope. Its main task will be to research black holes. In particular, GRAVITY will examine what happens in the extremely strong gravitational field in the centre of the Milky Way.

The Institute of Physics I at the UoC developed and built the two spectrometers for GRAVITY for this purpose. Spectrometers analyse the wavelength of the starlight being observed and convert the photons received into electronic signals. To form a virtual telescope with a diameter of up to 200 metres, the high-performance GRAVITY combines the light from several telescopes into a gigantic interferometer. This technology enables astronomers to recognize much finer details than would be possible with a single telescope. ///

➔ eso.org/public/news/eso1601/

➔ eso.org/public/germany/news/eso1601/?nolang



GRAVITY discovers that one of the stars in the constellation of Orion is a double star. (Picture <http://eso.org/public/news/eso1601/>)

On the Extinction of Species

If people do not intervene, or only intervene to a minor extent, meadows provide habitats to many species of plants and animals. But intensive use of land by humans results in more monotonous communities of plants which, in turn, provide habitats for ever fewer species of animals.

Under the leadership of the Technical University of Munich, a large consortium of around 300 scientists for the first time examined what consequences more intensive land use is having across species groups at the landscape level. For the first time, the researchers have statistically proven that all meadows become similar due to intensive agriculture and only provide habitats for a few species, and that this is the case across various regions in Germany.

Scientists studied more than 4,000 species in the UNESCO biosphere reserve on the Swabian Alb, in the Hanich National Park and its surroundings and in the Schorfheide-Chorin biosphere reserve. Ecologists from the UoC were responsible for analysing the smallest creatures, the single-cell organisms of between two and 50 thousandths of a millimetre. The single cell organisms in the soil have an important function in controlling the bacterial degradation of organic substances and nutrient mineralization in the soil. 'Extensively managed grassland areas are essential for protecting species diversity because the interaction between individual species diminishes as species diversity falls', concludes Professor Dr Hartmut Arndt from the UoC. ///

➔ nature.com/naturejournal/v540/n7632/full/nature20575.html

➔ www.nature.com/naturejournal/v536/n7617/full/nature19092.html

Fear of Retaliation

Let's assume that passengers observe two environmental sins on a station platform – one person throws their empty coffee cup onto the ground. The other not only soils the platform with a coffee cup, but throws away a whole bag of rubbish. Which one would be more likely to receive a reprimand from bystanders?

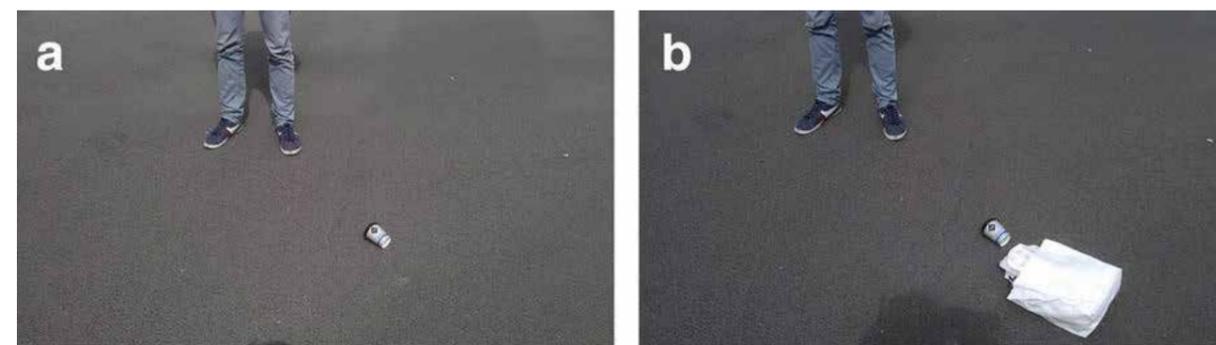
Although throwing away a whole bag of rubbish was felt to be a more serious violation of the 'rule', it does not cause a more severe reaction in

the observers. This was the conclusion reached by a study led by Bettina Rockenbach, Professor for Experimental and Behavioural Economics in Cologne. In a team which included researchers from the University of Innsbruck and New York University of Abu Dhabi, she studied the way people react to lesser and more serious violations of social norms in the public sphere.

On the basis of 800 cases, the study disproves the thesis that more severe violations of norms are punished more severely by those present than minor violations. The scientists

suspect that this is associated with the fear of retribution from the person breaking the rules. This fear is greater with more serious violations of the rules than with lesser ones. The authorities, police or security staff are therefore needed if the infringement of the rules is more extreme. ///

➔ nature.com/articles/ncomms13327



The more serious environmental sin of throwing away a whole bag of rubbish (right) does not cause a more severe reaction than the small discarded coffee cup.

Picture (a) shows the minor infringement – throwing away a coffee cup.

Picture (b) shows the more serious infringement – throwing away a whole bag of rubbish, which contains a coffee cup, among other things. (Picture <http://nature.com/articles/ncomms13327>)

Insurance Makes Services More Expensive

Honesty is a key element of cooperation in human societies and for their economic well-being. But honest behaviour is not always a given. Markets for services based on trust, such as repair costs or medical treatments, open the door for salespeople to engage in dishonest dealings because the purchasers are often unable to assess the quality of the services rendered.

Professor Dr Matthias Sutter from the Chair 'Economics: Design and Behaviour' in Cologne, worked with colleagues from the University of Innsbruck to examine the role of insurance policies in this context. Their conclusion – the price of a computer repair rose by more than 80 per cent when the salespeople learned that the service was covered by insurance. Some computer parts were replaced unnecessarily and too many hours of labour were charged. According to the study,

insured purchasers are less critical of costs than uninsured purchasers because a third party is paying the bill. Professor Sutter and his colleagues described the behaviour of the customers and the salespeople as second degree moral misconduct. ///

➔ pnas.org/content/113/27/7454

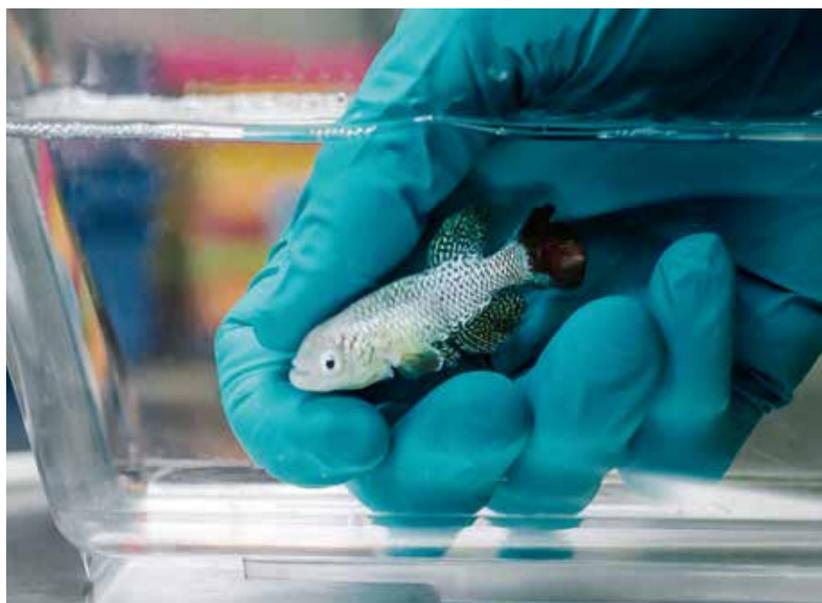
Biology of Aging

New Findings from Aging Research at the University of Cologne

In recent years, the focus of the UoC on aging research has developed into a leading international centre with a wide reach. With the construction of a separate building for the CECAD Cluster of Excellence very close to the collaborating research institutions of the Max Planck Society, the UoC has now created the appropriate building infrastructure to enhance collaboration among the various scientists and to foster the long-term development of their key focal area of aging research. Together, more than 400 scientists from the UoC, Cologne University Hospital, the Max Planck Institutes for Metabolism Research and for Biology of Ageing and the German Centre for Neurodegenerative Diseases form the CECAD Cluster of Excellence in Aging Research. Their vision is to decipher the molecular mechanisms of aging and thus improve the treatment of aging-associated diseases.

Scientific Highlights from CECAD

In 2016, important contributions were made that, for example, provided new insights into the importance of protein aggregation in old age and into age-related inflammation processes. Insulin is of key importance for the regulation of energy management. By binding to insulin receptors on the cell surface, it controls important cell functions that influence life span. The working group led by Professor Dr Thorsten Hoppe was able to show for the first time that the frequency of insulin receptors is regulated by specific depletion processes. Inhibition of these processes results in the life span being shortened in various model organisms. The studies indicate that the disruption to the protein balance that occurs in old age is closely linked to the regulation of the insulin uptake in the cell and thus contributes to a shortening of life span.



Forschung mit Killifischen

Together with Professor Dr Tamas Horvath (International Faculty of the UoC, the working group led by Professor Dr Jens Brüning succeeded in defining new concepts for the way sensory nerve cells control physiological responses to changes in energy metabolism. Furthermore, the group identified a specific cell population that elicits inflammatory responses which are associated with obesity. These studies give indications for possible new therapies to treat metabolic disorders, which are especially important in old age.

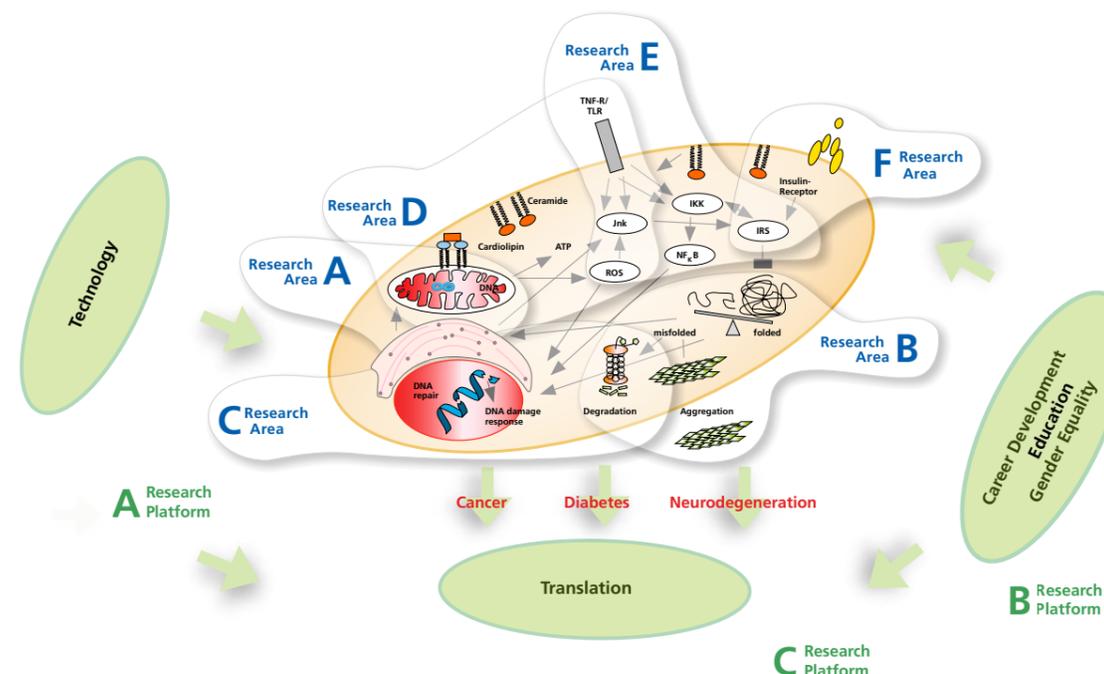
The working group led by Professor Dr Manolis Pasparakis is studying the regulation of cell death and inflammation that frequently occurs in old age. Their most recent work revealed the mechanism by which a specific kinase prevents cells from dying off and thus suppresses inflammatory responses in the skin.

Finally, various CECAD working groups are studying mitochondria; the loss of mitochondria function is closely associated with aging. Last

year, the working group led by Professor Dr Thomas Langer identified a new mechanism through which disturbances in protein depletion in the mitochondria lead to neurodegeneration in spinal cerebral ataxia. The loss of a mitochondrial protease in the patient in question leads to disruption in the absorption of calcium by the mitochondria, as a result of which neurons are affected and die off with increasing age.

Innovative Approaches to Research on the Molecular Foundations of Aging

The shared expertise and close collaboration among the scientists involved in CECAD opens up new opportunities for gaining a better understanding of the complex processes at the heart of aging. The importance of these interdisciplinary approaches is also made clear by the countless collaborative research projects in which the working groups of the CECAD Cluster of Excellence are participating.



At the leading international centre for aging research, the CECAD Cluster of Excellence, biologists and clinical scientists research the cellular causes of aging in highly complementary research areas (Research Areas A-F), which range from mitochondria (A), protein-homeostasis (B) and genome stability (C) to lipid senescence (D), inflammatory responses (E) and metabolism (F). The research areas are embedded in technology platforms (A), training and equality measures (B) and translation into clinical application (C).

Damage in the genome causes serious diseases and its ceaseless increase is one of the causes driving the aging process. CECAD researchers are therefore analysing the mechanisms with which cells react to genome damage. CECAD researchers from the fields of immunology and protein homeostasis are working together closely with DNA repair researchers for this project. Within the context of a clinical research group, specific therapeutic approaches are being developed that take effect on the DNA repair mechanisms.

This joint project has now been extended after a positive assessment in the last year. The disruption of skin homeostasis in old age is the topic of another Collaborative Research Centre that has also been extended by a further funding period. Here, the leading international DNA repair and aging researcher Professor Dr Jan Hořejší has been recruited to join the International Faculty of the UoC.

Moreover, CECAD scientists are also collaborating on a number of other joint projects. For example, the newly approved CRC 1218 deals with mitochondria. The loss of mitochondria function is closely associated with aging. CECAD working groups are in particular studying the complex interaction of mitochondria with their cellular environment in aging-associated diseases. Furthermore, the Remix Network (REgulation of the Mitochondrial GeneXpression) will be established under the leadership of Professor Dr Aleksandra Trifunovic, and will involve Europe-wide studies into the way functional disruptions to the form of mtDNA have an effect on diseases and aging processes.

Three European Marie Skłodowska Curie Initial Training Networks have been brought to a successful conclusion with the training of almost forty doctoral researchers. These included the CodeAge Network, coordinated by the CECAD researcher Professor

Dr Björn Schumacher, which is concerned with research into the effects of chronic DNA damage. ///

Age – More than Biology

Aging and Demographic Change

In addition to raising medical and scientific questions, aging and demographic change entail fundamental challenges of an ethical, legal, economic, human and social scientific nature. Various interdisciplinary research endeavours at the UoC are dedicated to these challenges. ceres (the Cologne Center for Ethics, Rights, Economics, and Social Sciences of Health), which was set up at the UoC in November 2013, forms the institutional framework for this collaboration. Here scientists research the quality of life for very old people in North Rhine-Westphalia, for example, or the effects the most recent technical developments, such as health apps, can have – not only on our lifestyles, but also on our rights to determination. ceres is funded by five Faculties at the UoC and is dedicated to research, the development of young talent, teaching and public relations work on pressing issues in the field of health.

Quality of Life and Well-Being of Very Old People in NRW

The 80+ age group is the fastest growing age group in our society and already has almost one million members in North Rhine-Westphalia. Nevertheless, they are under-represented in social science studies. This should change with the NRW80+ study launched in 2016. 1,800 people from a representative group of persons over 80 years of age are to provide information on their quality of life and their subjective well-being. The aim of the study, conducted under the auspices of Professor Dr Christian Rietz, Professor Dr Michael Wagner, Professor Dr Christiane Woopen and Professor Dr Susanne Zank, is to provide reliable information and thus also the basis for planning for a target-group oriented policy for older people.



Ethical and Legal Framework Conditions in Alzheimer's Research

Alzheimer's dementia is a disease that already affects around 40 million very old people worldwide. In the last 15 years, considerable progress has been made in the early diagnosis of Alzheimer's using special biomarkers. The early diagnosis of Alzheimer's disease allows early treatment and the modification of risk factors. In future, it may even be possible to stop dementia in its tracks with an early, specific treatment. However, carrying out a predictive examination on a large scale is associated with ethical and legal risks – even being aware of the risk of becoming ill can represent a heavy mental burden for those affected and their families, and the data acquired from such an examination is extremely sensitive.

The scientists involved in the ceres PreDADQoL project therefore want to develop ethical and legal framework conditions for carrying out predictive examinations to help ensure that the quality of life of those affected and of their families will in future remain at the heart of diagnosis and treatment. In addition to Cologne University Hospital, Fundació ACE (Barcelona, Spain) is also involved, an internationally leading institution in the field of dementia research.

Self-determined Consent for Health Apps

An increasing number of people is using apps and digital media to be constantly informed about what is happening in their own bodies and to be able to influence their own fitness, for example by means of personalized diet and exercise plans. Mobile health apps and wearables can be used to measure and store your pulse, calorie intake and usage, sleep pattern and a great deal of other body function data, twenty-four hours a day. But what the various devices and apps store and how this data may be further processed or passed on is often not made transparent for users, or they cannot influence it – more than half of all such applications do not contain any data protection provisions. Within the framework of a study, a team at ceres under the leadership of Professor Woopen is therefore currently drawing up criteria for consent options for health apps that satisfy ethical and legal requirements and are intended to be incorporated in the development and assessment of new consent options. ///

Innovative Plant Research for the Needs of the Future

From Complex Properties to Synthetic Modules

Climatic changes, a rising world population and the shortage of arable land, water and nutrients require innovative strategies for growing plants. To ensure sustainable provision with plant raw materials, almost 50 working groups from the University of Cologne, Heinrich Heine University Düsseldorf, the Max Planck Institute for Plant Breeding Research and Forschungszentrum Jülich are collaborating in the CEPLAS Cluster of Excellence.

The Cluster of Excellence is studying ways in which crop yields can be sustainably increased by optimizing central biological processes such as photosynthesis, nutrient uptake and resistance to pathogens, especially with regard to conserving limited resources such as water, land and fertilizers. The aim is to create the basis for future-oriented plants to provide food, animal feed and energy.

From Annual to Perennial Crops

CEPLAS is the only Cluster of Excellence in Germany in the field of plant research. In recent years, it has achieved key results in the development of sustainable, resource-efficient plant production. One approach is the regulation of the annual and perennial nature of plants, since perennial plants make more efficient use of nutrients and offer better erosion protection than annual plants. However, the majority of our current crops are annuals. To identify the mechanisms which control the annual or perennial nature of a plant, the genomes of the annual rock cress varieties *Arabis ibérica* and *Arabis auriculata* (rock cress) have been deciphered which are closely related to the perennial rock cress *Arabis alpina* (Alpine rock cress). CEPLAS scientists have succeeded in identifying genes in the model plant

Arabis alpina that are responsible for the development of the flower head and an extensive, branched root system – features that differ between annual and perennial plants.

Based on these findings and other genome comparisons of annual and closely related perennial plants, CEPLAS scientists are planning in the next step to change annual crops into perennial crops.



In the CEPLAS greenhouse

Increasing Yields with Optimized Photosynthesis

C₄ photosynthesis is a promising 'tool' to increase crop yields. It is a special form of standard C₃ photosynthesis and has developed in several species over the course of evolution. C₄ plants can grow better than C₃ plants in hot, dry locations with high levels of light. Some of our most productive crop plants, such as maize, millet or sugar cane are C₄ plants. Other plants, such as wheat, rice or rapeseed, however, use C₃ photosynthesis. Within the context of the CEPLAS research, and through the collaboration between experimental and theoretical biologists, it has been possible to identify for the first time the steps which must have been taken in evolution, and in which order, to enable development from a C₃ plant to a C₄ plant. One important prerequisite for C₄ photosynthesis, for example, is a CO₂ pump that increases the concentration of CO₂ within specific cells, which is then converted into sugar. This knowledge lays the groundwork from which to develop a synthetic approach to try to 'reproduce' C₄ photosynthesis, step by step, in a current C₃ plant and thus expand the possible cultivation areas for current C₃ crop plants and increase the biomass yield.



Improved Nutrient Supply and Defence Reaction of Plants through Interaction with Microbes

Plants interact with a multitude of microbes (bacteria, fungi, protists) that live either within or outside of the plant (micro-flora). These interactions can be advantageous to plants, for example due to an improved supply of additional nutrients, or can also be disadvantageous.

In the last few years, CEPLAS scientists have been able to identify and characterize the complete micro-biome of the model plant *Arabidopsis thaliana* (thale cress) and of the crop plant barley. Furthermore, so-called 'microbial hubs', i.e. central microbes, have been identified that, for example, have a strong effect on epiphytic and endophytic bacterial colonization or directly interact with bacteria in the phyllosphere (e.g. on the surface of a leaf). Knowledge of the composition of the micro-flora of various plants and the establishment of a microbe culture bank now enable various combinations of synthetic microbe communities to be generated and examined for

their advantages or disadvantages for the plants.

Furthermore, CEPLAS working groups have been able to show that both the root architecture and the composition of the root exudate are influenced by special bacterial signal molecules.

Not only micro-organisms, but plants, too, produce chemical signal substances. Recently, transcription factors were identified that regulate the synthesis of secondary metabolites (glucosinolates). On the basis of the targeted regulation of signal and defence substances of this kind, it will in future be possible to equip plants with the appropriate properties for an efficient defence reaction.

Equipping the plants with modified defence substances and optimized symbiosis partners can help to ensure that the plants will need fewer nutrients in future, reducing the need for fertilizers. Furthermore, the improved nutrient supply can also enhance plant growth and yield. ///

New Paths in Epistemology

Center for Epistemology and the Kantian Tradition



Professor Dr. Sven Bernecker is one of the leading contemporary philosophers, with research interests in epistemology, metaphysics, philosophy of the mind and philosophy of language, and the philosophy of Kant. In July 2016, he was appointed Alexander von Humboldt Professor at the UoC and is establishing the Cologne Center for Contemporary Epistemology and the Kantian Tradition (CONCEPT). An important criterion for funding within the framework of the Alexander von Humboldt Professorship is that the candidates be well integrated at the host universities, provided with excellent working conditions and that they contribute to enhancing an existing research area. Professor Bernecker's expertise in Kantian philosophy – a traditional thematic focus of the UoC's Philosophy Department – will strengthen this research area in the long term and create an internationally unique academic environment.

Professor Bernecker, what is the focus of your research at the University of Cologne?

Professor Bernecker: Epistemology is a vibrant research area with a long tradition in the Philosophy Department. The Center I am establishing will deal with selected subjects of contemporary epistemology. However, for some time now Kant has hardly played any role at all in this research. The aim of the Center is to reinterpret Kant using theorems from contemporary epistemology and, in turn, to enhance current debates in epistemology using Kant's work.

How will the Center be staffed?

The five-year initial funding from the Alexander von Humboldt Foundation finances the professorship at the beginning, but also six doctoral positions for a period of three years and two post-doctoral positions for a period of two years. In addition, funds to invite international guests and organize conferences and workshops will be provided. The UoC is establishing two long-term W1 professorships and a position for one research fellow.

What activities are planned for the near future?

In addition to epistemology and the Kantian tradition, I am also very interested in medical epistemology and the subjects of memory and forgetting. We have already held a workshop on medical epistemology in October 2016, and a major conference is planned for December 2017. Another major conference on the philosophy of memory will be held in July 2017, and a Kant workshop in the autumn. I will also be involved with the summer school and conference organized by my colleague Professor Dr. Thomas Grundmann. The two of us make up the 'epistemology wing' of the Philosophy Department.

Will the Center focus more on research and supporting early-career researchers?

No, the Center's lectures and seminars will be addressed to all students – from Bachelor's to doctoral level. But doctoral candidates will indeed be given intensive support due to the close and in-depth thematic focus of the Center and through intensive exchange. We plan to present and discuss our projects internally once a week. This is the only way that we can offer one another help. But there will be no shortage of perspectives from outside – so far seven international visiting academics have announced that they will be coming to the UoC in 2017. ///

The Institutional Strategy of the UoC

Strategic Research Funding and International Networking

With its Institutional Strategy, funded in the context of the Excellence Initiative, the UoC is strengthening its excellent research and teaching, improving flexibility and dynamism and fostering the integrative development of the whole university. Two very successful funding measures are the Excellent Research Support Program and the International Faculty Program.

Excellent Research Support Programme

The Excellent Research Support Programme (ERSP) is the central strategic research funding system of the UoC. The ERSP provides support for research – from excellent individual research to outstanding major projects – in four funding lines, thus supporting the strategic development of the UoC and the implementation of innovative ideas.

Innovative projects and new ideas that encourage academic exchange within the UoC and among all the partners involved in the Research Alliance Cologne are supported in the funding line ‘Forum’.

Groups with outstanding academic achievements, a strong international reputation and substantial third-party funding are supported as UoC Centers of Excellence. These Centers serve as platforms for the UoC’s Key Profile Areas. Research collaboration projects with a high potential for the future are funded as Emerging Groups. The UoC supports individual academic excellence with the UoC research prizes, creating the necessary leeway for independent research conducted by individual researchers.

The ERSP is extremely successful, with the result that four of the projects funded in 2016 have applied to become Collaborative Research Areas.

The Emerging Group ‘ULDETIS – Ultra-sensitive Detection of Isotopes’ has evolved into CRC 1211 ‘Evolution at the Dry Limit’.

The Emerging Group ‘DSL – Dynamic in Structuring Language Communication’ was successful with its application for CRC 1252 ‘Prominence in Language’. The Emerging Group ‘ET-CC Energy Transition and Climate Change’ is involved in SFB/TRR 172 ‘Arctic Amplification: Climate-Relevant Atmospheric and Surface Processes and Feedback Mechanisms (AC)₃’.

In addition, the foundations for the successful application for CRC 191 ‘Symplectic Structures in Geometry, Algebra and Dynamics’ were laid in the UoC Forum project ‘Symplectic Techniques in Topology and Dynamics’. In total, 50 projects have been funded in four funding lines since the start of the ERSP (see illustration).

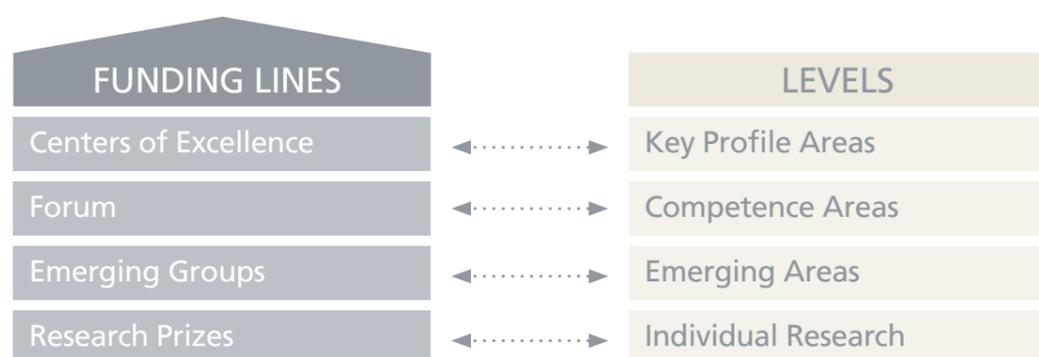


Fig. Funding Lines of the ERSP



Main Building of the UoC, view from the Green Belt

International Faculty Program

The International Faculty Program is a particular highlight of our Institutional Strategy – the program aims to increase the international visibility and networking of the UoC’s. Top international academics are given a part-time contract with the UoC to research and teach for two to four years in Cologne, for 4 to 8 weeks each year. Since the start of the programme in 2013, 22 researchers have been members of the International Faculty.

The International Faculty professors are PIs in third-party funded projects, provide mentoring to doctoral students and are involved in teaching at the UoC.

In 2016, four renowned international academics were recruited to the program. Since March, Professor Dr Jan Hoeijmakers (Erasmus University Rotterdam) has been researching at CECAD and is PI in CRC 829 – Molecular Mechanisms Regulating Skin Homeostasis). Professor Dr Pavlos Kollias (Stony Brook University) is strengthening the Competence Area Quantitative Modelling of Complex Systems and Professor Dr David Anderson (Warwick University) and Professor Dr Julio Ortega (Brown University) were recruited for the Global South Studies Center. ///

New Members 2016

Professor Dr Jan Hoeijmakers	Professor Dr Pavlos Kollias	Professor Dr David Anderson	Professor Dr Julio Ortega
Institute of Genetics Erasmus University, Rotterdam	School of Marine and Atmospheric Sciences, Stony Brook University, New York	African History, Global History & Culture Centre at the University of Warwick, Warwick	Hispanic Studies, Brown University, Providence

University-wide Doctoral Network Established

The UoC has established Faculty-wide and subject-specific UoC graduate schools (GS) in all six Faculties, so that all doctoral researchers at the UoC have access to structured graduate programmes. This network of Faculty and major discipline-specific GSs was initially funded externally, for example the Excellence Initiative-funded graduate schools Bonn Cologne Graduate School of Physics and Astronomy (BCGS) and the a.r.t.e.s. Graduate School for the Humanities Cologne, or the Cologne Graduate School of the Faculty of Management, Economics and Social Sciences, initially financed by the federal state of North Rhine-Westphalia. In addition, the University founded the Graduate School in Human Sciences and the Graduate School of the Faculty of Laws as well as the Graduate School of Geosciences with the funding as a University of Excellence. The central hub of the UoC GS network is the Albertus Magnus Graduate Center (AMGC). In 2016, the UoC decided to permanently institute the UoC GS network and thus create a sustainable central foundation for doctoral training at our university. The joint task of the network of UoC graduate schools is to continuously improve doctoral training. The UoC GSs offer central selection and admission procedures and ensure quality standards for doctorates in their fields. Furthermore, the network gives all doctoral candidates of the UoC access to a structured, subject-specific doctoral programme, as well as further qualification offers and provisions for

support and mentoring. Moreover, many additional support offers, for example for international doctoral researchers, have been established. The AMGC acts as the central information platform for all interdisciplinary questions relating to doctorates at the UoC and, for example, offers cross-Faculty qualification and further training as well as mentoring. It fosters the internationalization of doctorates at the UoC and organizes networking meetings for all doctoral researchers. The networking of the UoC GSs creates important synergies in doctoral education that will be continuously expanded in future. ///

UoC Graduate Programmes

CENTRAL HUB: ALBERTUS MAGNUS GRADUATE CENTER (AMGC)

Graduate Programmes financed by the UoC

- F1: Management, Economics & Social Sciences
- F2: Faculty of Law
- F3: Human Medicine and Dentistry
- F4: a.r.t.e.s. Graduate School for the Humanities
- F5: BCGS Physics and Astronomy
Biological Science
Geosciences
- F6: Faculty of Human Sciences
- C: Teacher Training

Excellence Graduate School
Funding from Institutional Strategy

International Max Planck Research Schools

- Age/Metabolism
- Plant Sciences
- Studies of Societies
- Astrophysics

Helmholtz Research Schools

- Space Life
- BioSoft
- Energy & Climate

EXTERNALLY FUNDED GRADUATE PROGRAMMES

Clusters of Excellence (DFG):	2	Marie Curie Training Networks (EU):	2
Collaborative Research Centres (DFG):	9	NRW Fortschrittsskolleg:	1
Research Training Groups (DFG):	4	Others:	3

EU Funding for Early-Career Researchers in the Arts and Humanities

Europe-wide Graduate School in the Arts and Humanities

The integrated graduate school of the Faculty of Arts and Humanities 'a.r.t.e.s. Graduate School for the Humanities Cologne' is being expanded into a pan-European graduate school for the arts and humanities. Early-career researchers thus have the opportunity to carry out research in an interdisciplinary and international context within a three-year fellowship. This way, a.r.t.e.s. wants to encourage the mobility of the next generation of scholars and enhance the networking of research in the arts and humanities in an international environment.

To set up and expand the programme, the a.r.t.e.s. Graduate School acquired 2.35 million euros as part of the 'Horizon 2020' EU Funding Programme for Research and Innovation. These funds provided via the COFUND programme of Marie Skłodowska-Curie Action will be matched by a.r.t.e.s. from its own funds. ///



Language Education

Second Funding Phase for Mercator Institute

Language skills are a key requirement for children and young people if they are to fulfil their potential – at school, when studying for a degree or in vocational training. However, educational institutions face challenges when teaching language skills – the number of children and young people who start school with an inadequate knowledge of German is rising. Set against this background, the Mercator Institute for Literacy and Language Education was founded at the University of Cologne in 2012 on the initiative of the Mercator Foundation. The aim of the Mercator Institute is to improve language education and language support across the whole course of education. The institute advises universities and institutions of educational administration on the integration of German as a second language into their teacher training. It funds, arranges and carries out applied research and contributes towards the training of educational experts and teachers. The Mercator Institute has now established itself nationwide as a contact for education policy issues.

It is also a partner in the Leibniz Research Alliance on Educational Potentials, an alliance that includes a number of well-known Leibniz Institutes.

The Mercator Institute will receive further funding from 2016 to 2022, with 8 million euros coming from the Mercator Foundation and additional funds from the UoC amounting to 6.5 million euros. In the second phase of funding, the Mercator Institute wants to increasingly expand its own research activities and develop into Germany's central research institute for matters relating to language education. ///

*Funding for the
Mercator Institute
until
2022*



Leibniz Prize 2017 for the African Studies Professor Dr Anne Storch



Professor Dr Anne Storch is a world-renowned African Studies specialist, who has made a major contribution towards a far-reaching reorientation of the subject with her work. Taking a cultural and anthropological approach, she has opened up African Studies to sociological descriptions of power practices and political mechanisms of action. In this way, she has opened up classical linguistics to new, interdisciplinary perspectives. In December 2016, she was one of ten prize winners to be awarded the prestigious Gottfried Wilhelm Leibniz Prize 2017 for her work. The Leibniz Prize is endowed with 2.5 million euros in prize money and is the most important research prize in Germany. The prize was presented in Berlin on 15 March 2017. ///

Averroes: Research on a Major Philosopher of the Middle Ages

The research project 'Averroes (Ibn Rushd) and the Arabic, Hebrew and Latin Reception of Aristotelian Natural Philosophy' was accepted into the programme of the Academy of Sciences, Arts and the Humanities of North Rhine-Westphalia in 2016 as one of two research endeavours. It will be funded over a period of 25 years with a total of 10.6 million euros. The long-term scope gives the scholars the opportunity to permanently establish Cologne as a centre of Averroes research of international standing. In a well-funded research project, scholars from the Thomas Institute want to publish selected texts of the philosopher Averroes in a critical edition. Averroes, who is also known by the name Ibn Rushd,

is one of the most important authors of the Middle Ages. His writings on the teachings of Aristotle influenced well-known scholars of his time, for example Thomas Aquinas and Albertus Magnus. Averroes' work is available in Arabic, Hebrew and Latin in various differently edited versions, which the scholars plan to analyse, compare and finally publish in a critical edition of 18 volumes. ///

10.6

million euros from the North Rhine-Westphalian Academy of Sciences, Humanities and the Arts

New Centre for Eastern European Studies

Cologne-Bonn Centre for Central and Eastern Europe Founded

A new Centre for Eastern European Studies was founded at the Universities of Cologne and Bonn in early April 2016, known as CCCEE | Cologne-Bonn Centre for Central and Eastern Europe. The CCCEE is supported by five institutes of the UoC – the Eastern European History Section in the History Department, the Department for Byzantine Studies in the Institute of Ancient Studies, the Institute for Eastern European Law and Comparative Law, the Martin Buber Institute for Jewish Studies and the Slavic Department. The University of Bonn is represented by the Department of Eastern European History at the Institute for Historiography. The institutes are collaborating closely with the Lew Kopelew Forum e.V. in Cologne, a forum that fosters cultural exchange and encounter between eastern and western Europe. The CCCEE is carrying on the strong tradition of research on eastern Europe in the Cologne-Bonn region.

The interdisciplinary Bachelor's-programme 'Regional Studies Eastern and Central Europe', supported by the CCCEE, corresponds to this research focus. Thanks to the establishment of the interdisciplinary joint Master's degree 'Cultural and Intellectual History between East and West' in the winter semester 2016/17 in collaboration with the University of Warsaw and the Higher School of Economics in Moscow, students in Cologne will in future also have the opportunity to transition to research, and research work will be strengthened by future young academic talent. In addition to a growing range of options for students, the CCCEE also organizes events for the public, including the ROME lecture series in the winter semester 2016/17 on current research subjects from Eastern European Studies. ///



CCCEE podium discussion 'The Russia-Ukraine Conflict and Civil Society'



TEACHING

The University of Cologne is popular among students, with around 335 degree programmes offered in six Faculties. We are also one of the biggest teacher training institutions in Europe. One of our goals is to combine theory and practice in a meaningful way in our teacher training degree programmes. One example of this is the 'Weichenstellung' (Setting Course) programme, launched in 2016, which helps primary school children during their transition to secondary school. In this context, Cologne teacher trainees give support to children at schools in Cologne.

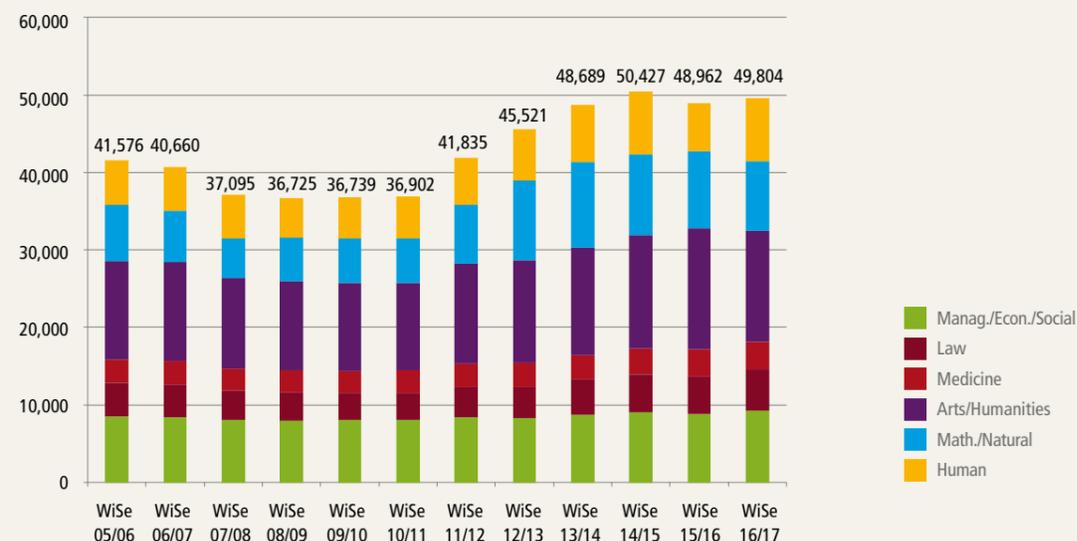
Vice-Rector of Teaching and Studies Professor Dr Stefan Herzig

Teaching in Figures

Spread of Students in Winter Semester 2016/17

WINTERSEMESTER 2016/17				
	Total	Proportion	Proportion of women	International students
Faculty of Management, Economics and Social Sciences	9,122	18 %	46 %	12 %
Faculty of Law	5,167	11 %	58 %	11 %
Faculty of Medicine	3,511	7 %	63 %	17 %
Faculty of Arts and Humanities	14,978	30 %	65 %	11 %
Faculty of Mathematics and Natural Sciences	9,092	18 %	45 %	8 %
Faculty of Human Sciences	7,934	16 %	84 %	5 %
UoC total	49,804	100 %	60 %	10 %

Development of Students According to Faculty



Graduates According to Faculty in the Examination Year 2016

EXAMINATION YEAR 2016				
	Total	Proportion	Proportion of women	International students
Faculty of Management, Economics and Social Sciences	1,512	21 %	49 %	8 %
Faculty of Law	409	7 %	63 %	7 %
Faculty of Medicine	402	6 %	62 %	9 %
Faculty of Arts and Humanities	2,138	35 %	75 %	5 %
Faculty of Mathematics and Natural Sciences	1,217	20 %	52 %	6 %
Faculty of Human Sciences	501	11 %	85 %	4 %
UoC total	6,179	100 %	63 %	6 %

The continuous further development of our teaching offer and formats is one of the main reasons why the UoC was once again one of the most highly demanded places to study in Germany in 2016, with a total of 49,804 students. Whether research-oriented teaching, such as our Intensive Weeks and Student Fellowship Programmes for early access to academic topics or career-oriented further training courses, such as those at the newly-founded Cologne Business School – the UoC offers students countless opportunities for gaining qualifications beyond the standard subjects in order to be well-prepared for their future tasks, irrespective of whether these are in academic or non-academic fields.

In recent years, we have paid particular attention to teacher training. At the UoC, four Faculties are involved, working in collaboration with the UoC's Centre for Teacher Education (ZfL), and just under a third of students are taking part in a teacher training course. This makes the UoC one of the biggest teacher training institutions in Europe. The strategic and conceptual development of teacher training at the UoC will be supported until 2018 by funds from the BMBF, from the 'Qualitätsoffensive LehrerInnenbildung' programme. Under the title 'Future Strategy Teacher Training', the ZfL offers four sub-projects – Competence Labs, Inclusive Studies, Development of Young Talent and Quality Assurance – to further develop teacher training at the UoC. Innovative learning concepts, such as Design Thinking Seminars, are currently being tested in the Faculties and then implemented in a broader setting. ///



Fit for the World of Work

Graduates of the UoC Successful on the Employment Market

With the annual graduate survey carried out since 2008, the UoC wants to ensure that its teaching provision prepares students for both the academic and the non-academic employment market as well as possible. The results of the most recent graduate survey from October 2015 show that graduates take up employment on average 2 months after completing their studies. This positive result is also supported by the results of relevant personnel surveys, such as the career ranking lists in 'Wirtschaftswoche' magazine or in the Financial Times German edition.

The Faculty of Management, Economics and Social Sciences, with 9,000 students currently enrolled, once again occupies the top spot here. The UoC evaluates these results as an indication of the 'precision fit' of its teaching provision of academic and vocational degree courses and the successful work of the ProfessionalCenter, which forms the interface between degree studies and practice. ///

In addition to perspectives for an academic career, the requirements of the employment market are increasingly playing an important role in degree studies.

New Degree Programmes at the UoC

Study Today What Will Be in Demand Tomorrow

School-leavers in Germany are increasingly opting to study for a degree, not least because statistically this offers them much better job opportunities, even outside of the academic market. In addition to the major, omnipresent subjects for study, the UoC therefore also offers tailor-made degree programmes that lead to qualifications for a specific academic or non-academic profession and meet current skills needs. Two examples are the Master's programme 'Drug Discovery and Development' and the degree in 'German-Italian Law', which were introduced at the UoC in 2016.

Master's Programme in Drug Discovery and Development

In the winter semester of 2016/17, the new, interdisciplinary programme 'Drug Discovery and Development' (MSc) was launched. From basic research through clinical testing to introduction onto the market, students gain in-depth insights into all the phases of pharmaceutical research. This research-oriented programme is offered by the Faculty of Medicine and the Faculty of Mathematics and Natural Sciences at the UoC in cooperation with the Faculty of Applied Sciences at TH Köln/University of Applied Sciences. Students earn a joint degree from both universities. The programme provides them with skills that will equip them for roles in

the research and development of innovative medicines along the whole value chain. The programme is aimed at graduates of the relevant Bachelor's programmes in the fields of chemistry, biology or medical-pharmaceuticals and gives them the chance to supplement their specialist knowledge. Graduates therefore not only gain a qualification for pharmaceutical research in industry, but also for work in national and international licensing authorities or for a further career in academia.

German-Italian Law Programme (LLB Cologne/Florence)

In the winter semester 2015/16, the first and, so far, only Bachelor's programme in German and Italian Law was successfully launched. Fifteen students each from the UoC and the Università degli Studi in Florence form the first Dante Alighieri year group. They will complete the first four semesters in Florence, followed by four semesters in Cologne. The students are trained in two legal systems, cultures and languages and are thus intensively prepared for international work. As two of the four biggest member states of the EU, Germany and Italy enjoy a close political relationship. The economic relationship is just as close. After all, Italy has been among Germany's top ten foreign trading partners for many years now.

Both German and Italian companies and lawyers' offices appreciate the ability of the graduates of this binational Bachelor's degree to negotiate with partners in their native language – especially when dealing with difficult legal or business situations.

The students will complete the programme with the qualification 'Bachelor of Laws' as a joint degree from the UoC and the Università degli Studi in Florence. It is mainly aimed at students who already have an excellent knowledge of German and Italian before the start of the programme.

In addition to the German-Italian BA, the Faculty of Law already offers Bachelor's programmes in German-French (together with Paris I), German-English (with University College London) and German-Turkish (with Istanbul Kemerburgaz) Law. At Master's level, there are already two programmes available, a German-Turkish Master's degree (Istanbul Bilgi Üniversitesi) and a German-French Master's degree (Paris I). ///

Making Degree Programmes Comparable Nationwide

Model Accreditation at the UoC

The University of Cologne has opted in favour of system accreditation to ensure the nationwide comparability of degree programmes and their qualifications, and indeed made a major first step in this direction in 2016 by introducing a model accreditation. Model accreditation defines standards – for all programmes the university offers – for the structure of degree programmes and modules, examination regulations, permissible number of examinations, and on subjects such as internationalization, equal opportunities and citizen participation. The structure of study programmes and examination regulations are harmonized with the model requirements, which is especially advantageous with joint degrees and teacher training programmes. The project

has, however, not been completed with the award of the seal of quality from the accreditation agency. Evaluations will be carried out in future to regularly check whether the self-imposed standards are being met. Student satisfaction, student success and graduate opportunities on the employment market are key to the assessment.

The next major step, system accreditation, will be prepared from 2017 onwards. ///



Students in the specialist Biology library

Dealing Constructively with Complaints and Suggestions

From the legal services offered by the General Students' Committee (ASTA) via the UoC's central student counselling and advisory services to the psycho-social counselling offer of the Catholic Student Community – our university's established network of counselling facilities on various subjects is well prepared for any possible problems or conflicts which may arise. The specific offers of the Faculties, central institutions and the administration were supplemented in the winter semester 2015/16 with the establishment of an overarching Suggestions and Complaints Office (ABS). The staff of the SCO are neutral points of contact outside the structures of the Faculties and administration for all issues as well as organizational or personal concerns, and they guarantee absolute confidentiality.

The SCO is distinct from the many subject- or discipline-specific counselling provisions, in particular with its openness to problems or complaints of any kind, its mediating function between the complainant and various players in the university in the case of complex complaints, and its support for the issue from beginning to end. From its inception to the end of 2016, the ABS has addressed a total of 190 concerns.

In terms of our organization structure, the SCO is assigned to the Office of the Vice-Rector for Teaching and Studies, but always supports all those involved in finding a solution, from a neutral, mediatory point of view.

Learning to Teach

Teacher Training at the UoC

Teachers play a key role in shaping the future opportunities of children and young people. The UoC is therefore very committed to the training of new teachers. With approximately 14,000 students studying to be teachers, the UoC is one of the biggest teacher training universities in Europe.

Students are trained at four Faculties of the university – the Faculty of Arts and Humanities, the Faculty of Human Sciences, the Faculty of Mathematics and Natural Sciences and the Faculty of Management, Economics and Social Sciences. Half of the students registered in each of the first two Faculties are studying to be teachers. The subjects of Sport and Music are offered in collaboration with the German Sports University Cologne and the University for Music and Dance Cologne. Since the winter semester

2011/12, studying to teach has been switched to BA and MA degrees across the state of NRW. The programme is followed by an 18-month period of teaching practice, which is concluded by a state examination. One innovation in teacher training is the practice semester, implemented for the first time in 2015, in which students spend a period of time in a school during their Master's degree, providing them with practical experience at an early stage.

The students are supported and given guidance in the Faculties and at the Centre for Teacher Education (ZfL) throughout the whole course of their degree programme. Furthermore, with the 'Training Region Cologne', a dense network has been created that brings together all the institutions in the Cologne area that are involved in teacher training.



Counselling session at the Centre for Teacher Education



Five Year Anniversary – Centre for Teacher Education

The Centre for Teacher Education (ZfL) is responsible for cross-discipline mentoring and support of students training to become teachers at the UoC. Alongside the involved Faculties, it makes an important contribution to the successful training of the students. In 2016, more than 24,000 enquiries for advice and concerns were raised by students and those interested in studying for a degree. In the five years of its existence, the ZfL has thus become an important point of contact for all matters relating to teacher training. In 2016, 'Subject Coaching Teacher Training' and the series of events 'Lighthouse Leadership' were two of the new offers set up for teacher trainees.

The coaching sessions allow teacher trainees to reflect on their career choice at an early stage and to prepare themselves for their roles as teachers. Furthermore, it is useful for an early assessment of their aptitude for the demanding job of a teacher.

The UoC organizes events to get involved in public debate on schools and education – under the heading 'Lighthouse Leadership', the ZfL hosted a series of events in 2016 with a good 500 participants from schools, universities and industry. At the events, debates were held on current findings and experiences on the subject of 'Leadership' (in schools and classrooms, in universities and companies).

zfl.uni-koeln.de

zfl.uni-koeln.de/filme.html

The Practice Semester in the Cologne Training Region

Teacher trainees gain work experience during their Master of Education programme in a five-month practice phase in a school and apply their theoretical knowledge. The practice phase is in the second semester of the Master's degree, after a mandatory preparatory seminar. During the practice semester, the students work in a total of three different places of learning. They spend four days of the week at a school in the training region, where they actively participate in shaping lessons and carry out a study project agreed with the school, which, for example, may relate to their own practical teaching work, research on other teaching methods or research on school development processes.



Minister Svenja Schulze presented the successful participants with their certificates. Ment4you and MICADOS attend information events, organize consultation sessions and regularly provide information via social media.

'WEICHENSTELLUNG' (Setting Course) for Year 4 Pupils – Creating Educational Fairness

Creating equal opportunities for educational transitions – a big topic in all of the federal states. This is the goal pursued by the WEICHENSTELLUNG project initiated by the ZEIT-Stiftung Ebelin und Gerd Bucerius, which is aimed at pupils in year 4. Within the context of this project, teacher trainees provide support in the primary school pupils' transition to secondary school. Intensive support is given to pupils who basically meet the requirements to attend an academic high school (Gymnasium) but are often not able to take up this opportunity due to specific weaknesses, e.g. in the German language.

In the 2016/17 school year, the WEICHENSTELLUNG programme was launched at the UoC's Centre for Teacher Education, as the only site in NRW, thanks to financial support from the Dr. Harald Hack Foundation. In 2016, 30 teacher trainees from the University of Cologne supported 93 pupils in year 4 at 17 Cologne primary schools and will mentor them through their first two years at secondary school. There will be a significant expansion of the programme in 2017 and 2018. Thanks to the comprehensive mentoring and support for the pupils, the course will be set for a successful transition from primary to secondary school; at the same time, the students acquire the skills to give individual support to pupils.

Inclusion at the Heart of Our 'Own' School

The Helios School is an innovative, inclusive primary school following a Scandinavian model. Lessons are taught here while at the same time

research into how new learning formats can be used in practice to the benefit of all pupils is conducted. Since the 2015/16 school year, the Helios School has been the inclusive university school of the City of Cologne. The UoC monitors the school's work and supports it with teaching materials, international exchange and additional staff.

Since the level of previous knowledge and development paths of the children are very different – especially in the primary sector – the school pursues the goal of individually tailored support within the framework of the curriculum requirements. At the same time, it wants to encourage the children to have fun and enjoy learning, and endeavours to promote creativity and socially appropriate behaviour.

Shaping Heterogeneity and Inclusion – Future Strategy for Teacher Education

The project funded by the Federal Ministry for Education and Research (BMBF) has continued successfully since its launch in 2015. It encompasses four sub-projects. In the 'Competence Labs' sub-project, practical teaching elements are integrated into university teacher training. For example, school classes come to the university for science experiments and are supported by students. In the 'Inclusive Studies' sub-project, awareness of the heterogeneity of pupil and student groups is raised among university teaching staff with the aim of permanently integrating the subject into the curricula of teacher training programmes.

To motivate teacher trainees to pursue a doctorate, teacher training research classes are offered in close collaboration with the Cologne Graduate School for Teacher Education, in which teacher trainees can acquire additional skills in empirical research methods.

The fourth sub-project is designed to monitor the first three sub-projects. For this purpose, a longitudinal analysis was started in the summer semester 2016. More than 1,000 teacher trainees took part in the first survey; the results can be accessed online. ///

Competence Labs can be permanent institutions, but may also be mobile, extramural places of learning or learning environments.

The practical experience and progress of the study project is monitored and supported within the framework of profile groups at the UoC, with digital learning formats organically supplementing classroom teaching. Finally, the students spend four days of the semester at one of five centres of practical teacher training (ZsFL) in NRW, where they receive their subject-related practical training.

Projects in Teacher Training

Ment4You and MICADOS – More Teachers with a History of Migration

The composition of school classes in Germany is becoming ever more heterogeneous in terms of language and culture. Teachers with a history of migration can offer important support in dealing with this diversity in everyday life at school. However, the proportion of such teachers is still very low, and studies show that teacher trainees with a history of migration tend to drop out of their courses with disproportionately high frequency. The 'Teachers with a History of Migration' network of the federal state of NRW therefore initiated the 'Ment4You' project in 2016. Teacher trainees with and without a background of migration are trained to be mentors to advise and support teacher trainees with a background of migration, right from the start of their degree programme. In the 2016/17 winter semester, a group of five mentors was formed from the 'MICADOS' university group (a student network for the intercultural opening up of teaching, founded in 2014), who were trained by the above-mentioned network. The then

The practice semester can currently be completed at one of the approximately 900 schools in the Cologne Training Region. The Cologne Training Region was established in collaboration with the five centres for practical teacher training (ZfsL) and the Cologne District Government, and covers a wide area for every type of school. In 2016, 1,193 Master's students completed a practice semester.

The UoC's Zfl supported the introduction of the practice semester in the Cologne Region with an intensive evaluation study. The results were published in 2016.

➔ zfl.uni-koeln.de/sites/zfl/Publikationen/Materialien_zum_PS/Zfl_Prozess-Evaluation_Ergebnisse_PS.pdf



Students at the Faculty of Human Sciences

Innovation in Teaching

New Ideas and Formats for University Teaching

With the programme 'Innovation in Teaching', established in the winter semester of 2012/13, the UoC has been supporting innovative ideas and teaching concepts from the Faculties and central institutions. The programme has met with great interest across the university. In the current project period (winter semester 2015/16 to summer semester 2017), more than 60 project applications were submitted. Twenty-one of these applications could be approved with the project funds available. The spectrum of innovation ideas is wide – digital forms of teaching and learning are currently very popular, as are interdisciplinary or international and diversity-oriented concepts. Here are two examples:

Computer-based Simulation Game 'Hospital Management' for Students of Health Economics and Human Medicine

In the winter semester of 2016/17, Human Medicine and Health Economics students had the first-time opportunity to acquire practical knowledge in the management of a hospital with the simulation game TOP-SIM – Hospital Management. TOP-SIM offers the realistic simulation of a hospital managed by a team of students. In the role of the company management, each student team takes on responsibility for its virtual hospital and makes strategic decisions against the backdrop of the uncertainty of the health market in a dynamic competitive environment. Whereas, in the past, students only calculated the consequences of management decisions in the running of a hospital on an individual basis and on the basis of theoretical models, with this simulation game they experience in a realistic way, for example the consequences of individual decisions such as a reduction in post-natal care, on the this has on the running of the hospital as a whole. The mixed

teams from Human Medicine and Health Economics, who play against each other, reflect the composition of a hospital management team, whose members each have to take into consideration different medical and economic perspectives when making decisions. This joint decision-making process, which sometimes has to take place under great time pressure, could not be conveyed with previous teaching methods.

PROTEUS – Orientation Course in Law and Politics of the EU System

As part of the PROTEUS teaching project, students of law and political science deal with both the theory of the legal and political framework conditions of European integration and their practical implementation in political negotiations. To do this, they first take part in various courses in law and political science and then complete a course at an international and interdisciplinary summer school

in Brussels. In addition to students from Cologne, influx of patients into a certain area, and see the impact students from partner institutions, such as the Université Paris Sorbonne (Paris), Sciences Po (Paris), Universita Karlova (Prague) or the Türk-Aleman Üniversitesi (Istanbul) can also take part. The highlight of the teaching project is a two-day real-time negotiation simulation in which the various teams negotiate with and against each other before a simulated European Court of Justice. The student delegations take on the roles of various political players in these negotiations and try to put forward their positions in the negotiations on the basis of the factual knowledge they have acquired. The strong identification of the participants with their roles is not intended to result in a hardening of the content, but rather a change in perspectives. This year's project had the theme 'Attached, detached, unmatched? Alternative forms of partnership beyond EU membership'. ///



Participants in the PROTEUS summer school in Brussels



Design Thinking Seminar on the Redesign of the Pupils' Laboratory at the Ecological Rhine Station of the University of Cologne

In the summer semester 2016 and winter semester 2016/17, under the leadership of Professor Dr André Bresges, the Institute of Physics and its Didactics carried out two Design Thinking seminars on the redesign of the pupils' laboratory at the Ecological Rhine Station of the University of Cologne. The Design Thinking method was developed in Stanford by the IT specialist Terry Winograd, the biomedical specialist Larry Leifer and the designer David Kelley. It is used for a team to work in an interactive process to identify the needs of a target group with respect to an offer, to make proposals for the offer and to test it for its suitability together with the target group.

The participants in the seminar at the UoC were 18 teacher trainees as well as just under 50 year 10 pupils. Specifically, with this innovative format, a way was to be identified, using the example of the pupils'

laboratory, to design teaching concepts according to the real needs of schools and to make our students' lessons informative and motivating for the pupils.

In the supporting seminar 'Research and Development in Teaching', simple prototypes of experiments were developed on the basis of two older studies on the interest of pupils, the IPN Study of Interests and the ROSE Study, that could be intensively tested in the pupils' laboratory by pupils of the Liebfrauen School in Cologne. The experiments gave pupils the opportunity to find out for themselves about fluid mechanics, the physical build of fishes and other river creatures and about the geomorphology of the Rhine, and to understand the connections between the physical build of the fishes and the character of the environment. With the feedback from the pupils, more complex prototypes

were made by the teaching equipment manufacturer LD Didactic and were tried out with pupils at the Ecological Rhine Station. In the winter semester 2016/17 another 'Research and Development' seminar became involved and, in addition to this, an academic thesis for a Master of Education was produced on the process. The test equipment is currently being conclusively revised by the manufacturer and will in future be available in the pupils' laboratory Ecological Rhine Station. ///

Teaching Innovation Project ‘Collaborative E-Learning at Master’s Level’

Network Initiative of Scandinavian/Finnish Studies

The project ‘Collaborative E-Learning at Master’s Level. A Network Initiative in Scandinavian/Finnish Studies’ was granted funding for an initial two years in 2016 from the Future Fund of the federal state of North Rhine-Westphalia. It aims to achieve international networking of teaching in so-called ‘minor subjects’ – initially for Scandinavian and Finnish Studies. Digital networking offers students the opportunity to make use of cross-university teaching provisions and thus to benefit from specializations from various locations. By means of collaboration with institutions in Germany and abroad, a varied repertoire of themes from the entire spectrum of subjects can be permanently offered via a digital events pool. Thus, students of Scandinavian/Finnish Studies can, for example, now listen to lectu-

res on new Finnish literature that are held at Turun yliopisto (Turku University) and supported by a face-to-face seminar at the UoC.

In the courses specifically designed as digital learning communication, the students are also given the opportunity to benefit from a diverse range of networking opportunities by means of cross-institutional communication. They communicate with teaching staff, and also with students from different cultural and university contexts. As a supplement to face-to-face teaching, e-learning thus enables a more concise degree programme that is not geographically restricted, is freer in terms of time and can be designed to allow more autonomy. It is also particularly well-suited to students with physical or mobility restrictions, as well as students at different stages of life, e.g. with parental or caring responsibilities.

Currently, the Network of Scandinavian/Finnish Studies is made up of five collaborating universities alongside the UoC, which is responsible for the coordination of the project. These are the University of Freiburg, Goethe University Frankfurt, Humboldt Universität Berlin, the University of Strasbourg (France) and Turun yliopisto (Turku University, Finland). ///

➔ skanfen.phil-fak.uni-koeln.de/e-master.html

➔ www.youtube.com/watch?v=b9R3pG0qunY

Pupils at the University

Record Demand for Cologne Children’s University

Under the title ‘Cologne Children’s University’, the University of Cologne has been organizing an annual two-week programme of lectures and workshops since 2003 to inspire school children to develop more interest in science – whether by having the chance to conduct their own experiments, carrying out their own studies or hearing exciting explanations for everyday phenomena. In 2016, the number of participants reached a record level of 1,500.

Contributions from all of the Faculties were on the programme of events. Professor Dr Hans G. Edelmann from the Biology Department explained why trees can’t grow up to the sky,

Together with pupils, Franz Bauske from the Centre for Aging Studies questioned the pupils’ parents about their own school days, and Professor Kirsten Schindler from the Institute for German Language and Literature presented scientific explanations for the way everyday conversations work.

Pupils from years 3 to 6 could take part, either individually or as a whole class. Especially keen participants received a diploma from the Children’s University at the end of the event. ///



Experiencing physical phenomena in a workshop

Managers in the Lecture Hall

Launch of the Cologne-Rotterdam Executive MBA

Excellence Meets Experience – this motto could be said to sum up the ‘Cologne-Rotterdam Executive Master of Business Administration (EMBA)’, which was launched at the UoC’s Business School in September 2016. The programme, which students complete alongside their professions, came about through collaboration between the Rotterdam School of Management, the University of Rotterdam and the UoC. It is aimed at managers with several years of professional experience who already have a university degree and have gained some initial managerial experience.

The high-quality lecture and seminar programme prepares participants for managerial tasks in senior management and is concluded with a dual degree from both universities. It is designed to take two years and allows for a combination of theory and practice.

The participants can apply their freshly acquired knowledge directly in their work environment and they can also write their final thesis on a practice-based topic from their own companies. With a third of participants from abroad, the ‘Cologne-Rotterdam Executive MBA’ has also been well-received beyond national borders.

In addition to the Executive MBA, the Cologne Business School offers open professional development courses as well as consultancy and professional development courses tailored to the needs of specific companies. ///

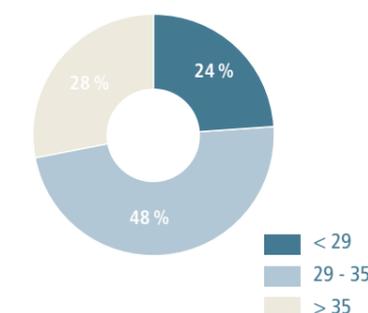
Profile of the First EMBA Cohort

Executive MBA Students

Number: 21 students

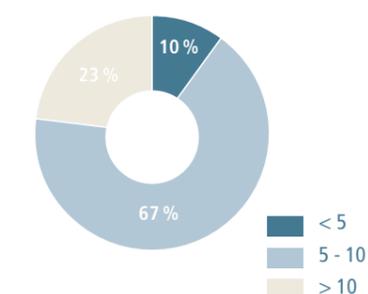
Age (ø 33)

years



Professional Experience (ø 8)

years



Most Important Branches

- Pharmaceuticals Industry
- Consultancy & Services
- Energy Sector
- Financial Services
- Healthcare
- Engineering
- Oil and Gas Industry
- Law
- Education
- Automotive Industry



Participants in the Cologne-Rotterdam Executive MBA in the new seminar building of the UoC

Finding and Promoting Young Talents

Attracting more pupils from non-academic homes and families with a background of migration to study for a degree – that is the goal of the talent-scouting programme of the federal state of North Rhine-Westphalia, in which the UoC is participating. In the programme, so-called talent scouts offer orientation, advice and support in starting out in academic education. What is special about the concept: the talent scouts are not waiting around on campus for interested parties, but actively visit secondary schools in the region to make contact with talented pupils. This way, those young people who might not have thought about studying for a degree are alerted to the available opportunities.

In establishing contact with schools, in addition to their existing contacts, the UoC can make use of the existing network of the 'Cologne Training Region' – a collaboration initiative among universities and schools, which was set up in particular to organize the practice semester for teacher trainees.

At the UoC, which is collaborating with Cologne University of Applied Science in the project, three talent scouts are involved in the current pilot phase at four schools in Cologne. Ideally, they will support young people from their first thoughts about enrolling in a degree programme right up to graduation. With personal advice as well as workshops, the talent scouts pass on knowledge about the university, convey general study skills and provide advice on questions of student finance and future career prospects.

Alongside the pupils, parents are also given the chance to find out about the opportunities to study for a degree and to overcome any reservations. Through a launch event in September 2017, to which representatives of secondary schools were invited, the project will be brought to a wider public. In total, the University of Cologne will receive funding of one million euros up to 2020 for their talent scouting programme. ///



Train the Trainer – Project Management – Foundations of Entrepreneurship

In the winter semester 2015/16, the UoC, together with the Cologne Chamber of Industry and Commerce (IHK), launched the programme 'Train the Trainer'. It was designed for students in all disciplines and teaches participants the basics of adult education. Students acquire theoretical and practical skills for designing training courses – specialist vocational knowledge that they can provide evidence of with the 'Trainer(IHK)' certificate.

In September 2016, the first group of 14 students passed their IHK examination, after two semesters of further training. A second course with 16 students started in October. The transition into the world of work is supported by the UoC ProfessionalCenter with a range of further offers. Due to the success of the 'Train the Trainer' course, a

further course in collaboration with the IHK was launched in the summer semester of 2017. The one-semester course concludes with the 'Project Manager (IHK)' exam. Here, up to 20 students can learn the methods and instruments of project management in project groups and consolidate this with e-learning.

There are also further courses on offer for students contemplating the founding of a startup, such as the certificate 'Fundamentals of Entrepreneurship', which can be acquired via a collaboration agreement between the university's incubator 'Gateway' and the 'ProfessionalCenter'. With this programme, students are ideally prepared to establish their own (spin-off) company from the UoC. The certificate courses the ProfessionalCenter offers are the basis for a number of other qualifi-

cations which are available. With the knowledge they gain, students are in a better position to prepare themselves for their future field of work and to highlight their skills in their job applications. ///

Skills for Research

Research-oriented Teaching

The research strength of the UoC is also reflected in special offers that prepare students for the working methods in research. Top-level research, as carried out in the context of the Excellence Initiative projects, thus makes a great contribution to teaching and enriches it with innovative themes and excellent infrastructure. A wide range of offers, such as the course in Quantitative Biology, Intensive Weeks, top-level research in teaching and research grants for students specifically offer them opportunities and incentives to become familiar with current research projects at an early stage and to develop their own research initiatives.

New Programme in Quantitative Biology (B.Sc.)

In the Life Sciences, for example, research questions with large data sets are playing an increasingly important role, for example studies into the genetic material of plants or patient studies to research diseases. In addition to solid knowledge in the subject concerned, researchers need in-depth knowledge of quantitative analysis methods and on how to deal with large quantities of data. On the initiative of the CEPLAS Cluster of Excellence, the 'Quantitative Biology' degree programme was developed jointly by precisely these requirements. The programme, which is offered by the UoC and Heinrich Heine University Düsseldorf, was accredited in 2015,

and in 2016 the first students started. The students' research interests were already clear – the very topical data-intensive fields of system biology and synthetic biology.

Graduates of this programme will be of great interest to those running modern, data-oriented research projects in biology, such as the CEPLAS Cluster of Excellence, which is based at Heinrich Heine University Düsseldorf and the UoC, as well as the Max Planck Institute for Plant Breeding Research and Forschungszentrum Jülich. The interdisciplinary and research-oriented four-year Bachelor's degree programme 'Quantitative Biology'

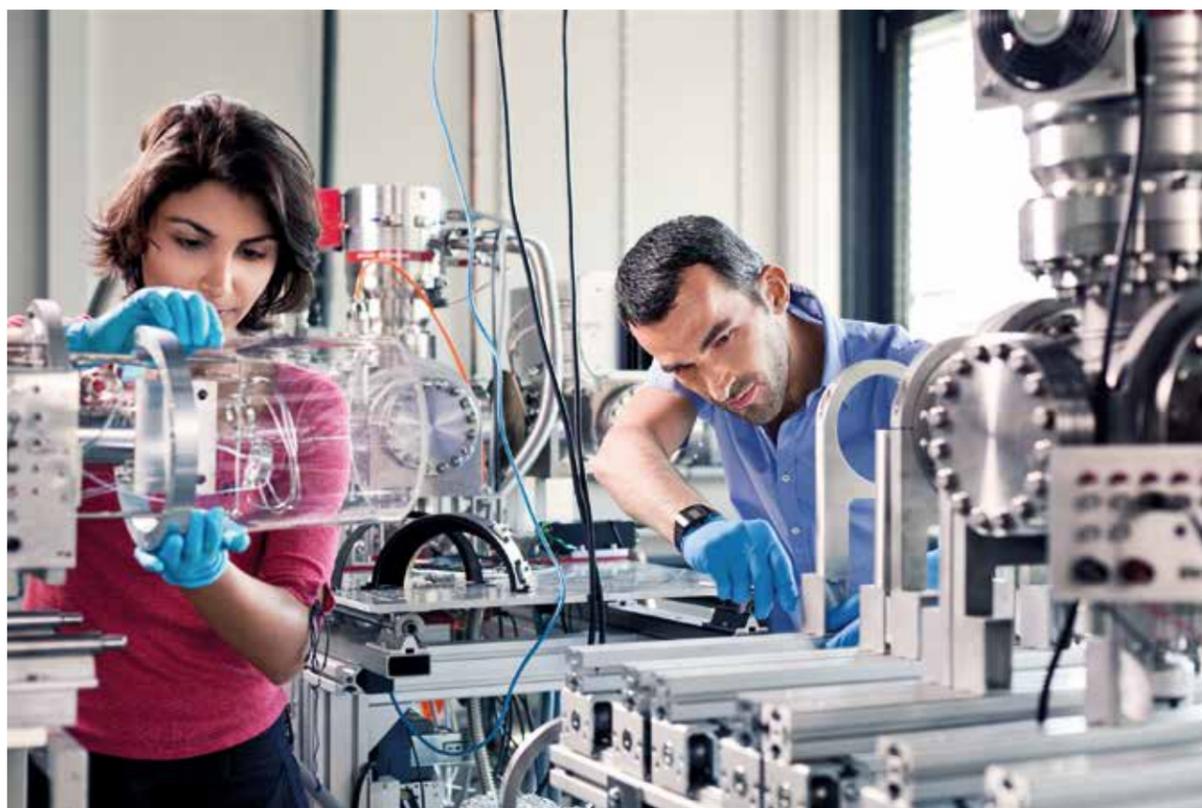
comprises modules in mathematical modelling, bioinformatics, biostatistics and the equally heavily quantitatively-oriented biology subjects of the biophysics of the cell, system biology and synthetic biology. The subject matter is taught in lectures, with around two thirds of the teaching time being devoted to exercises and practical sessions.

Funded in the Excellence Initiative: Research-oriented Teaching at the Bonn-Cologne Graduate School for Physics and Astronomy

The Bonn-Cologne Graduate School for Physics and Astronomy (BCGS) offers an integrated doctoral programme that includes a Master's degree. Master's students are involved in research groups in the context of practical research work. During term break, the BCGS organizes Intensive Weeks in which Master's and doctoral students are given excellent opportunities to become familiar with current research subjects and to learn alongside top international scientists. In 2016, Intensive Weeks were offered on a variety of subjects. Among other things, the students recreated the dis-

covery of the Higgs particle, allowed bacteria populations to evolve and investigated topological effects in solid-state physics.

Intensive Weeks comprise lectures, research-related problems, which are often solved in groups, compact experiments and discussions. In the words of a participant, 'In the Intensive Week we didn't get tired, even after working in the lab for hours. Rather, we were able to develop more new models, simulate them on the computer, test them in experiments and then present them.'



Test Setup as part of the Bonn-Cologne Graduate School for Physics and Astronomy

Research Grants for Students

In the CECAD Cluster of Excellence, students with 'Medical Student Fellowships' can gather practical research experience in the Cluster of Excellence's research laboratories. The Center for Social and Economic Behavior (C-SEB), a Center of Excellence in the UoC's Institutional Strategy, offers Master's students grants to enable them to develop and carry out their own experiments. In 2016, 13 Master's students received this funding. The experience gained this way is particularly exciting for those students who want to stay in research after completing their Master's thesis.

International Top-level Researchers in Teaching

The students also benefit from the worldwide and regional research collaborations of the UoC. Scholars and scientists from non-university research institutions, with which the UoC collaborates in the Research Alliance Cologne (see p. 109), are involved in teaching, including, for example, the Max Planck Institute for Plant Breeding Research and Forschungszentrum Jülich. Added to this are the lectures and seminars offered by top international researchers in the context of the International Faculty Programme (see p. 33), through which outstanding international researchers come to the University of Cologne to teach and advise students and doctoral candidates. ///

Taking a Broader View

Studium Integrale at the UoC

With the Studium Integrale, the UoC offers Bachelor's students in all Faculties the opportunity to attend teaching events outside their regular subject curriculum to the value of 12 credit points. This is intended to encourage students to follow their own interests and look beyond their own subjects, learning new ways of thinking. A reform of the Studium Integrale was initially launched by the Faculty of Arts and Humanities in 2015 under the heading 'WeiterDenken'. In 2016, a new structure for the events of all Faculties was developed and a control body was instituted responsible for the re-conception and further development of the events within Studium Integrale starting from the winter semester 2016/17.

The following subjects are offered in the summer semester 2017: 'Thinking History, Writing History. Approaches from Antiquity to the Present', 'Religion, Gender, Identity - these three? Concepts, Criticism and Social Reality', 'A Sense of Justice' and 'The Future of the Theatre - the Theatre of the Future'. The Faculty of Arts and

Humanities and the Faculty of Law are involved in the programme, as well as guest lecturers from Germany and abroad. Beginning in the winter semester 2016/17, the range of teaching events will be supplemented by events from the Faculty of Human Sciences and the Faculty of Mathematics and Natural Sciences. ///

Students are encouraged to follow their own interests and look beyond their own subjects, learning new ways of thinking.

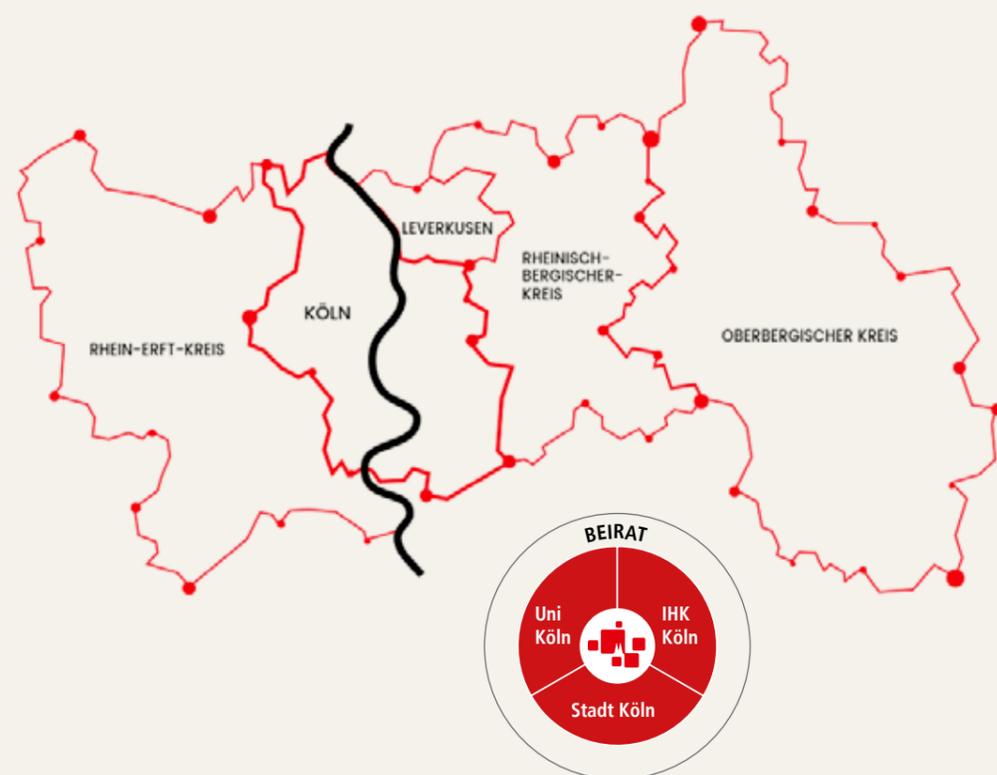


UNIVERSITY AND SOCIETY

A university wants to generate and pass on knowledge. For this knowledge to benefit people and the economy, the University of Cologne, the City of Cologne and the Cologne Chamber of Commerce and Industry founded the Digital Hub Cologne in 2016 as an innovation and digitization centre for the regional economy. The Hub's offers are mainly aimed at start-ups and small and mid-sized enterprises.

*Rector's Commissioner for Alumni Work,
Fundraising and Technology Transfer, Dr Rainer Minz*

Digital Hub Cologne



The transfer of knowledge and technology are among the central tasks of the UoC and they are highly important to society. That includes contributing to our knowledge society by means of educational and information events, supporting economic innovation, for example by encouraging start-ups, and fostering the integration of refugees.

The UoC has been increasing its activities in these areas for many years now. For example, in 2015 it set up the GATEWAY Incubator to support the start-ups of students and staff. The COPT Center is a high-tech platform to offer support to businesses, in particular aimed at SMEs in the field of organic electronics. Currently, there is a particular focus on digital innovation – in 2016, together with the City of Cologne and the Cologne Chamber of Commerce and Industry, the UoC founded the 'Digital Hub Cologne', where digital innovation Meets small and mid-sized enterprises.

Thanks to concepts such as the 'Pupils' University' and study opportunities for senior citizens, the UoC is opening up to different generations, and supports the broad passing on of knowledge in society. In doing so, the university makes use of a wide range of formats to take up topical issues and get involved in public debate. Moreover, this involvement includes many current areas of society, for example with programmes for refugees who want to start a degree programme, the Cologne Summer Schools for international students, and participation in the Philipp Schwartz Initiative of the Alexander von Humboldt Foundation, which offers grants to refugee academics. The Centre for Teacher Education has also become involved in the area of language teaching for refugees. ///

Internationalization at Home

Cologne Summer Schools

Summer schools are an exciting way for students to deepen their knowledge of an academic discipline in a short time and to make international contacts during their studies. In particular, students who find it difficult to integrate a longer stay abroad into their degree programme can benefit from the offer. The Cologne Summer Schools have been organized for the last four years by the university's International Office, with financial support from Santander Consumer Bank AG. In 2016, this collaboration was extended by a further three years.

Since the start of the project in the winter of 2012, 30 Cologne Summer Schools have been organized, around half of them in the year 2016. They have covered a broad spectrum of subjects – from media and law, environmental sciences and aging research to international teacher training. The Faculties, teaching staff and institutes can submit their

subjects through a competition held in the previous winter. The summer school is aimed at students and doctoral researchers in Cologne as well as postdocs and alumni in the Cologne Alumni WORLDWIDE network.

The Cologne summer schools are also open to students at international partner universities who are considering doing a semester abroad or a Master's programme in Cologne and would like get to know the UoC during the summer school. ///



Participants in the 2016 summer school

Pioneer of Guest Student and Senior Citizens' Studies Hands Over the Reins

Over the last few decades, the 'Guest Student and Senior Citizens' Studies' section of the UoC has been built up into what it is today – a teaching programme which is open to all interested parties. This great success is particularly due to the work of the long-standing head of the coordination office for Academia and Public Relations, Professor Dr Hartmut Meyer-Wolters. He retired in March 2016 and handed over to his long-term deputy, Dr Miriam Haller.

Dr Haller will now lead the most popular Guest Student and Senior Citizens' Studies programme in the

country – 1,579 senior citizen students and guest students were registered in the winter semester of 2016/17. They are not only allowed to take part in the regular teaching events at the UoC, but can also get involved in teaching, for example, by acting as mentors or career coaches, allowing younger students to benefit from their experience of life and work. Recently, the concept of research-based learning, which has been part of Senior Citizens' Studies at the UoC from the outset, has been developed further as 'Citizen Science', allowing citizens to take an active part in research, too. ///

1,579
senior citizen students
and guest students in
the winter semester of
2016/17

Social Responsibility

Integration of Refugee Scholars, Scientists and Students at the University

Conflicts and the rise of autocracies in many regions of the world lead to situations in which people have to flee or are driven out of their home countries. In 2016, a large number of refugees were accepted in Germany, including many scholars, scientists and students. The UoC provides customised programmes to help researchers and students affected to integrate into the German academic and education system. Furthermore, the university is committed to helping academics who have been persecuted and threatened in their home countries and takes a clear stance against discrimination, racism and sexism. It stands up for the principle of a discrimination-free university, which is also firmly established in its statutes.

Funding Refugee Students

The UoC is currently supporting approximately 85 refugee students with their integration into the German university system. For this purpose, it has acquired 570,000 euros in a joint programme of the German Academic Exchange Service (DAAD), German universities and partner organizations for the integration of refugees. The UoC is using this funding for German courses, counselling and intercultural training. It is moreover making an important contribution to supporting refugee students with the refugee fund from the university's own Studies and Teaching Foundation. From the donations, it awards grants to young

people from crisis regions. In 2016, the university acquired more than 100,000 euros in donations for this purpose.

Support for Persecuted Scholars

The International Office of the University of Cologne finds opportunities for refugee scholars and scientists in the Faculties. The faculty, departments and institutes are given support in the choice of suitable programmes and in submitting applications for financial support. Refugee scholars and scientists receive financial support from various organizations, including the international Scholar Rescue Fund and the Philipp Schwartz Initiative of the Alexander von Humboldt Foundation.

The UoC is also involved in networks to support academics in need – it is a founder member of the German section of Scholars at Risk, which was founded in September 2016. Scholars at Risk is an international network

through which more than 400 universities, research institutions and other academic organizations in 39 countries collaborate to protect researchers at risk and to strengthen values such as academic freedom. It has also registered with the Institute of International Education Scholar Rescue Fund, which assists persecuted students and academics from crisis regions and awards grants to established researchers whose lives and work in their home countries are at risk.

'PROMPT! Learn German' – an Initiative for Refugee Children and Young People

In the 'PROMPT!' initiative, teacher trainees from Cologne teach German to refugee children and adolescents. PROMPT! was developed as a language support project by the Centre for Teacher Education (ZfL) at the UoC, the German Red Cross and the City of Cologne. This support results in a situation that is advantageous to both



Cologne teacher trainee teaching German

sides – the refugees receive support in learning German and the students can develop their social skills and gather practical teaching experience. The initiative was launched in 2014 in the Cologne emergency accommodation centre in Herkulesstrasse. In 2016, it was joined by more emergency accommodation centres in the Cologne/Düsseldorf region, and more students got involved. The students teach the children and young people the basics of the German language and thus make the transition into the German school system easier for them. By the end of 2016, more than 11,000 euros had been donated to the refugee fund of the university's own Studies and Teaching Foundation to fund 'PROMPT! Learn German'. This funding was used to finance preparatory and processing seminars, psychological support for

the teacher trainees and for project evaluation.

Enabling the Best Support in Europe

Information on the best provision of support for refugees at universities is collected and compared across Europe. This allows universities to learn from each other and to offer the best possible support. The UoC is involved in the benchmarking project 'Supporting University Community pathways for REFugee-migrants' (SUCRE), which is being conducted under the auspices of Aristoteles University in Thessaloniki (Greece) and the Vrije University in Amsterdam (Netherlands). ///

Statement of the Senate of the University of Cologne for a Discrimination-Free University

In view of the events at Cologne Railway Station on New Year's Eve, the University of Cologne and its members would like to reaffirm the principles of a discrimination-free university as laid down in its guiding principles, and take a clear position against sexism and racism of any kind. Our solidarity lies especially with the women who were the victims of sexual assaults. This year, too, in line with these principles, we want to continue with our specific campaigns and activities against sexism and racism, as well as developing new ones, within the context of initiatives by students and in research and teaching.

We already support many initiatives and measures to help refugees. Our International Office is a central point of contact for refugees. Here, countless different actors and institutions have come together in an open working group. They organize measures such as the German lessons given in emergency accommodation by teacher trainees, or the support offered to newly immigrated children and young people in schools.

The University of Cologne is also well prepared for protection against sexual discrimination and in the debate about sexual violence, for example with assertiveness courses for women and lecture series on gender and violence.

New Leadership for Alumni, Transfer and Fundraising

The UoC was able to win Dr Rainer Minz as the Rector's Commissioner for Transfer, Fundraising and Alumni, with effect from 1 January. For 25 years, Dr Minz was Senior Partner and Managing Director of Boston Consulting, working with banks, insurances and public institutions, and had previously held a leading position in the IT service company of Generali Deutschland AG. In 2014, he founded RM Consulting GmbH, a Human Resources consultancy for specialist technical personnel. At the UoC, he will teach Media and Technology Management. He is a member of the supervisory board in various start-ups and of the Advisory Board of the School of Business and Economics in Maastricht. Under Dr Minz's leadership, the areas alumni, transfer and fundraising will be reorganized.



Dr Rainer Minz

Dr Minz, a new university foundation is planned for the anniversary year of 2019. What will be special about this foundation?

Dr Rainer Minz: We will officially register the foundation on the 100th anniversary of the university's re-founding. We can use the anniversary to draw the public's attention to the UoC and its excellent research and teaching. The purpose of the foundation is very broadly defined and not only covers research, as is the case with many comparable foundations, but also teaching and student initiatives. As a beacon project, we want to create a new innovation and start-up centre through the foundation. There are plans for a four-storey building with a conference area, traditional co-working spaces and advice centres. All of this is planned

to be built directly on campus and will be aimed at students interested in starting a business.

What else do the City of Cologne and the UoC need to offer so that students can successfully set up their own companies?

The start-up scene is very important to the city authorities. Cologne's ambition is to be the number two for start-ups in Germany, after Berlin. But that will only be possible in conjunction with the UoC and other universities. This is why we have founded the Digital Hub Cologne. This is a place where start-ups come together with companies and scientists to develop digital business models together. What we still do not have at the UoC are entrepreneurship teaching posts and the corresponding events – across all Faculties. Moreover, many start-ups can only be realised with skills in Engineering Sciences. That is why we will be collaborating closely with Cologne University of Applied Sciences. It is already clear that we are on the right path. With the GATEWAY Incubator, there is already a point of contact and a support structure for those interested in starting up businesses. Incidentally, one start-up that developed from this now has the most employees in the country.

You are working on restructuring KölnAlumni, the UoC's alumni organization. Why will students soon be asked to join on their first day at university?

I am convinced that, in many cases, it is too late if you get post from KölnAlumni sometime after being awarded your degree certificate. You can only develop an emotional relationship with your university while you are actually studying for your degree. Even international students, who only stay here for one or two semesters, look back fondly on this special time. We have therefore undertaken to secure students' loyalty to the university from the outset by offering them things that are attractive to them, such as networks and events, and thus develop a lifelong feeling of belonging.

How does membership in KölnAlumni remain interesting even many years after having completed your degree?

We offer events, for example, round table discussions, online conferences or professional development courses. But what is much more important is the network that comes with KölnAlumni. Today, we have around 4,000 members. In ten years' time we want to be at 50,000. On their first day at the UoC, all members receive an alumni e-mail address, by means of which we want to enable access to a planned Alumni app, for example. With this, they will have lifelong access to former fellow students or other contacts relating to the university. And the best thing is – membership remains free of charge. ///



Tour on the day of the opening ceremony

Science meets SMEs

COPT Center for Organic Electronics Opened



COPT.ZENTRUM

During a kick-off conference for the Science@COPT series of events, internationally renowned experts from Germany, the UK and the USA presented the latest research in the field of Organic Electronics. With this con-

ference on 20 May, the COPT Center for Organic Electronics (Centre for Organic Production Technologies) was scientifically inaugurated. In the years to come, Organic Electronics will produce completely new, previously unseen electronic products, for example unbreakable displays made of plastic, or medical diagnostic equipment to stick on the skin.

The COPT Center, which was completed at the end of 2015 after a construction period of nearly two years, fosters technology transfer between the University of Cologne and small and mid-sized enterprises under the leadership of Professor Dr Klaus Meerholz. It is part of the technology transfer strategy of the University of Cologne and also an important element in the federal state initiative for future technology 'Organic Electronics', which has plans to create highly-skilled long-term employment opportunities in North Rhine-West-

phalia in the future. On its 1,000 square metres of laboratory and office space, there is not only a technological infrastructure of the highest order available to SMEs; they can also benefit from the academic expertise on offer at the COPT Center. ///

Support for Self-Employment

GATEWAY Incubator Awarded the 2016 University Prize

As a comprehensive, research-oriented university, the UoC produces a wealth of research results from all of its Faculties every year, as well as creative solutions for a wide range of problems – often not in the context of regular research work. However, it can be a long way from an idea to the successful product, and support is often necessary.

For this reason, the UoC has founded the GATEWAY Incubator for companies started by university members. GATEWAY offers advice and qualification measures for companies started by members of the UoC or other universities that are members of *hochschulgründernetz cologne e.V.* (UoC Founders' Network). In 2016, GATEWAY was awarded the University Prize in the category 'Administration' for their outstanding professional consultancy work and support associated with start-ups.

The services provided by GATEWAY are aimed at students, graduates and research assistants. Every year, the start-up advisers at GATEWAY conduct around 100 initial consultancy interviews as well as various information events for people thinking about starting a company. Furthermore, there are around 35 work spaces available for young entrepreneurs to use.

Currently, 13 start-up teams are developing their business models here. One of these companies is TAGXTER. TAGXTER develops software for outdoor terrain to make orientation easier for visitors, e.g. on the university campus. The company was funded with a start-up grant from GATEWAY until the end of June 2016 and acquired its first large order before the end of 2016.

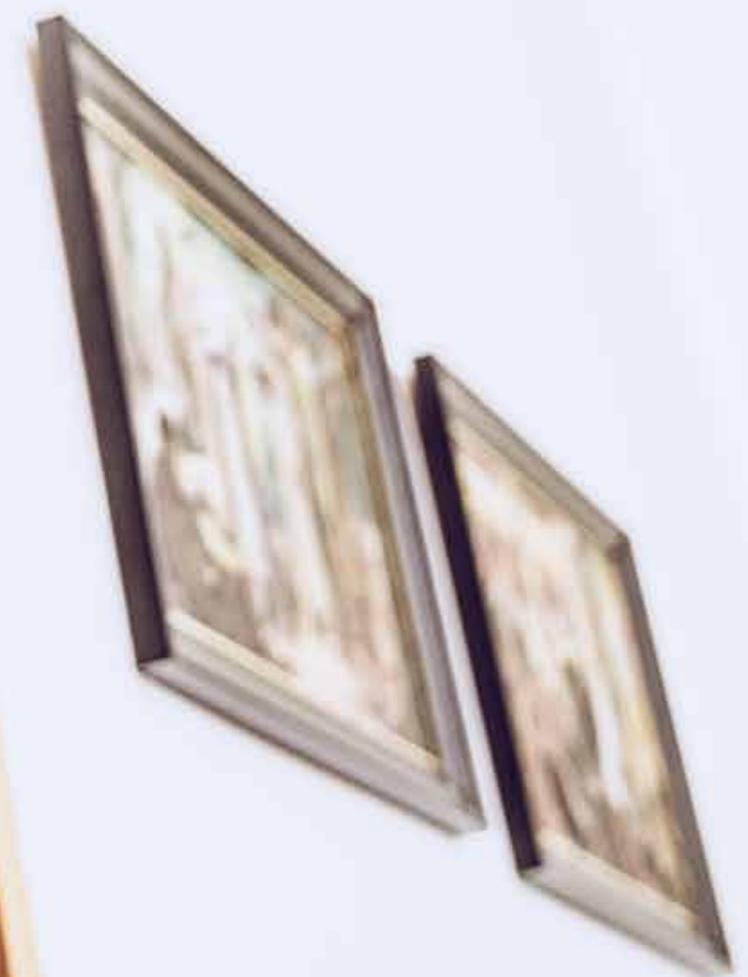
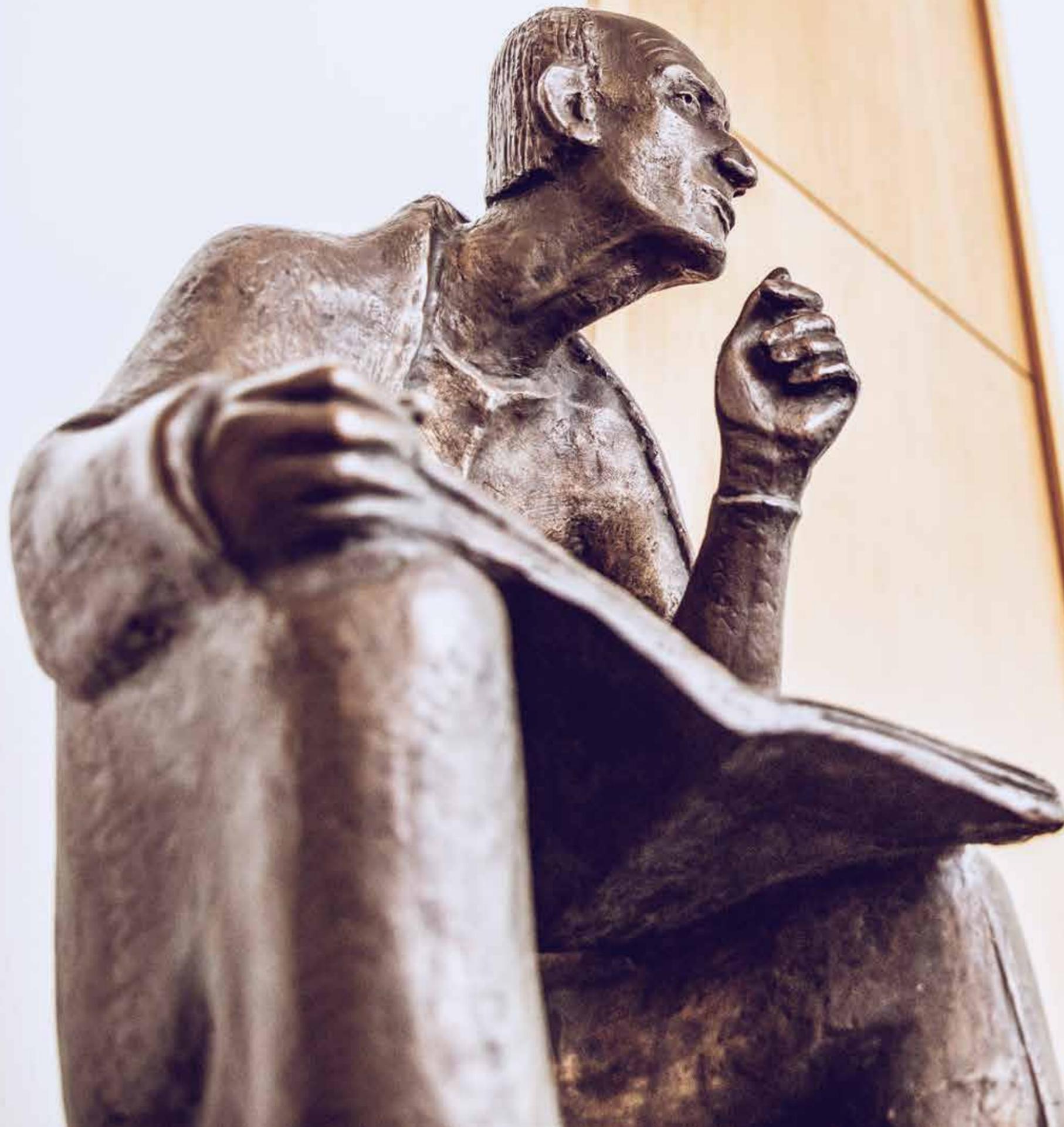
Another start-up project is TAVLA, which has been funded since January 2016. TAVLA is developing an application and service portal for senior citizens and is thus improving quality of life and participation in digital services by senior citizens.

The first start-ups have already left the GATEWAY and moved into their own premises, for example UVIS UV-Innovative Solutions GmbH, which won the NUK Rhineland Start-Up Prize in 2015 with its product to disinfect escalator handrails. ///



In the GATEWAY offices

HONOURS



Honours in Figures



Leibniz Prize Winners

- 2017** ● **Professor Dr Anne Storch**
Institute for African Studies and Egyptology, Faculty of Arts and Humanities
- 2013** ● **Professor Dr Achim Rosch**
Institute for Theoretical Physics, Faculty of Mathematics and Natural Sciences
- 2009** ● **Professor Dr Martin Zirnbauer**
Institute for Theoretical Physics, Faculty of Mathematics and Natural Sciences
- 2007** ● **Professor Dr Jens Claus Brüning**
Institute for Genetics, Faculty of Mathematics and Natural Sciences
- 2006** ● **Professor Dr Thomas Mussweiler** (no longer at the university since 11/2016)
Institute for Psychology, Faculty of Education
- 2005** ● **Professor Dr Axel Ockenfels**
Department of Governance and Public Policy, Faculty of Management, Economics and Social Sciences
- 2001** ● **Professor Dr Martin Krönke**
Institute for Medical Microbiology, Immunology and Hygiene, Faculty of Medicine
- 1997** ● **Professor Dr Andreas Kablitz**
Romance Department, Faculty of Arts and Humanities
- 1996** ● **Professor Dr Ulf-Ingo Flügge**
Botanical Institute, Faculty of Mathematics and Natural Sciences
- 1995** ● **Professor Dr Thomas Schweizer (†)**
Institute for Anthropology, Faculty of Arts and Humanities
- 1992** ● **Professor Dr Peter Schneider**
Mathematics Institute, Faculty of Mathematics and Natural Sciences

In the year 2016, many UoC scholars and scientists received major prizes for their excellent achievements, also gaining international renown and thus contributing to the university's excellent international reputation.

In December, the Cologne specialist in African Studies, Professor Dr Anne Storch, was awarded the prestigious Gottfried Wilhelm Leibniz Prize 2017 for her outstanding research achievements. Storch, whose areas of study include taboo and secret languages, made a decisive contribution to the cultural and anthropological understanding of contemporary Africa with her in-depth linguistic analysis.

On 1 July, the renowned philosopher Professor Dr Sven Bernecker from the University of California (Irvine, USA) commenced his Alexander von Humboldt Professorship at the UoC. The post is endowed with up to five million euros in funding for the first five years and is thus the best-endowed research prize in Germany.

In addition to this, researchers at the UoC also won five ERC grants – a rise of two thirds in comparison to the previous year. ///

Honours and Prizes

Honours and Prizes at the University of Cologne 2016 to In-house and External Personalities

B

Dr Dirk Basten and Dr Nikolaus Schmidt, Department of Business Information Technology and System Development, received the 'Junior Teaching Award of the Faculty of Management, Economics and Social Sciences' in the winter semester 2015/16 for their joint seminar 'Selected Issues in Information I/II – IT Strategy & Governance'.

Marie Bellec, Romance Department, received the teaching award for 'outstanding commitment to teaching' in the Faculty of Arts and Humanities.

Kathleen Kimberly Boström, Faculty of Human Sciences, received the 'Jenny Gusyk Prize for Young Talent'.

Professor Dr André Bresges, Institute for Physics Education, together with the Department of Mathematics and Natural Sciences Didactics, received the 'Albertus Magnus Teaching Prize' for the winter semester 2015/16.

C

Professor Dr Peter Chen, Physical-Organic Chemistry at ETH Zurich, held this year's 'Kurt Alder Lecture'.

Michael Cristescu and Andreas Pollak, Department of Governance and Public Policy, Chair of Professor Dr Ockenfels, received the 'Junior Teaching Prize of the Faculty of Management, Economics and Social Sciences' in the summer semester 2016 for their joint event 'Conducting Experiments with zTree'.

D

Myrle Dziak-Mahler, Managing Director of the Centre for Teacher Education (ZfL) received the 'Jenny Gusyk Prize for Family-friendly Management'.

E

Dr Sarah Erne, Institute for Foreign and International Criminal Law, was presented with the 'Doctorate Prize 2016 of the Faculty of Law' for her dissertation.

F

Professor Dr Klemens Fischer received the 'Junior Teaching Prize of the Faculty of Management, Economics and Social Sciences' in the winter semester of 2015/16 for his seminar 'Foreign Policy – A Comparison of Foreign and Securities Policies: EU – USA – Russia – China'.

Professor Dr Ulf-Ingo Flügge, Botanical Institute, won the 'University Prize 2016' in the category 'Research'.

Dr Oliver Froitzheim, Chair for Civil Law, International Commercial Law, IPR, Comparative Law and Banking Law was awarded the 'Doctorate Prize of the Faculty of Law' in 2016.

H

Professor Dr Roland Hefendehl, University of Freiburg, and **Professor Dr Rupprecht Podszun**, University of Bayreuth, was awarded the Ars legendi Prize of the Faculty of Law.

Dr Maria Hermanns, Institute for Theoretical Physics, was awarded the 'Max Delbrück Prize for Young Scientists'.

Professor Dr Johanna Hey, Institute for Tax Law, received the 'Hans Kelsen Prize'.

Professor Dr Wilhelm Hofmann, Social Cognition Center Cologne, received the 'Leo Spitzer Prize'.

Professor Dr Thorsten Hoppe, Institute for Genetics/CECAD was awarded the 'Max Delbrück Prize'.

J

Professor Dr Michael Jünger, Institute for Information Technology, received the 'Albertus Magnus Teaching Prize' for the winter semester 2015/16.

K

Thomas Kerl, Institute for Organic Chemistry, was awarded the 'Special Prize for Teaching in Human Medicine'.

Dr Helge Klemmer, Institute for Physical Chemistry, received an 'Albertus Magnus Teaching Prize' for the winter semester 2015/16.

Dr. Sandra Kliem, Department Physik, erhielt einen „Albertus-Magnus-Lehrpreis“ für das WiSo 2015/16.

M

Claudius Mandel, Chair for Political Theory and the History of Idea, received the 'University Prize 2016 in the Category Teaching and Studies' for the lecture 'Orientation and Reflection – a Dialogue Workshop'.

Dr David Markworth, Institute for Employment and Commercial Law, was awarded the 'Doctorate Prize 2016 of the Faculty of Law' for his dissertation.

Thorsten Merl, Institute for General Didactics and School Research, received the 'Jenny Gusyk Innovation Prize'.

Dr Mahdad Mir Djawadi, Chair for Public Law, International and European Law, was awarded the 'Doctorate Prize 2016 of the Faculty of Law' for his dissertation.

N

Adjunct Professor Dr Thomas Nisters, Philosophy Department, received the teaching prize for 'outstanding commitment in teaching' at the Faculty of Arts and Humanities.

O

Professor Dr Axel Ockenfels, Department of Governance and Public Policy, received the 'Albertus Magnus Prize' for the winter semester 2015/16.

P

Professor Dr Dr h.c. Hanns Prütting, Institute for International and European Insolvency Law, won the 'University Prize 2016 in the Category Research'.

S

Maik Schössow, Zoological Institute, received the 'Albertus Magnus Teaching Prize' for the winter semester 2015/16.

Dr Irene Somm, Institute for Vocational, Business and Social Education, received the 'Junior Teaching Prize of the Faculty of Management, Economics and Social Sciences' in the summer semester 2016 for the event 'Group Discussion Procedures in Inequality Studies'.

T

Dr Monika Tautz, Institute for Catholic Theology, received the 'Teaching Prize or Outstanding Commitment to Teaching' at the Faculty of Arts and Humanities.

Professor Dr Ulrich Thonemann, Seminar for Supply Chain Management and Management Science, received the 'Albertus Magnus Teaching Prize' for the summer semester of 2016.

Tine Trumpp, Geographical Institute, received the 'Albertus Magnus Teaching Prize' for the winter semester 2015/16.

U

Dr habil. Daniel Ulber, Institute for German and European Employment and Social Law, received the 'Hans Kelsen Prize for Young Academics'.

W

Dr Tanja Weber, Institute for MediaCulture and Theatre, received the 'Teaching Prize for Outstanding Commitment in Teaching' at the Faculty of Arts and Humanities.

Z

Sara Zavaree, Institute for African Studies and Egyptology, received the 'Bene dikt and Helene Schmittmann-Wahlen Grant'.

Torsten Ziegler, Marc Kley und Vesna Domuz, Department 75 – Transfer, for outstanding commitment in the conception and development of the GATEWAY start-up service, received the 'University Prize 2016 in the Category Administration'.

Honours and Prizes

Honours and Prizes in 2016 to Members of the University of Cologne

A

Dr Anan Al Sheikh Haidar, Institute for International Peace and Security Law, received a grant for refugee scholars and scientists from the 'Philipp Schwartz Initiative' from the 'Alexander von Humboldt Foundation'.

B

Professor Dr Georg Bareth, Geographisches Institut, wurde in den „Beirat der Deutschen Gesellschaft für Photogrammetrie, Fern- erkundung und Geoinformation (DPFG)“ gewählt.

Dr Matteo Bergami, Cluster of Excellence CECAD, received an 'ERC Starting Grant'.

Professor Dr Sven Bernecker, Philosophy Department, received the 'Alexander von Humboldt Professorship'.

Professor Dr André Bresges, Institute for Physics and its Didactics, was appointed to the 'Chair of the Committee on International Education' by the 'American Association of Physics Teachers'.

D

Professor Dr Silvia Daun, Zoological Institute, UoC, and Institute for Neurosciences and Medicine, Forschungszentrum Jülich, received the 'Heisenberg Professorship'.

Professor Dr Sebastian Diehl, Institute for Theoretical Physics, received an 'ERC Consolidator Grant'

E

Professor Dr Werner Eck, Historical Institute, Department of Ancient History, was appointed 'Socio straniero' by the 'Accademia dei Lincei' in Rome.

Prof Dr Franziska Ehmcke, Emeritus Professor of Japanese Studies at the University of Cologne, has been awarded an 'honorary doctorate' from Kansai University in Osaka (Japan).

F

Dr Sebastian Feiler, Attorney at Law, Institute for International and Foreign Private Law, has been awarded the doctorate prize of the Alexander Lüderitz Foundation for his dissertation.

Professor Dr Ulf-Ingo Flügge, Botanical Institute, was elected member of the Senate of the 'National Academy of Sciences Leopoldina' and also Chairman of the 'Organismic and Evolutionary Biology' section.

G

Dr Andreas Groten, Dissertation at the Institute for Roman Law, received the 'X. Premio romanistico internazionale Gérard Boulvert' award for his book 'corpus and universitas. Roman Corporate and Company Law – between Greek Philosophy and Roman Politics'.

Professor Dr Thomas Grundmann, Philosophy Department, was elected the new 'President of the GAP (Society for Analytical Philosophy)'.

Dr. Daniel Gutzmann, Institute for German Language and Literature I, Linguistics, received the 'Heinz Maier Leibnitz Prize'.

H

Junior Professor Dr Matthias Heinz, Department of Business Administration and Human Resource Management, was awarded the 'Joachim Herz Economics Prize'.

Charlotte Herbig, Institute of Physics II, was awarded the 'Wayne B. Nottingham Prize'.

Professor Dr Hans-Georg Herbig, Institute for Geology and Mineralogy, was elected 'Voting Member' in the 'International Subcommission on Carboniferous Stratigraphy'.

Professor Dr Joachim Hennrichs, Chair for Civil Law, Accounting and Tax Law, has been elected to the 'Academic Advisory Council of the Federal Ministry of Finance'.

Professor Dr Klaus-G. Hinzen, Seismic Station of the Institute for Geology and Mineralogy, was presented with the 'Award of Corresponding Astronomer' by the 'Royal Observatory of Belgium (ROB)'.

Professor Dr Wolfram Höfling, Institute for Constitutional Law, was re-appointed to the German Ethics Council.

I

Professor Dr Kei Ito, AXA Chair in Neurosciences: from genome to structure and function, received the 'AXA Research Fund'.

K

Prof. Dr. Axel Klawonn, Institute of Mathematics, was elected to the 'Board Council of the Society for Applied Mathematics and Mechanics'.

Professor Dr Florian Klein, Department I of Internal Medicine/Centre for Molecular Medicine of Cologne University Hospital, received an 'ERC Starting Grant'.

Dr Felix Kölle, Chair of Economics, Design and Behavior, received the prize for young talent 'Modigliani Research Grant' from 'UniCredit & Universities'.

Professor Dr Frauke Kraas was appointed to the 'Federal Government Academic Advisory Council on Global Environmental Changes (WBGU)'.

Professor Dr Michael Kubiciel, Chair for Criminal Law, Criminal Law Theory and Comparable Criminal Law, was awarded an 'Honorary Doctorate from the Universidad San Pedro', Chimbote (Peru).

L

Professor Dr Maria Leptin, Institute for Genetics, was elected 'Member of the German Academy of Sciences Leopoldina'.

Dr Philipp Lersch, Institute for Sociology and Social Psychology, received funding from the DFG for the 'Emmy Noether Junior Research Group'.

Professor Dr Claudia Loebbecke, M.B.A., Department of Media and Technology Management, was elected as an external and independent deputy member to the '12th WDR Broadcasting Council', and has been an 'Honorary Lifetime Member of the Association for Information

Systems (AIS)' since 2016. She has been appointed a member of the 'Academic Working Group for Regulatory Matters' of the Federal Network Agency and, as a member of the 'Academic Council of the European Academy of Sciences', led the 'Socio-Economic Sciences & Humanities Division'

Dr Kevin Lukes, Institute for German and European Employment and Social Law, has been awarded the 'Küttner Doctorate Prize' and the 'Academic Prize of the Wolfgang Hromadka Foundation'.

M

Professor Dr Heinz-Peter Mansel was appointed deputy chairman of the committee for awarding the research prizes of the Alexander von Humboldt Foundation and for awarding the Sofja Kovalevskaja prizes.

Dr Riccarda Marcelli, Institute for Insurance Law, was awarded the 'Helmut Kollhoser Prize' from the 'Research Centre for Insurance at the Westphalian Wilhelms University Münster' for her dissertation.

Professor Dr Sanjay Mathur, Institute for Inorganic Chemistry, was awarded an honorary doctorate from the University of Vilnius, Lithuania.

Professor Dr Karl Mosler, Institute for Econometrics and Statistics, was awarded honorary membership by the 'German Statistical Society'.

Professor Dr Klaus Müllen, Max Planck Institute for Polymer Research, received the Hermann Staudinger Prize.

N

Professor Dr Dr h.c. Angelika Nußberger, Institute for Eastern European Law and Comparative Law, was appointed Vice-President of the 'European Court of Human Rights'.

O

Professor Dr Axel Ockenfels, Department of Governance and Public Policy, was appointed member of the 'European Academy of Sciences', took 151st place in the 'Global Thought Leader Index' and 9th place in the 'F.A.Z. Economists' Ranking – Germany's Most Influential Economists'.

P

Professor Dr Holger Pfaff, Institute for Medical Sociology, Healthcare Research and Rehabilitation Sciences, was re-elected 'Review Board Member on the DFG Board' and was appointed to the 'Advisory Council of Experts of the Innovation Committee' by Federal Minister for Health, Mr Gröhe.

R

Professor Dr Achim Rosch, Institute for Theoretical Physics, received the 'Europhysics Prize'.

S

Professor Dr Stephan Schlemmer, Institute of Physics I, received the 'Gay Lussac Humboldt Prize'.

Dr. Alexander Schmidt-Catran, Institute for Sociology and Social Psychology, and PD Dr Dennis C. Spies, Cologne Center for Comparative Politics, received the 'Allbus Prize 2016' of the Leibniz Institute for Social Sciences (GESIS) for their article 'Immigration and Welfare Support in Germany' published in the American Sociological Review.

Professor Dr Karl Schneider, Geographical Institute, was appointed 'DFG Liaison Lecturer' for the University of Cologne.

Professor Dr Detlef Schoder, Department of Business Information Technology and Information Management, together with **Daniel Döppner**, **Honorata Siejka** and **Wolfgang Hennes** in collaboration with their practice partner 'Jettainer GmbH (Lufthansa Cargo)', earned 2nd place in the 'German Logistics Prize'.

Michael Schwan, Cologne Center for Comparative Politics, erhielt den Preis für das „Beste Forschungspapier eines Nachwuchswissenschaftlers 2016“ des „Councils for European Studies“.

Professor Dr Dr h.c. Andreas Speer, Philosophy Department, was appointed Chair of the 'E-Humanities' working group by the 'Union of German Academies of Sciences' and 'DFG Professional Council Spokesperson for Philosophy'.

Professor Dr Fabian J. Sting, Department of Supply Chain Management – Strategy and Innovation, was presented with the 'ERIM Top Article Award'.

Professor Dr Matthias Sutter, Chair of Economics: Design and Behaviour, received the 'Pater Johannes Schaching Prize' and took 22nd place in the 'F.A.Z. Economists' Ranking – Germany's Most Influential Economists'.

T

Sebastian Tonke, Department of Governance and Public Policy, received the 'Junior Scholar Award'.

Professor Dr Christine Trampusch, Cologne Center for Comparative Politics, was appointed advisory council member of the project 'Skill Mismatch: Measurement Issues and Consequences for Innovative and Inclusive Societies' at the University of Turin (Italy) and was joint publisher of the 'European Journal of Political Research'.

Professor Dr Aleksandra Trifunovic, Institute for Genetics and CECAD, won the 'Marie Skłodowska Curie Action'.

V

Dr David Vilchez, Institute for Genetics and CECAD, received an 'ERC Starting Grant'.

W

Professor Dr Stefanie Walch-Gassner, Institute of Physics I, received an 'ERC Starting Grant'.

Professor Dr Wolfgang Wessels, Centre for Turkey and European Union Studies (CETEUS), received the 'Vision for Europe Award' from the Prague European Summit. Furthermore, the European Commission awarded him a 'Jean Monnet Chair for Turkey and European Union Studies (MONTEUS)' and he was appointed 'Ho-

norary Board Member of the Trans European Policy Studies Association (TEPSA)'.

Professor Dr Jürgen Wolf, Department I for Internal Medicine, received the 'Innovation Prize of the Federal State of NRW'.

Z

Dr Conrad Ziller, Institute for Sociology and Social Psychology, received the 'German Study Prize (2nd prize) of the Körber Foundation' and the 'Early Career Prize of the Arbeitsgemeinschaft Sozialwissenschaftlicher Institute e.V. (ASI) (working group of Social Sciences Institutes)'.



PERSONNEL

As one of the biggest employers in the region, the UoC has great responsibility. In 2016, we commenced implementation of the Contract for Good Employment Conditions. At the same time, we are developing a comprehensive personnel concept that offers attractive career paths and clear job profiles for the next generation and ensures the further professional development of our academic staff.

*Vice-Rector for Planning and Academic Staff
Professor Dr Martin Henssler*

Personnel in Figures in the 2016 Budget Year

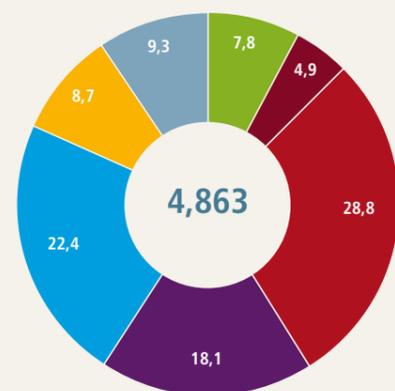
Faculty	Staff with their main career in academia						Academic Personnel Total	
	Professors		Teaching staff/ Lect./Assist.		Research assistants		i	w
	i	w	i	w	i	w		
Faculty of Economics and Social Sciences	97	25 %	7	86 %	273	36 %	377	34 %
Faculty of Law	41	22 %	0	0 %	197	48 %	238	43 %
Faculty of Medicine *	104	15 %	0	0 %	1296	56 %	1.400	56 %
Faculty of Arts and Humanitiest	151	39 %	106	64 %	622	57 %	879	55 %
Faculty of Mathematics and Natural Sciences	149	21 %	46	46 %	896	36 %	1.091	35 %
Faculty of Human Sciences	74	47 %	104	65 %	246	66 %	424	63 %
Academic staff outside of the Faculties **	15	20 %	67	72 %	372	55 %	454	57 %
Academic Staff, total	631	28 %	330	64 %	3,902	50 %	4,863	48 %

t = total number; f = female staff

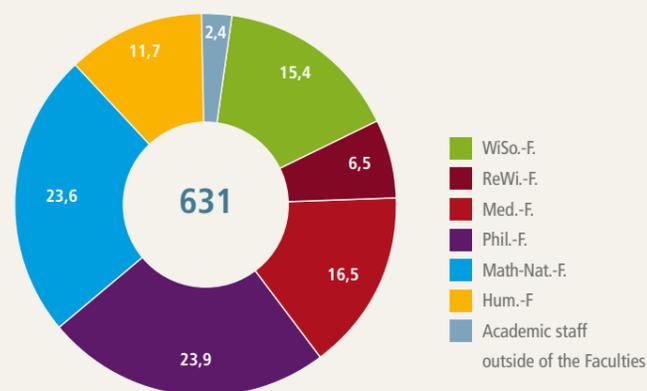
* Information deviates from the figures of the official statistics. The proportions of research and teaching are stated without healthcare.

** e.g. USB, RRZK, Rector's Office, Vice-Rectors' Office, Staff Units, Central Institutions

Academic Personnel incl. Professors (in %) in the 2016 Budget Year



Professors According to Faculty (in %) in the 2016 Budget Year



As of 1 December 2016

In 2016, the University of Cologne was able to raise its teaching and research achievements to a considerable extent. This is also reflected in employee figures. Over the last five years, 30 additional permanent W2 and W3 professorships have been established – an increase of six percent. In addition, around 30 further junior professorships have been established and employees have been hired in all areas of the university. Fostering the next generation of scholars and scientists in all stages of their careers is particularly important to the university. With the signing of the 'Contract on Good Employment Conditions for University Staff in NRW', we have drawn attention to career perspectives for academic and non-academic staff across the federal state.

A number of practical measures for personnel development and networking have been implemented at the UoC and, in particular, provisions have been put in place for the next generation of scholars and scientists at all stages of qualification. The Albertus Magnus Graduate Center and the university-financed graduate schools set up in all Faculties provide early-career researchers with support in the course of their doctorates. The post-doc network and the Junior Faculty Club act as inter-disciplinary points of contact and advice for academics from the post-doc phase onwards. An important milestone was achieved with the implementation of the tenure procedure adopted at the end of 2015, which creates transparent conditions for the creation of permanent junior professorships. ///

Healthy at Work

Health Management at the University of Cologne Receives Awards

The UoC's Occupational Integration Management (Betriebliches Eingliederungsmanagement – BEM) received two awards in 2016 – the Award of the Landschaftsverband Rheinland and certification by the Institute for Quality Assurance and Prevention. Occupational Integration Management provides intensive support to employees who have been ill for a long time and are returning to work. BEM is one of many activities within the context of the university's Occupational Health Management (Betriebliche Gesundheitsmanagement – BGM).

The latter was implemented in 2015 as a further measure to foster good

employment conditions at the UoC. With this initiative, all health-related provisions for employees in academia and the administration are systematically grouped together, connected and harmonized (e.g. UniSport, staff and leadership counselling, Occupational Integration Management, in-house doctor's service). The UoC sees the creation of working conditions that are conducive to good health as an important foundation for excellent research and teaching. The prime objective of the measures is the preventative strengthening of the health of all employees, thus ensuring job satisfaction, motivation, innovative capacity and high performance.

The establishment of BGM at the UoC has been designed to meet the needs and requirements of our employees. A university-wide employee survey to identify levels of psychosocial stress at work was conducted in 2016. In order to draw up specific measures for improvement, 'BGM workshops' are currently being held in all Faculties and administrative units, involving all groups of employees. ///

staff representations have therefore developed a hiring catalogue that covers all the key qualification goals and makes the hiring process efficient and transparent for both types of job.

The various impetuses from politics and legislation strengthen the UoC in developing a comprehensive personnel concept with a focus on attractive career paths for early-career researchers and academic personnel development. In the area of career paths, the university headship drew up a strategic concept in 2016 on innovative job profiles for non-professional academic staff. On the one hand, the job profiles must be further developed for teaching and research-intensive non-professional academic staff; on the other, for the first time, a job profile must be designed for science managers.

Changes in the legal framework conditions for the appointability of early-career academics also arise from the Service Law Modernization

Act (Dienstrechtsmodernisierungsgesetz) for the federal state of NRW, which came into force in June 2016. Since the amendment, scholars and scientists from the qualification procedures, for example from the DFG Emmy Noether Programme, which are equivalent to a junior professorship, can be appointed to tenure track positions. This change will also be incorporated into the personnel concept and lead to a corresponding adjustment to the UoC's Tenure Track Code.

Employees receive support and mentoring on their career paths by means of the tailor-made provision of the graduate schools in all Faculties, as well as of the Albertus Magnus Graduate Center and the Department for Academic Personnel Development. In this context, more than 200 individual and team measures are provided for several thousand participants every year. Moreover, the target groups also make use of the networking provisions of the UoC in the post-doc network and in the

Junior Faculty Club (target group – junior professors and self-employed early-career group leaders at the UoC and its partner institutions). ///

Every year, more than
200
individual and team
measures for several
thousand participants

Sustainable Support for the Next Generation

Good Working Conditions for Careers in Academia

The UoC is committed to being a good employer with reliable career paths. The Vice-Rectorate for Planning and Academic Staff, which was founded at the end of 2015, started its work in 2016 and since then has been introducing improved employment conditions for staff on academic career paths (such as post-docs or research group leaders). The UoC is using new formats to implement the requirements from academia and politics, as well as new legal frameworks, and is developing transparent perspectives for university staff. They receive support in subject-specific and interdisciplinary workshops and training formats, which helps to reduce the uncertainties of an academic career.

In 2016, political and legislative change led to new employment conditions in academia. In January, the 'Contract on Good Employment Conditions for University Staff' took effect, an agreement between the Ministry for Innovation, Science and Research, the federal state staff councils' conferences and the headships of universities in the federal state of North Rhine-Westphalia. Among other things, the contract defines regulations on equality and inclusion, on establishing a federal state-wide university employment market, on fixed-term contracts and part-time positions to be available. The revision of the Academic Fixed-Term Contract Act (Wissenschaftszeitvertragsgesetz) in the

spring of 2016 also imposes new requirements on employee conditions. One major change here concerns the appropriateness of the length of the fixed term with respect to the desired qualification.

In academia, it is important to make a distinction between permanent jobs and qualification jobs. Permanent tasks should be carried out by qualified personnel with a permanent employment contract. However, every new generation of doctoral researchers and post-docs needs free positions. These needs must be balanced and a job concept for the entire non-professional teaching staff developed. The university administration, Faculties and



Academic Personnel Development offers a wide range of options for personal professional development and individual career development.

Personnel Development for the Next Generation of Academics



In recent years, the UoC has introduced extensive measures for career orientation and development for the various different status groups. In connection with the new development of a career path concept for the next generation of scholars and scientists, the competencies were newly summarized in 2016 to realise tailor-made counselling and qualification for the career stages of doctoral phase and post-doc phase, and to enable a possible reorientation.

The result is a harmonized personal development system that provides tailor-made support to early-career researchers, from doctorate to professorship. The Department for Academic Personnel Development, founded in 2013, acts as a guidance centre for the next generation of scholars and scientists from the post-doc phase and provides information on its various career-supporting offers. The following measures and programmes have been set up in the past few years and are meeting with increasing demand:

excellent research and teaching skills in order to be able to deal with the complex challenges in the university context. As part of Lead Excellent, management-specific skills are taught with various instruments. The programme also involves on-boarding and the systematic qualification of around 40 to 50 newly appointed professors each year, including the introduction event 'Academia Meets Administration' held since 2013, the 'Scientists Welcome' event for a chance to meet the Rector and the Chancellor in an informal setting and the basic qualification 'Management Compact'.

- As part of the Post-Doc Career Programme initiated in 2015, the university offers all employed post-docs a programme of target-group-specific orientation, professional development and networking.
- The Albertus Magnus Graduate Center (AMGC), founded in 2014, acts as an interdisciplinary point of contact for doctoral researchers. In coordination with the more than 30

graduate schools of the Faculties, advisory, professional development and quality-securing measures are being designed and implemented. In addition to courses on academic writing, giving presentations and making applications, the programme also includes orientation events on the subject of self-employment, for example.

- In 2014, the University of Cologne implemented an interdisciplinary programme on the qualification of academic managerial staff in the form of Lead Excellent. This measure is based on the university headship's conviction that (early-career) academics in managerial positions increasingly need to have managerial skills as well as
- For the group of advanced post-docs and junior professors on the way to a professorship, the Junior Faculty Club (JFC) founded in 2013 offers representation of interests and a platform for academic and social further development and networking. As an independent body to represent their interests, the Junior Faculty Club is organized independently by post-docs. Their proximity and close coordination with the Academic Personnel Development Department guarantees optimal collaboration.

In addition to these points of contact and measures, many opportunities to develop and extend teaching skills are available to the next generation of scholars and scientists in the Center for University Didactics (Zentrum für Hochschuldidaktik – ZHD). The GATEWAY Incubator rounds off the career development support offer. Here, scholars and scientists receive guidance in the implementation of innovative business ideas on the career path to starting a business. ///

Consistently working towards a Gender Equitable University

Two Million Euros for Equality Measures

In 2016, the UoC acquired funds to the amount of around two million euros from the nationwide Women Professors Programme II and the NRW federal state programme 'Gender-Equal University'. These funds enable the implementation of many measures to promote support for female professors and female early-career researchers, including the financing of three newly appointed female professors for a period of five years. Furthermore, mobility grants for female post-docs, grants for childcare costs, a job pool for newly appointed female professors and female early-career researchers, coaching for female early-career researchers and a rotating guest lecturer position on 'Gender Studies' are all being funded via the program-

mes. With the funds from the federal state programme 'Gender Equitable Universities' from the Ministry for Innovation, Science and Research, the university has been able to fund a professorship in the field of gender research in medicine.

The aim of the Women Professors Programme II of the federal government and the federal states is to support the equality of women and men at universities, to permanently improve the representation of women at all levels of qualification in the academic system and to increase the number of women in top-level functions in academia. In the last few years, the UoC has continuously increased the proportion of female professors at the university. Around

29 percent of professorships at the UoC are now held by women. This means that the UoC is above the national average of 22 percent. Women also account for half of the staff in the managerial bodies and the administration at the UoC. ///

Around
29 %
of the professorships at
the University of Cologne
are held by women.

New Funding

Medical Psychology – Neuropsychology and Gender Studies



Professor Dr Elke Kalbe

Elke Kalbe is Professor for Medical Psychology, Neuropsychology and Gender Studies. Since January 2016, her professorship has been funded by the federal state programme 'Gender Equitable Universities' of the Ministry for Innovation, Science and Research. Kalbe studied General Linguistics, Psychology and Communication Sciences at the Universities of Cologne and Bonn and completed her doctorate in the year 2000 with distinction. In 2004, she qualified as a university lecturer by developing a checklist for the diagnosis of aphasia. She is currently conducting research

on the prevention and treatment of cognitive impairments in patients with Parkinson's disease. ///

Professorships

New Professors at the University of Cologne



Jun. Professor Dr Dr Miguel Alejandro Alcázar
W1 Professor for Translational Experimental Paediatrics, Cologne University Hospital



Professor Dr Sven Bernecker
W3 Professor, Humboldt Professor for Philosophy, previously University of California, Irvine



Professor Dr Tobias Bollenbach
W2 Professor for Experimental Biophysics



Professor Dr Christiane Bruns
W3-Professorin für Chirurgie



Jun. Professor Dr Anne Burkard
W1 Professor for the Didactics of Philosophy



Professor Dr Richard Bußmann
W3 Professor for Egyptology, previously University College London (UCL)



Professor Dr Silvia Daun
W2 Heisenberg Professor for Computational Neuroscience – Modelling Neural Network Function, previously Research Assistant at the Zoological Institute and at Forschungszentrum Jülich



Professor Dr Dr Eldad Davidov
W3 Professor for Methods of Empirical Social Research, previously University of Zurich



Professor Dr Eckhard Deschler-Erb
W2 Professor for Archaeology



Professor Dr Mario Fabri
W2 Professor for Infectiological Dermatology, previously Physician at the Department of Dermatology and Venerology, Cologne University Hospital



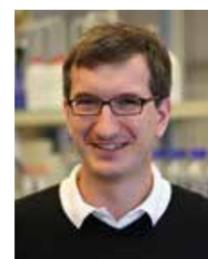
Professor Dr Matthias Fischer
W2 Professor for Experimental Paediatric Oncology



Jun. Professor Dr Andreas Fügener
W1 Professor for Supply Chain Management



Jun. Professor Dr Katharina Groß
Professor for Natural Science Didactics with a Focus on Special Education, previously Research Assistant at the Institute for Chemistry and Its Didactics



Professor Dr Jörg Großschedl
W1 Professor for Biology Didactics



Professor Dr Holger Grüll
W2 Professor for Experimental Imaging and Image-Guided Therapy



Professor Dr Charlotte Hanisch
W3 Professor for Psychology and Psychotherapy in Curative Education and Rehabilitation



Jun. Professor Dr Emanuel Hansen
W1 Professor for Economics



Professor Dr Ludwig Heindl
W2 Professor
Ophthalmological Oncology



Professor Dr Kei Ito
W3 Professor at the Zoological Institute



Professor Dr Jens Jordan
W3 Professor for Aviation Medicine

Professorships

New Professors at the University of Cologne



Jun. Professor Dr Peter Limbach
W1 Professor for Investment (CfR), previously Karlsruhe Institute of Technology



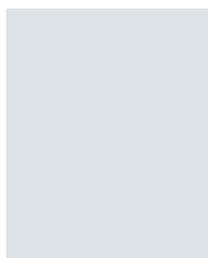
Professor Dr Ingo Rohlfing
W2 Professor for Methods of Comparative Politics, previously Jacobs University Bremen



Professor Dr Fabian Sting
W3 Professor for Company Management and Logistics, previously Erasmus University Rotterdam



Professor Dr Simone Wiegand
W2 Professor for Transport in Complex Systems



Professor Dr Matthias Messner
W3 Professor Economic Politics, especially Macroeconomics and Public Finance, previously Bocconi University, Milan



Jun. Professor Dr Iris Karoline Schneider
W1 Professor for Social and Economic Cognition, previously University of Amsterdam



Professor Dr Christoph Thole
Dipl.-Kfm., W3 Professor for German and Foreign Rules of Civil Procedure and Civil Law, previously Eberhard Karls University Tübingen



Professor Dr Eleftheria Paliou
W2 Professor for Computational Archaeology



Jun. Professor Dr Frederik Schwerter
W1 Professor for Economics, especially Behaviour and Experimental Economics



Jun. Professor Dr Simone Vossel
W1 Professor for Cognitive Neuropsychology



Professor Dr Jan Peters
W2 Professor for Biological Psychology



Professor Dr Matthias Sperl
W2 Professor for the Physics of Granular Matter, German Aerospace Centre (DLR)



Professor Dr Christian-Mathias Wellbrock
W2 Professor for Media Management, previously University of Hamburg



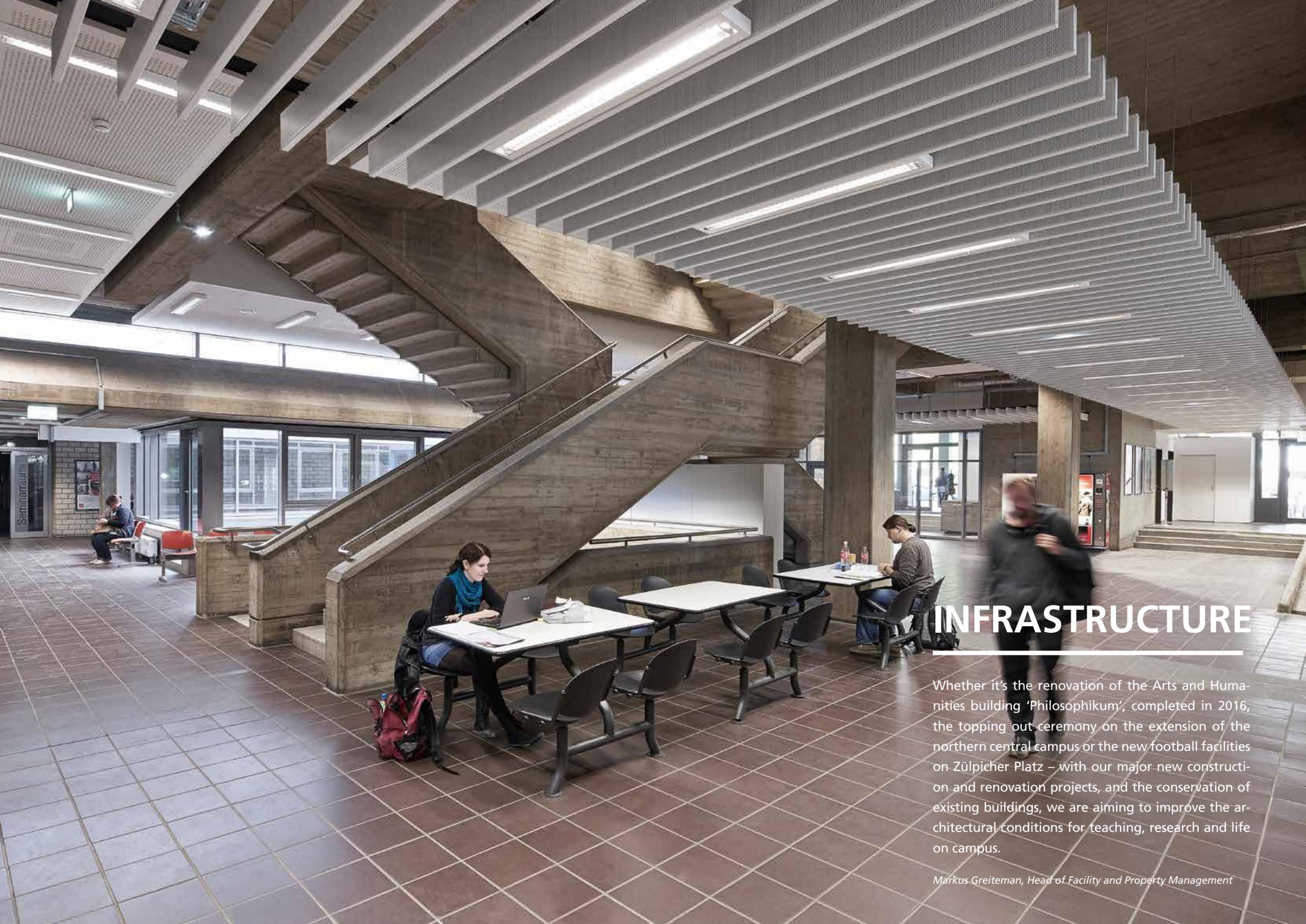
Professor Dr Ute Planert
W3 Professor for Modern History, previously University of Wuppertal



Jun. Professor Dr Susanne Steffes
W1 Professor for Empirical Personnel Economics



Professor Dr Dominik Wied
W3 Professor for Statistics and Econometrics

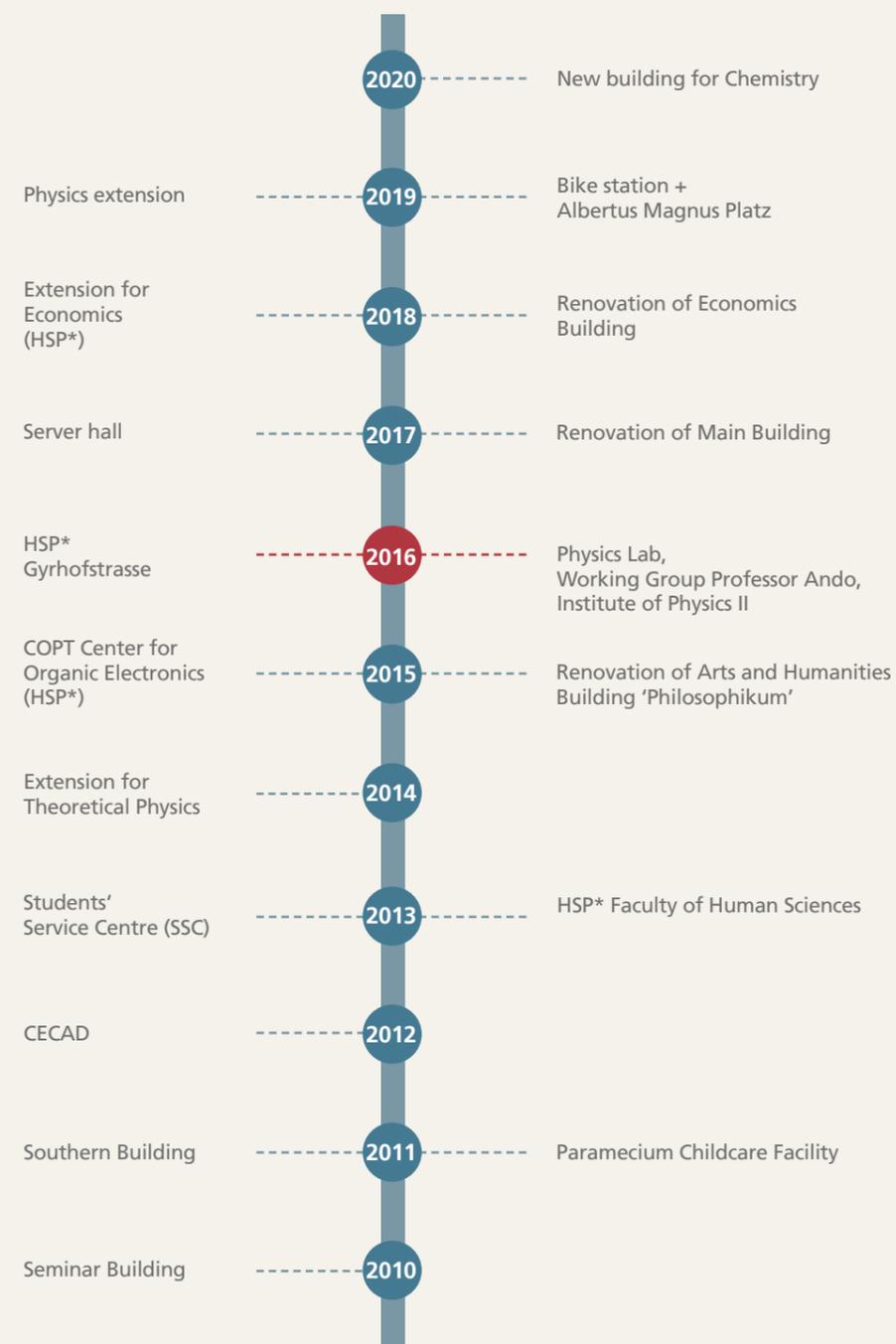


INFRASTRUCTURE

Whether it's the renovation of the Arts and Humanities building 'Philosophikum', completed in 2016, the topping out ceremony on the extension of the northern central campus or the new football facilities on Zülpicher Platz – with our major new construction and renovation projects, and the conservation of existing buildings, we are aiming to improve the architectural conditions for teaching, research and life on campus.

Markus Greiteman, Head of Facility and Property Management

Master Plan 2020



* Building from university pact funding (HSP)

A high-performance and functional environment supports the work of our scholars and scientists and contributes to providing the best conditions for study. Constantly improving the infrastructure is therefore an essential prerequisite for excellent research and teaching. The timeline on the left shows important milestones in our architectural master plan.

For example, the COPT Center, an important element in the university's transfer strategy, was inaugurated in the spring of 2016. With around a thousand square metres of space, the new building provides an excellent infrastructure for pre-competitive research in the field of organic electronics.

In the next two years, a similar environment will be created in Medicine – the university has decided to commence construction of the 'Centre for Integrated Oncology' (CIO), a top centre on the premises of Cologne University Hospital, distinguished and sponsored by the Deutsche Krebshilfe (German Cancer Aid) charity. With the help of the newly created infrastructure, suitable facilities can be provided for interdisciplinary collaboration in cutting-edge tumour diagnostics and treatment. ///

New Buildings, Modernization, Renovation

UoC Manages its own Construction Projects

In 2016, the University of Cologne undertook extensive construction work to improve the conditions for teaching, research and technology transfer. Here are a few examples that will facilitate research and teaching and make life on campus more attractive for everyone:

After six years of intensive building work, the renovation of the 'Philosophikum', with a total budget of 38 million euros, was completed with the official inauguration. The building is the main location of the Faculty of Arts and Humanities, and brings together under one roof the libraries, seminar rooms and offices of the majority of Arts and Humanities subjects. The building, which dates back to the 1970s, was in dire need of renovation. The renovation has greatly improved conditions for study and once again provides the

academics in the Faculty of Arts and Humanities with modern facilities for their work. Other large areas for research and teaching where building work was completed in 2016 include the Geology Department and a new, centrally located Seminar Building with a modular construction style. The Seminar Building is initially to be available for five years as an interim building for teaching events, thus enabling other construction work on the campus to be undertaken. The UoC has already had positive experience with modular construction in other buildings. For example, more than 400 scientists in the Cluster of Excellence for Aging Research CECAD now benefit from laboratory modules that can be combined in a range of ways in their building, which was opened in 2013.



Seminar Building with modular construction



Football tournament for staff 2016



Students in the Renovated 'Philosophikum'

In addition to the buildings for research and teaching, there have also been new developments in the fields of technology transfer and sport. In the spring of 2016, the COPT Center for Organic Electronics was inaugurated – an important element for implementing technology transfer at the university. With around a thousand square metres of space, the new building provides an excellent infrastructure for pre-competitive research in the field of Organic Electronics. And in June, the university opened its renovated football facilities on the Zülpicher Wall. The modern facilities with artificial turf and a multifunctional football building is also available for use by schools and clubs. The City of Cologne authorities contributed a building subsidy of 1.3 million euros to the renovation of the facilities. ///

In 2016, the University of Cologne permanently improved the conditions for teaching, research and technology transfer with a large number of building projects.



Universitäts- und Stadtbibliothek Köln (USB)

Advisory Council of the USB

Strategic Process for Modern Libraries

From their first literature search, the USB is the starting point for studies and research for a good 5,600 users every day. To keep up with the changing usage conditions and, in particular, the challenges of digital transformation, the Director of the USB Dr Hubertus Neuhausen, appointed in 2014, has initiated a comprehensive reform process in collaboration with the Faculties, for which the University of Cologne is being supported by a high-class academic advisory council.

Dr Rafael Ball, Director of the Library at ETH Zurich, Kurt de Belder, Director of the UB Leiden, Dr Thorsten Reimer, Head of Department at the British Library and Dr Beate Träger, Director of the ULB Münster started their work as members of the advisory council in 2015 and, since then, have been supporting a comprehensive strategic and change process.

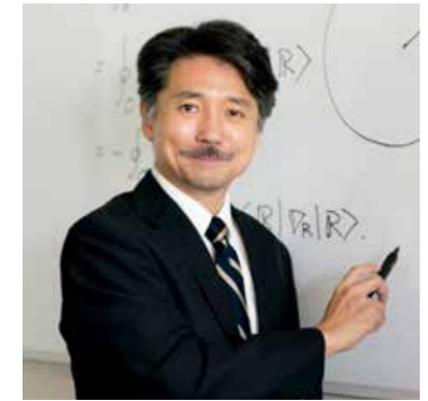
The key result of this process is the Master Plan for Libraries. This is currently being discussed and developed with the involvement of all the users of the library. Because of the need to make structural changes, the planning process is being carried out in close coordination with the construction management. This lays the foundation for a future-oriented library in modern, user-friendly buildings. ///

5,600
users
3,600
loans per day

Ultra-Modern Physics Lab for Renowned Scientist

Top-level research needs top-level conditions. This also includes an infrastructure that provides the best support to the research project in question. The University of Cologne has built an ultra-modern laboratory building in a very short time for the Institute of Physics II, custom-tailored to the scientific work carried out there. The building is being used by the working group of Professor Dr Yoichi Ando, one of the world's leading scientists in the field of solid-state research. Yoichi Ando is one of the most quoted scientists in the world and his research has won many awards. In 2015, the university appointed him as the new Head of the Chair 'Physics of Topological Matter and its Device Applications'. After his appointment, suitable laboratory rooms had to be built quickly. The university decided on an energy-optimized building with a modular construction made of robust, standardized elements. It was built within six months of the contract being awarded with a total construction cost of five million euros plus 2.5 million euros for the required equipment. The building meets the specific requirements of the users. It has special air-conditioning, low-vibration floors and a specific quality of

light in some of the rooms. A special laboratory was created for measurements at the lowest temperatures, close to absolute zero. The laboratory building is fitted with ultra-modern equipment, some of which Professor Ando brought from Japan. Other equipment was purchased at short notice using university funds and from the DFG funding programme 'Large Research Equipment'. This meant that Professor Ando and his working group were soon able to proceed with their current research in Cologne. ///



Professor Dr Yoichi Ando

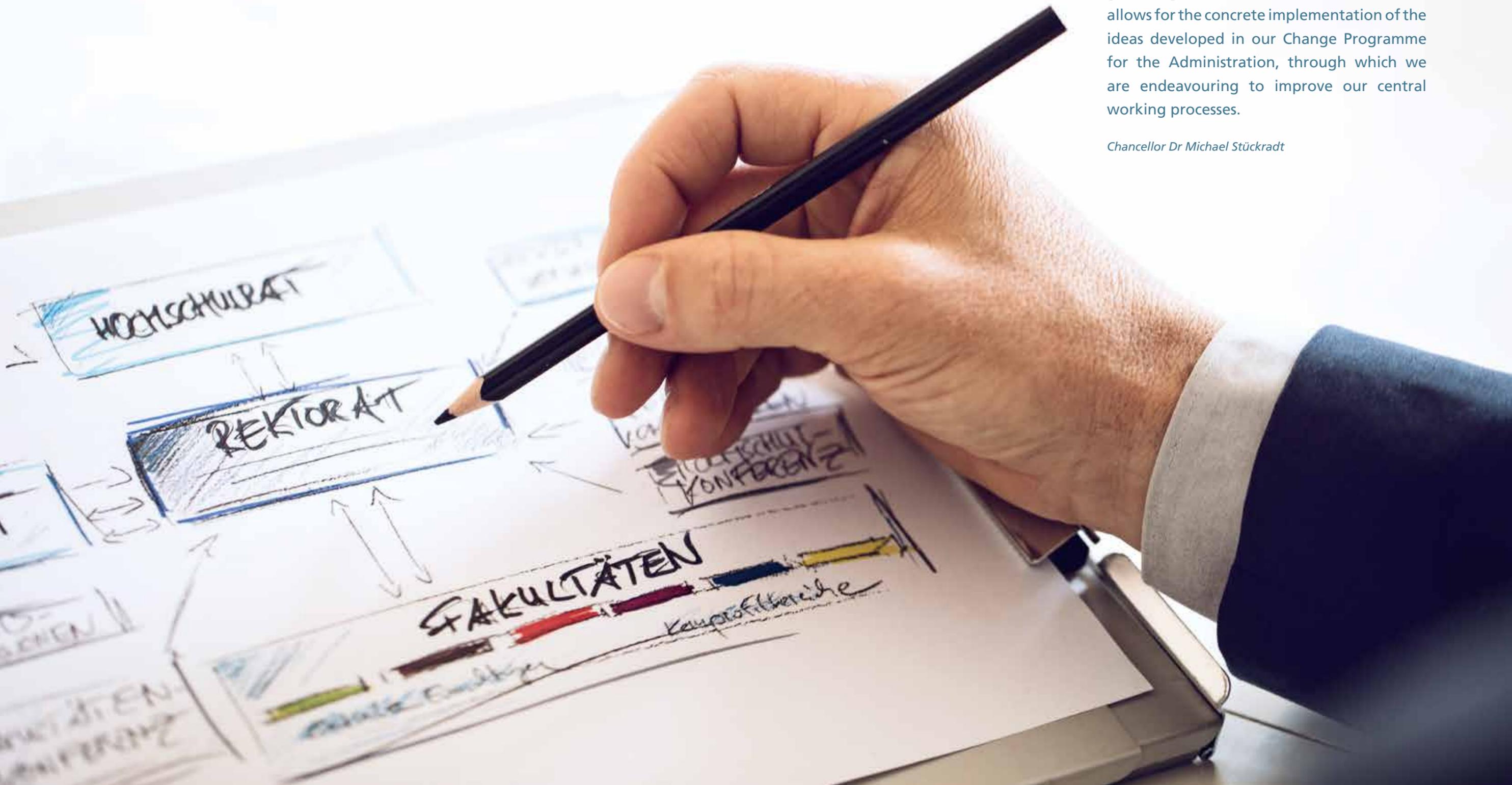


The Laboratory Building is designed to meet the specific needs of the scientists.

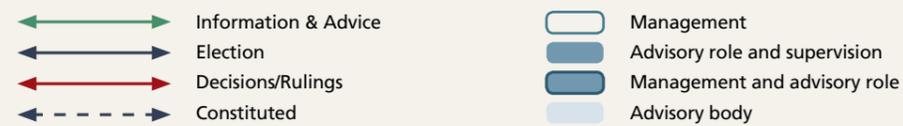
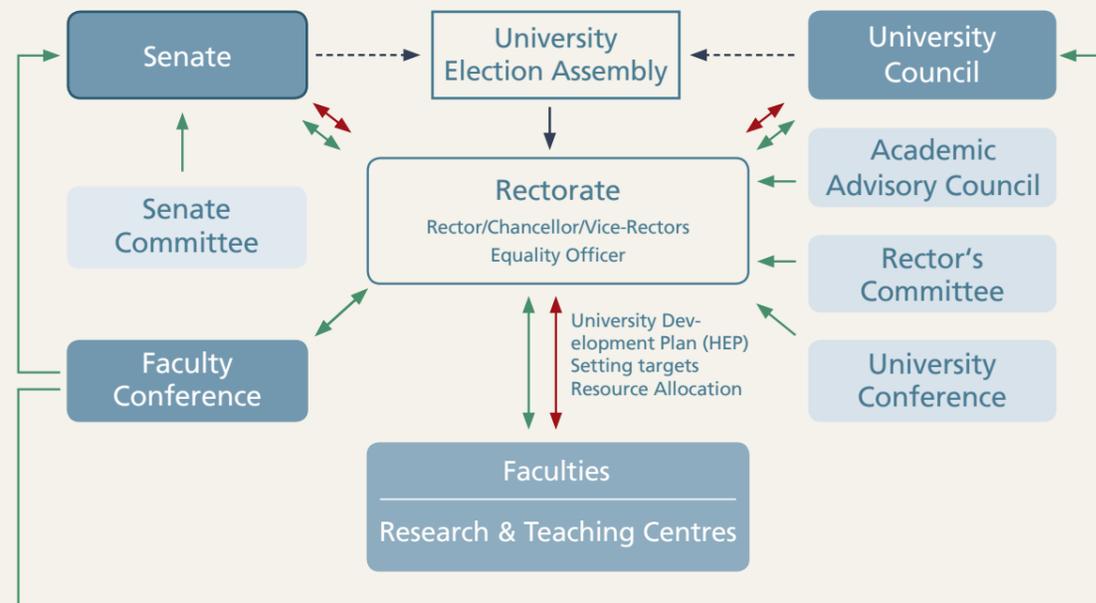
GOVERNANCE

In 2016 we created an interface between academia, the administration and the various governing bodies with our new Division 1. This allows for the concrete implementation of the ideas developed in our Change Programme for the Administration, through which we are endeavouring to improve our central working processes.

Chancellor Dr Michael Stückradt



Decision-Making Structure of the University of Cologne



The management structure of the UoC traditionally comprises a participative structure of the various bodies, in which all status groups are represented, as well as the Rector's Office comprising the Rector, the Chancellor and five Vice-Rectors. To improve the internal processes at the university, a number of projects and management tasks from the 'Change Programme for the Administration' have been initiated or implemented, such as the setting up of a new Strategy and Academic Affairs Department, improvements to the invoicing procedure and the further professionalization of our appointments procedure.

Furthermore, the UoC is also embedded in a dense network of non-university research facilities in the region and can look back on many years of excellent collaboration with these partner institutions. By founding the 'ResearchAlliance Cologne', these relationships have been formalized and developed into an integrated strategic network.

Collaboration with partner universities worldwide strengthens the UoC internationally in research and teaching. Exchange activities with our seven 'Global Network Partners' run through all levels of the university, for example, and are strategically aimed at long-term collaboration. Our 15 'Strategic Research Partners' focus on collaboration in the Key Profile Areas of the UoC. Our many other research partners enable fruitful collaboration in research and in exchange programmes for students, scholars and scientists. ///

Administrative Structure of the University of Cologne



As of December 2016

Rectorate of the University of Cologne



Back row, from the left

**Professor Dr
Manuela Günter**
Vice-Rector for Equality
and Diversity

**Professor Dr
Axel Freimuth**
Rector

**Professor Dr med.
Stefan Herzig**
Vice-Rector for Teaching and
Studies

**Professor Dr
Martin Henssler**
Vice-Rector for Planning
and Academic Staff

Front Row, from the left

**Professor Dr
Gudrun Gersmann**
Vice-Rector for
International Affairs

Dr Michael Stückradt
Chancellor

Ina Gabriel
Permanent Representative
of the Chancellor

**Professor Dr
Bettina Rockenbach**
Vice-Rector for Research

Faculties with Departments/Subject Groups



Faculty of Management, Economics and Social Sciences

- Business Administration
- Economics
- Social Sciences



Faculty of Law

- Civil Law
- Criminal Law
- Public Law



Faculty of Medicine

- Preclinical Medicine
- Theoretical Clinical Medicine
- Conservative Medicine
- Operative Medicine
- Dentistry



Faculty of Arts and Humanities

- History of Art, Music and Media Studies
- Archaeology, Ancient Studies and Cultures of the Mediterranean
- German Language and Literature
- Non-European Languages, Cultures and Societies
- Modern Languages and Cultures
- History
- Theology and Religion
- Philosophy



Faculty of Mathematics and Natural Sciences

- Biology
- Chemistry
- Geosciences
- Mathematics/Computer Sciences
- Physics
- Didactics of Mathematics and the Natural Sciences



Faculty of Human Sciences

- Education and Social Sciences
- Special Education and Rehabilitation
- Art/Textiles and Music
- Psychology



Back Row, from the left

Professor Dr Stefan Grohé
Dean of the Faculty of Arts and Humanities

Professor Dr Dr Ulrich Preis
Dean of the Faculty of Law

Professor Dr Ansgar Büschges
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Front Row, from the left

Professor Dr Hans-Joachim Roth
Dean of the Faculty of Human Sciences

Professor Dr Werner Mellis
Dean of the Faculty of Management, Economics and Social Sciences

Professor Dr Dr Thomas Krieg
Dean of the Faculty of Medicine

Research and Teaching Centres



Cluster of Excellence Stress Responses in Aging-Associated Diseases (CECAD)

Cluster of Excellence on Plant Sciences (CEPLAS)

Center for Social and Economic Behavior (C-SEB)

Quantum Matter and Materials (QM²)

Global South Studies Center (GSSC)

Center for Molecular Medicine of the University of Cologne (ZMMK)

COPT Center for Organic Electronics

Cologne Center for Genomics (CCG)

Center for Teacher Education (ZfL)

ProfessionalCenter

Research and Teaching Centres of the University of Cologne

As a complement to the disciplinary structure in its six Faculties, the UoC currently maintains ten central research and teaching centres. On the one hand, they perform cross-Faculty tasks, such as teacher training (Centre for Teacher Education) and strengthening the professional orientation of the degree programmes (ProfessionalCenter). On the other, they form the major thematic focuses of the UoC in research and embed them across the entire university.

The centres have their own budgets and management structures, and are involved in the decision-making processes of the UoC – especially with regard to professors appointments that concern their centre. They are mostly housed in their own buildings and provide their staff with state-of-the-art infrastructures. Just like the Faculties, these centres are regularly evaluated with respect to their strategic direction, their equipment and their success. Many centres are funded jointly by universities and non-university research institutions in the Rhineland area. The organization of the UoC into Faculties and centres has been developed over the last few years, especially within the context of the

Institutional Strategy of the UoC, funded through the Excellence Initiative, and has proved itself exceptionally well in practice. In particular, it secures a dynamic, integrated thematic profile for the UoC, while maintaining its breadth in terms of disciplines. Staff are (usually) assigned to the Faculties and co-opted to the centres. The rights, duties and tasks of the centres are laid down in cooperation agreements between the centres, the Faculties involved and the university headship (and, where appropriate, other regional partner institutions). The Clusters of Excellence CECAD and CEPLAS, funded within the scope of the Excellence Initiative at the UoC, are organized as centres, the latter as a joint institution of the Universities of Cologne and Düsseldorf. ///

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Stefan Thiel, Technology and Administration Assistant

Dr Ralf Müller, Technology and Administration Assistant

Stud. iur. (student of law) Heike Marie Reinecke

Stud. rer. nat. (student of natural sciences) Senta Pineau

Stud. rer. nat. (student of natural sciences) Florian Pranghe

Change Programme for the Administration at the University of Cologne

The future of research and teaching can be shaped only in conjunction with a modern administration that is open to reflection and further development of its activities. For this reason, in 2014 the Central Administration was subjected to an evaluation within the context of the Institutional Strategy of the University of Cologne. The evaluation report and the opinion of an external panel of experts resulted in a number of ideas for improvements that have since been implemented in the 'Change Programme for the Administration'.

Programme, for example, is the optimised processing of invoices. Here, the processing times for invoices have been greatly reduced, which leads to considerable cost savings for the university. Other projects, such as the optimisation of personnel hiring procedures or the improvement of management and decision-making processes, will help to improve the working processes of the Central Administration for all users in the years ahead. ///

The departments and staff units have revised countless processes in their projects and in the regular management structure; others have been newly established. The focus was on the following aspects: process optimization, cooperation between academia and administration, and efficient structures in management and collaboration. Employees are regularly informed of progress by means of a newsletter. In March 2016, the first information event for all employees was held – a chance to ask questions and participate in a lively discussion. One positive result of the Change



Strategy with a Sound Footing

New Founding of Division 1 for Strategy and Academic Affairs

Strategic questions are gaining in importance at German universities. Whether this is at budget level or in profile building – good planning, based on solid key performance indicators, evaluations carried out by experts and comparisons with other institutions, supports the university management in controlling and developing the university.

In the last few years, the University of Cologne has had considerable success in many competitive procedures, such as the Excellence Initiative or in applying for major research projects. Academic quality and a wealth of ideas are clearly key to this. But well-prepared data, well thought-out planning for the whole university, and further organizational factors are paramount to the acquisition of

third-party funding. That is why the university headship decided to found a body within the central university administration: Division 1 for Strategy and Academic Affairs. Since 2016, it has been bringing together actors from academic, administrative and governing bodies across the whole university, and acts as a central coordination office for the strategic quality and development processes.

The four departments, including three which have been newly founded, have the following main focus areas:

Department 11 Academic Affairs coordinates central, cross-university tasks, such as supervising elections and acting as a point of contact for governing bodies.

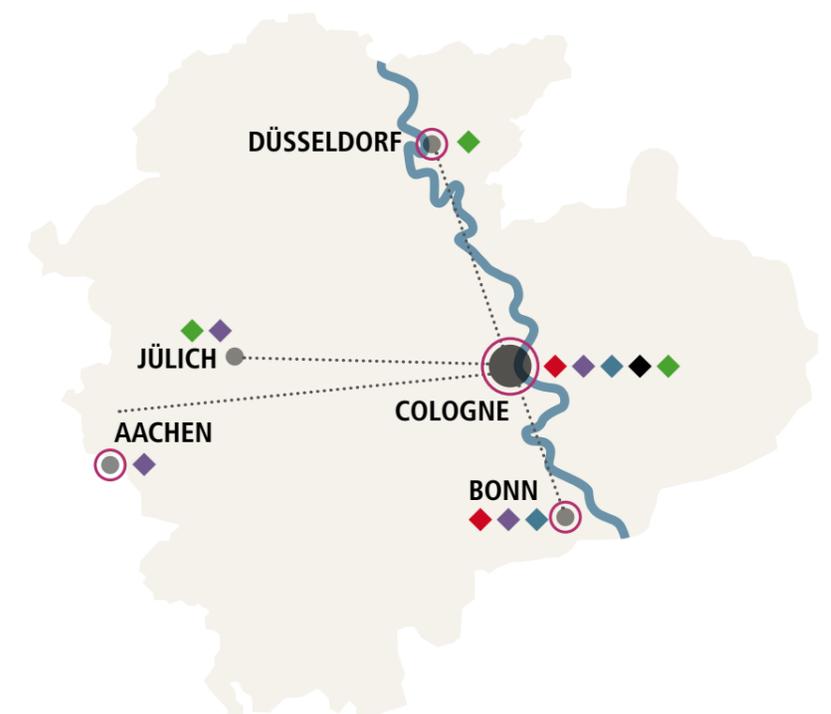
Department 12 Strategy draws up concepts and studies, provides advice for strategic questions and coordinates strategic projects, such as the University Development Plan and the agreement of targets between the university management and the Faculties.

Department 13 Strategic Controlling & Information Management coordinates the establishment of a central reporting system, analyses ranking lists and key performance indicators.

Department 14 Evaluations coordinates the evaluations of the Faculties and central institutions. ///

Regional Collaboration

The UoC collaborates closely with various universities and non-university research institutions in the Rhineland area. Collaboration with non-university partners is institutionalized in the ResearchAlliance Cologne. The Geoscience departments at RWTH Technical University in Aachen, the University of Bonn, the University of Cologne and Forschungszentrum Jülich have established a strategic and far-reaching collaboration platform in the form of the GeoAlliance ABCJ. ///



- COLOGNE**
 German Aerospace Centre (Helmholtz)
 German Centre for Infection Research (Cologne, Bonn) (Helmholtz)
 Leibniz Institute for Social Research (Cologne, Mannheim)
 MPI for Biology of Ageing
 MPI for Metabolism Research
 MPI for Plant Breeding Research
 MPI for the Study of Societies

- BONN**
 caesar Research Centre
 German Centre for Neurodegenerative Diseases
 MPI for Mathematics
 MPI for Radio Astronomy
 MPI for Research into Common Goods

- JÜLICH**
 Forschungszentrum Jülich (Helmholtz)

The colours refer to the KPAs and CAs to which these locations contribute:

- ◆ Aging and Demographic Change
 - ◆ Social and Economic Behaviour
 - ◆ Quantitative Modelling of Complex Systems
 - ◆ Cultures and Societies in Transition
 - ◆ Plant Science
-
- University Collaboration in the Rhineland area
 - ◇ Non-university research institutions in the ResearchAlliance Cologne
 - Other research institutions

International Collaboration Partners



- 7 Global Network Partners
- 15 Strategic Research Partners
- 85 Partner Universities
- 30 CEMS Partners
- Liaison Offices

UoC Worldwide

International Collaboration Partners

Global Network Partnership

With the 'Global Network Partner Universities', the UoC is working on a particularly comprehensive and intensive form of collaboration in research and teaching – across Faculties, and with the aim of establishing permanent and sustainable institutional structures. The exchange activities affect all levels of the university (students, faculty, researchers, administrators) and are strategically aimed at long-term collaboration. The Rectorate provides funding to aid mobility for an exchange with the Global Network Partner Universities.

The UoC's Global Partner Network currently comprises the following seven universities:

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Strategic Research Partners

'Strategic Research Partners' are selected partner universities that collaborate with the UoC within the context of the four 'Key Profile Areas'. The focus of these partnerships is on intensifying research collaboration. They are characterized by activities such as the exchange of scholars and scientists, jointly mentoring doctoral researchers and joint academic conferences within the context of the KPAs.

Strategic Research Partners according to KPAs:

KPA I

- Yale University
- Institute of Research on Cancer and Aging, Nizza
- Global Skin Disease Research Network (University of Colorado, Columbia University, Dundee University, Keio University, Singapore University)

KPA II

- Radboud Universiteit Nijmegen
- University of Dallas

KPA III

- Université de Montreal
- McGill University
- Weizmann Institute
- University of Copenhagen

KPA IV

- University of Cape Town
- University of the Western Cape, Cape Town
- Universidade de Rio de Janeiro
- Jawaharlal Nehru University
- Sun Yat-sen University
- Universidad de San Martín, Buenos Aires

University-wide Partnerships

These partnerships have signed university-wide Memoranda of Understanding with the University of Cologne to encourage the worldwide exchange of students, scholars or scientists.

Africa

Ägypten

- Cairo University

Äthiopien

- Addis Ababa University
- Cairo University

Kamerun

- University of Buea
- University of Dschang

Kenia

- Kenyatta University
- University of Nairobi

Mali

- Université de Bamako

Namibia

- University of Namibia (UNAM)

Südafrika

- University of Cape Town
- University of the Western Cape
- Witwatersrand University

Togo

- Université de Lomé

Asia

China

- Sun Yat-sen University
- China University of Political Science and Law (CUPL)
- Fudan University
- Lanzhou University
- Renmin University of China
- Tongji University

India

- Jawaharlal Nehru University
- Indian Institute of Science Bangalore
- Indian Institute of Technology Bombay

Indonesia

- Gadjah Mada University

Japan

- Aichi Prefectural University, Nagoya
- Aoyama Gakuin Daigaku
- Hitotsubashi University
- Josai Daigaku
- Kansai University, Osaka
- Keio University
- Kyoto Sangyo University
- Kyoto University
- Kyoto University of Foreign Studies
- Ochanomizu University, Tokio
- Seinan Gakuin University
- Sophia University, Tokio
- Tenri University, Nara
- University of Tokyo
- University of Tsukuba
- Waseda University, Tokio
- Ritsumeikan University, Kyoto

South Korea

- EWha Womans University, Seoul

Taiwan

- Tamkang University, Taipei

Middle East

Iran

- University of Tehran

Jordan

- University of Jordan

Europe

Belgium

- KU Leuven

Bulgaria

- University St. Kliment Ohridski

Denmark

- University of Copenhagen

France

- Blaise Pascal University, Clermont Ferrand II
- Université Panthéon-Sorbonne (Paris I)

Greece

- Aristotle University of Thessaloniki

Luxembourg

- University of Luxembourg

Netherlands

- Radboud Universiteit Nijmegen

Poland

- Uniwersytet Jagiellon'ski w Krakowie
- Uniwersytet Warszawski
- Uniwersytet Wrocławski

Russian Federation

- Gorkij-Literatur-Institut Moskau
- Higher School of Economics (HSE), Moskau
- Moscow Pedagogical State University
- Staatliche Universität Wolgograd

Spain

- Salamanca Universität
- Universidad de Sevilla

Czech Republic

- Karls-Universität Prag

Turkey

- In Istanbul:
Istanbul University
Bogazici University
Bahcesehir University
Türkisch-Deutsche Universität
- In Ankara:
Ankara University
Middle-East-Technical University
Hacettepe University

North America & Australia

Australien

- Monash University, Victoria
- Sydney University
- University of Technology Sydney (UTS)

Kanada

- Simon Fraser University
- Mount Royal University
- New Brunswick Universität, Saint John
- Université de Montréal
- University of British Columbia

USA

- Allegheny College
- Cornell University
- Duquesne Universität, Pittsburgh
- Pennsylvania State University
- Rutgers University
- University of California

(nur Graduierte)

- University of Colorado, Boulder
- University of Michigan
- University of Mississippi, Oxford

South America

Brasilien

- Pontificia Universidade Católica do Rio de Janeiro (PUC)
- PUC Minas, Belo Horizonte
- Universidade Federal de Pernambuco
- Universidade Federal de Santa Catarina
- Universidade Federal do Ceará (UFC)
- Universidade Federal Fluminense (UFF), Niterói

Chile

- Universidad Alberto Hurtado, Santiago de Chile

Kuba

- Universidad de la Habana

Mexico

- Universidad de Guadalajara

Liaison Offices

With its liaison offices, the UoC intends to strengthen its presence in the target regions, maintain contact with the partner universities and establish new collaboration agreements. They support scholars and scientists, teachers, students and alumni in international exchange in the regions in question.

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Many thanks for your support in 2016!

Committed donors, sponsors and companies support first-class education at the University of Cologne

'Good ideas. Since 1388'. Some of the things that have characterized the University of Cologne for over 625 years are now only possible through private and private-sector financial support – scholarships, endowed professorships, summer schools, concerts of the Collegium Musicum or the pupils' laboratory, for example.

We can only realize all of this because committed private individuals, foundations and companies have actively supported us with around 1.4 million euros. This important support makes our University what it has always been since its foundation – a citizens' university offering

a diverse range of provisions to our students and to the people of the city.

We would therefore like to thank all of our donors – also on behalf of our students – for their support over the last year.

Naturally, we would also like to thank all of the donors who have generously and selflessly given to the students at the University of Cologne without wanting to be named.

Alumni and Private Individuals

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Thank you very much!

We would also like to thank the more than 200 donors who have already supported our university refugee fund with just under 130,000 euros by December 2016. With your donations, you are helping to ensure that we as a university can make an important contribution to the integration of refugees – in a well-founded, tangible and lasting way. Many thanks!

You can find an opportunity to donate, and more information about projects and current developments in refugee support at the University of Cologne at: www.portal.uni-koeln.de/erfolge.html

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 Zonta Club Köln 2008 e.V.

List of Abbreviations

AvH Professorships

Alexander von Humboldt Professorship

CA

Competence Area

CECAD

Cologne Cluster of Excellence in Cellular Stress Responses in Aging-associated Diseases

CEMS

formerly 'Community of European Management Schools and International Companies'; now 'The Global Alliance in Management Education'

CEPLAS

Cluster of Excellence on Plant Sciences

CRC

Collaborative Research Centre

DFG

Deutsche Forschungsgemeinschaft
(German Research Foundation)

FOR

Researcher Group

HEP

University Development Plan

KFO

Clinical Researcher Group

KPA

Key Profile Area

MoU

Memorandum of Understanding

NRW

North Rhine-Westphalia

PI

Principal Investigator

RCCC

Regional Computing Centre Cologne

SCO

Suggestions and Complaints Office

TRR

Transregional Collaborative Research Centre

USB

University and City Library

UoC

University of Cologne

ZfL

Centre for Teacher Training

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