

# ANNUAL REPORT 2013



## KEY FIGURES 2009-2013

	2013	2012	2011	2010	2009
<b>Grants and distributions</b>					
Total grants at year-end, centers, Niels Bohr professors & DNRF professors	59	64	58	61	61
Annual distribution, MDKK	423.0	391.0	358.8	387.3	275.0
<b>Return on investment</b>					
Bonds and time deposits, MDKK	-38.1	182.4	261.4	164.5	183.6
Equities, MDKK	256.1	207.7	-71.3	169.7	350.4
Total return, MDKK	218.0	390.1	190.1	334.2	534.0
<b>Government grants (MDKK)</b>					
Transferred from previous years	0.0	5.3	26.8	53.8	53.6
Government grants received	0.0	0.0	0.0	0.0	49.8
Distributions	0.0	5.3	21.5	27.0	49.6
Carried forward to following years	0.0	0.0	5.3	26.8	53.8
<b>Administrative costs (MDDK)</b>					
Administrative costs, depreciation included	12.7	11.6	12.2	11.1	11.3
Costs compared to distributions, %	3.0	3.0	3.4	2.9	4.1
Costs per grant, MDKK	0.2	0.2	0.2	0.2	0.2
<b>Total assets</b>					
Total assets at year-end, MDKK	3,650.6	3,871.5	3,881.5	4,043.8	4,084.3

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## A LANDMARK YEAR

The positive and successful evaluation of the Danish National Research Foundation, published in December 2013, was the grand finale of our “year of evaluation.”

The DNRF was last evaluated 10 years ago, in 2003, and in the fall of 2012, the Minister of Higher Education and Science initiated an international evaluation of the foundation to obtain an outside perspective and a thorough appraisal of the organization. (A summary of the main findings of the evaluation report is provided on pages 18-19.)

The review was carried out by a distinguished international panel. The panel evaluated on the basis of the DNRF's self assessment report and a bibliometric analysis. In addition the panel spend a considerable amount of time in Denmark, during which it scrutinized the foundation and met with representatives from the Danish research community.

The Minister of Higher Education and Science released the panel's evaluation report on December 16, 2013, at Bella Sky in Copenhagen. The chairman of the panel, Dr. Wilhelm Krull, secretary general of the Volkswagen Stiftung presented the report.

The panel's main message was that it was impressed with the performance of the Centers of

Excellence and the positive impact that the DNRF has on the quality of research in Denmark. The panel strongly recommended that the DNRF continue its successful operations and, in the report, advised the Danish Parliament to take the necessary steps to fund the DNRF in such a way that the capital stock is sufficient to at least maintain the current annual budget.

### **Centers of Excellence – an outstanding funding instrument**

The panel emphasized the value of the DNRF's strategy of focusing on supremely talented individuals and providing them with sufficient funds, a long-term horizon and autonomy. This enables researchers to venture into novel and indeed often risky projects that have the potential to lead to groundbreaking results. The panel acknowledged that the foundation has been extremely successful in fostering bottom-up, curiosity-driven research in Denmark.

We are proud of and delighted with the positive evaluation. It is a great tribute to the research carried out at our centers and to the strategy and funding instruments chosen by the foundation. We have, from our beginnings 20 years ago, strived to develop a model that can provide a framework for promoting excellence in research.





"We are proud of and delighted with the positive evaluation. It is a great tribute to the research carried out at our centers and to the strategy and funding instruments chosen by the foundation."

Liselotte Højgaard and Thomas Sinkjær

### On a par with the very best

A comprehensive bibliometric analysis of the centers' research is included in the evaluation. This analysis confirms that the Centers of Excellence perform at a very high level, comparable to, and often better than, the highest-performing universities in Europe. The bibliometric data also show that the centers' publication record in top-tier multidisciplinary journals is particularly good. The publications from our Centers of Excellence have the same level of impact as those of the highest-ranking universities in the world, equal to publications emanating from MIT and Stanford and slightly above those from Harvard University.

### Advice from the panel

The panel made a number of recommendations and offered advice to the government and the broader research system in Denmark and to the DNRF (see pages 18-19). Some of the recommendations to the DNRF relate to internationalization, distribution of research areas, and gender equality.

The panel found that the humanities, certain fields in the social sciences, and the engineering sciences were under-represented among the Centers of Excellence. The panel did not find evidence of systematic bias against these fields in the DNRF's selection procedures; however, the panel mentioned that research in the social sciences and the humanities might need to be strengthened to ensure successful competition among applicants to the Centers of Excellence program. The panel suggested that the research councils or private foundations could help to bridge this gap by funding research in these disciplines with grants for medium-sized research collaborations. The panel was specific in its recommendation that this capacity building should not be a task for the DNRF.

Only 15% of the DNRF centers are headed by women. Although this reflects the wider academic picture in Denmark, where only 16% of full professorships were held by women in 2011, the panel stated that this is far from satisfactory. Therefore, in 2013, the DNRF initiated a dialogue with all of the Centers of Excel-

lence in which we discussed the unequal gender balance and gender-specific barriers in research, with the aim of collecting ideas and inspiration on how to overcome this skewed balance. We will assemble our reflections and ideas in a "set of theses" and present them at the foundation's annual meeting in November 2014.

### New Niels Bohr Professorships and continuation of centers

Excellence and evaluation were the twin themes of 2013. New DNRF grantees have flourished as six new Niels Bohr Professorships commenced, with a total funding of nearly 200 million DKK for a five-year period. (See the overview of the NB professorships on page 30.)

After an extensive midterm evaluation, the nine Centers of Excellence established in 2009/2010 have all been extended into a second funding round running until 2019 and receiving total funding of 800 million DKK for a ten-year period. The centers have produced impressive results, and the international high-level peer review panels that evaluated the centers recommended that these Centers of Excellence should continue. Short presentations and excerpts from the panels' evaluations are presented on pages 32-40.

Three joint Danish-Chinese Centers on information and communication technology research were also up for evaluation in 2013. The board was impressed by all three centers and decided to extend the Danish-Chinese Center for the Theory of Interactive Computation and the Danish-Chinese Center for IDEAS4CPS: Foundations for Cyber-Physical Systems. The Danish-Chinese Center for Applications of Algebraic Geometry in Coding Theory and Cryptography was not extended because of the upcoming retirement of the Danish principal investigator. (See the overview of the Danish-Chinese centers on pages 29-30.)

### 8th application round

In 2014, a number of new Centers of Excellence will be added to the current list of centers. We received 186 outline proposals, and at the meeting in January 2014, the board decided to

invite 30 of the applicants to submit full proposals. The final assessment of these proposals will be made during the fall of 2014, and the new centers are expected to start operating in January 2015. Statistics on the distribution of the outline proposals are provided on page 23.

### **Finances**

The foundation's activities do not depend on annual finance bills. The foundation enjoys full discretion to manage its funds within the given legal framework. The overall investment strategy is balanced, containing both equities and bonds in order to ensure a robust and resilient portfolio that is able to perform in very different financial environments. The day-to-day management of portfolios is handled outside the foundation's organization, and the foundation makes use of external recommendations for its investment strategy.

The average annual return of the foundation has been 8.7% over the last five years (2009-2013) (see page 43.)

Despite the fact that the foundation's average annual return has been very satisfactory, activities are funded mainly by drawing down the foundation's capital. The foundation received an additional 3 billion DKK in 2008, and this injection of capital made it possible for the foundation to distribute grants of up to 400 million. However, the current capital stock only allows the announcement of another final application round in the summer of 2015. Obviously, an early capital injection followed by an increased return on investment could deal with this reduction in capital.

### **The board of the DNRF**

Last year brought four new board members to the foundation. On January 1, 2013, Professor Liselotte Højgaard took over as chair from Professor Klaus Bock, who had served as chairman for the previous nine years. In October, Professors Pirjo Nuutila, Birte Svensson and Gunnar Öquist stepped down from the board and were replaced by Professors Christina Moberg, Bart De Moor and Eero Vuorio (see [dg.dk](http://dg.dk) for further information.)

The board takes a keen interest in the development of the centers. The chair, one or two board members, the director and a research adviser visit each center annually at follow-up meetings. The meeting is divided into an open and a closed session. During the open session, all center members participate.

The board values the close and continuing dialogue it has with the centers and thinks that this direct contact and knowledge of each individual center is one of the strengths of the CoE format. The follow-up meetings provide an opportunity to give advice or make adjustments if things go awry and, at the same time, offer an insight into how the funding mechanism works and is best applied in different environments.

2013 was indeed a landmark year. We have found the discussions with the panel as well as the entire evaluation process stimulating and positive, and we have exploited this opportunity to reflect on our activities and procedures. As we head into 2014 we look forward to delving further into the recommendations from the evaluation panel. We will revise our internationalization strategy, and we look forward to further fine tuning our Centers of Excellence model to achieve the desired aims. Finally, we look forward to the final assessment and selection of the proposals for new Centers of Excellence for the 8th application round.

Prof. Liselotte Højgaard,  
Chair of the Board, DNRF

Prof. Thomas Sinkjær,  
Director, DNRF

## THE MAGNIFICENT MILE



Professor Liselotte Højgaard

The Magnificent Mile is a famous stretch of the high street in Chicago, where the most elegant, exquisite and excellent shops, galleries and antique emporia are located alongside each other. For me, as the new chair of the Danish National Research Foundation, visiting the Centers of Excellence funded by the foundation has been like walking the Magnificent Mile of Danish research. I have been impressed by the high level of the research, but even more impressed by the enthusiasm, creativity and positive atmosphere. Thanks so much to all of the Center of Excellence leaders, Niels Bohr professors and DNRF professors for welcoming me, and I congratulate you and your teams on your great achievements. The high level of excellence in our centers – past and present – is beautifully reflected in the evaluation report from the international panel.

I would also like to thank the members of the international evaluation panel for the thoroughness and dedication with which they undertook their task: Dr. Wilhelm Krull, secretary general of the Volkswagen Stiftung, who chaired the panel; Dr. Suzanne Fortier, Principal and Vice-Chancellor of McGill University, Canada; Dr. Jung-Hoon Chun, professor of mechanical engineering and director of the Laboratory for Manufacturing and Productivity, Massachusetts Institute of Technology; Dr. Barbara König, professor, University of Zürich; and Professor Pär Omling, president of the European Science Foundation and vice president of Science Europe.

Thank you very much to all of you for your wise advice on how to further develop the excellent funding instrument of the DNRF, so that we can ensure that the foundation continues to move forward, beyond its present cutting-edge activities, and that it continues as a proven model of support for the very best research. We will take action and follow your advice. We will sharpen our focus on the Centers of Excellence and seek to remedy the gender inequality, and of course, our board will work on the more detailed recommendations in the coming months.

Thank you also to former Minister Morten Østergaard and his staff for initiating and handling the panel evaluation so very professionally.

Why is it that the Danish National Research Foundation emerged so positively from the evaluation? I think it is because the construction of the foundation is so unique and optimal. Thank you to those founding fathers and mothers – and here it is fathers first – who designed the foundation more than 20 years ago. Thank you to the previous board members, together with the previous directors and teams in Holbergsgade, for the great job they have all done hitherto. Our gratitude goes to Klaus Bock, the previous chairman of the board of the DNRF, for handing over an organization in such good shape. The DNRF is a precious institution for Danish research. Thank you very much to the board members of the last six years, especially to those who stepped down in November: Professor Pirjo Nuutila from Finland, Professor

Thank you to the politicians of Denmark for your active and keen interest in research. You know better than most politicians around the world that research is one of the most important building bricks we will need as we start to construct the modern world of tomorrow.

Liselotte Højgaard

Birte Svensson from the Technical University of Denmark, and Professor Gunnar Öquist from Sweden. Thanks to all three of you for the great job you have done. I would like to extend a warm welcome to the new board members Professors Christina Moberg, Bart De Moor and Eero Vuorio. Thank you so much for accepting the invitation to join our foundation. Thank you to the present board members for the hard preparatory work you have done, together with the secretariat, in developing the self-assessment reports. Also thank you to the board for welcoming me so warmly into what is clearly a positive, friendly and enjoyably collaborative effort. Thank you so much to Professor Thomas Sinkjær, the director of the foundation, who has been with the DNRF for the last seven years. He has, together with the team in Holbergsgade, Vice Director Mogens Klostergaard Jensen, and Senior Scientific Advisor Vibeke Schrøder, done an impressive job by taking care of the foundation with minimum bureaucracy and maximum efficiency and within a friendly and trusting atmosphere.

To the institutions housing the Centers of Excellence, the rectors, deans and heads of departments of the universities, I would like to express our appreciation of the very good collaboration we have built.

It is important to understand and know our past if we wish to take our present high status into the future. It is difficult to predict the future – unless you design it yourself. Our task is to keep the foundation in shape and up to date in order

to meet the challenges of the research landscape of tomorrow, and we find that the best way to do this is for the board and the directors of the foundation to engage in an active dialogue with researchers in Denmark and the rest of the world – with the aim of supporting the very best research in all research areas – and to remain in constant communication and engagement with all the other research organizations, foundations and councils, private and public, in Denmark. We appreciate the very good collaborations that we have built, and we will strive to continue and strengthen them.

Science is a global pursuit. In Denmark, we produce 1% of the world's research, yet we are less than 0.1% of the global population. We are number three in terms of publications and citations measured per capita, and DNRF researchers have had a major role in this success. We are not "free riders" in Denmark: we deliver our fine contribution to global research output as a common public good. To ensure that this continues, we will focus on the very best and the daring, those with promising and bold new ideas — the bright, creative and surprising research. We will take chances and try to emulate the success of our predecessors – to find the very best researchers who will produce the very best research. The DNRF shall remain a focused institution, sharp as a razor and independent.



## BLUE SKY RESEARCH IN BELLA SKY





Dr. Wilhelm Krull

“The high-trust modes of operation of the DNRF and its CoEs have proven to be extremely successful. (...) The evaluation panel therefore strongly recommends to enable the DNRF to continue its impressively successful operations and advises the Danish Parliament to take the necessary decisions for refunding the DNRF in such a way that the capital stock is sufficient to maintain its current annual budget of 400 mDKK in real terms for at least another 10 years.”

- Wilhelm Krull, chairman of the evaluation panel

Under the heading Blue Sky Research at Bella Sky the DNRF held its annual meeting on December 16 at the Bella Sky Hotel. On this occasion the chairman of the international evaluation panel, Dr. Wilhelm Krull, director general of the Volkswagen Foundation, presented the panel's conclusions and recommendations.

**“If the Danish National Research Foundation was a football team, it would be Barcelona.”**

Morten Østergaard, former Minister of Higher Education and Science.



Former Minister of Higher Education and Science Morten Østergaard was pleased with the evaluation, which demonstrated that Denmark has a high-performing science system and that the Center of Excellence program has fostered remarkable research.

### **Competing with the best in the world**

In his speech Morten Østergaard pointed to some of the highlights from the bibliometric study that was conducted as part of the evaluation. The study shows that the DNRF Centers can compete with the very best research institutions in the world, including Stanford and MIT, when it comes to the impact of articles published in prestigious multidisciplinary journals such as Science, Nature and PNAS.

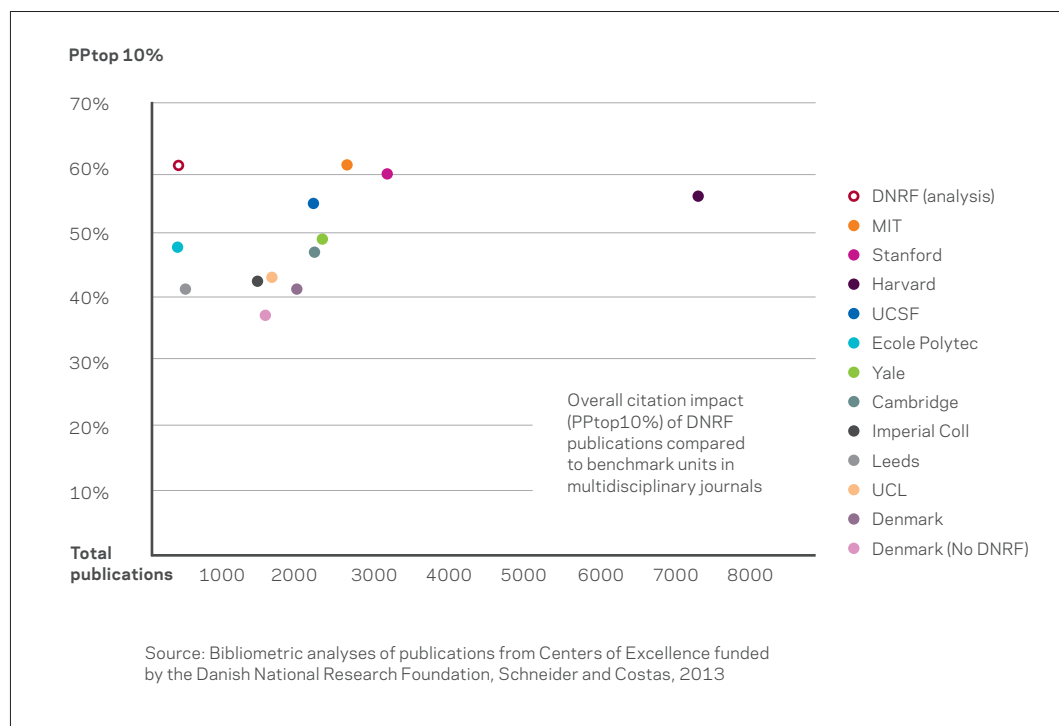
### **The next generation of scientists emanates from the Centers**

Morten Østergaard also mentioned that the Centers of Excellence are good at attracting and producing new research talent. One in two scientists affiliated with a Center is associated with at least one highly cited publication within three years of his or her first identified publication. This shows that the Centers provide a strong nurturing environment. In the bibliometric analysis, the DNRF Centers are compared to the performance of five other European countries; the DNRF Centers outperform all of these countries over most of the period studied.

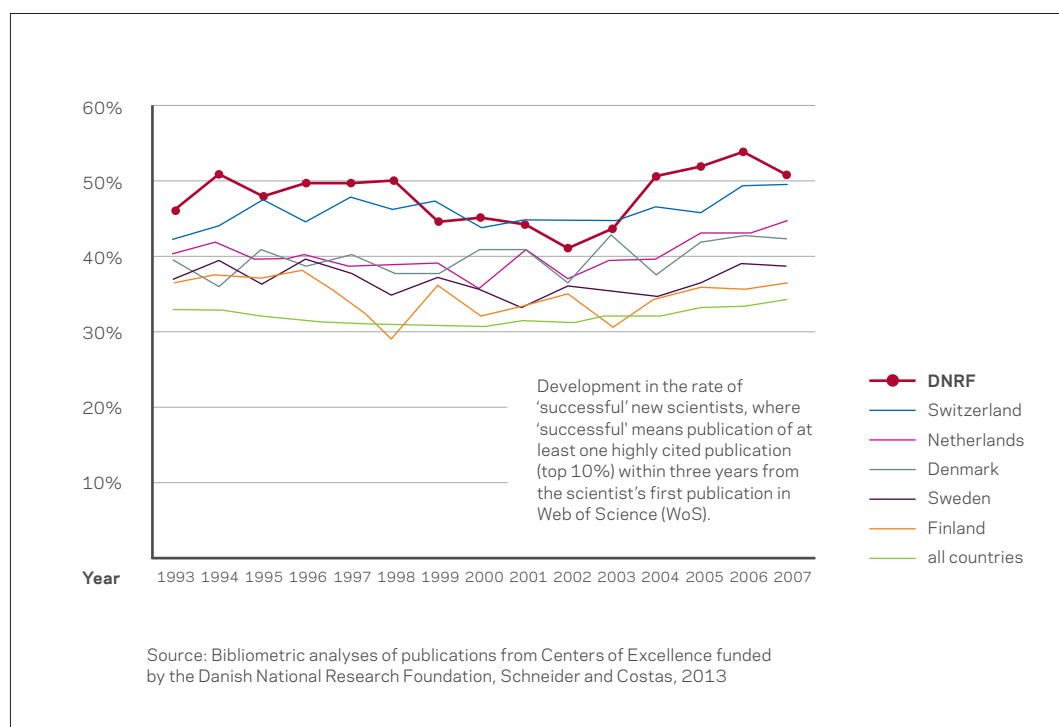
### **The Centers can – even by themselves**

The Centers are international in scope and they collaborate and publish widely with foreign partners. For this reason the bibliometric analysis shows that foreign co-authors are involved in 58% of the publications from the Centers. However, the analysis also indicates that “home-grown” research results – that is, papers produced within the Centers and published with no outside co-authors – have a remarkably high impact and international visibility comparable to the highest ranked American benchmark universities.

## MULTIDISCIPLINARY JOURNALS



## SUCCEFUL NEW SCIENTISTS







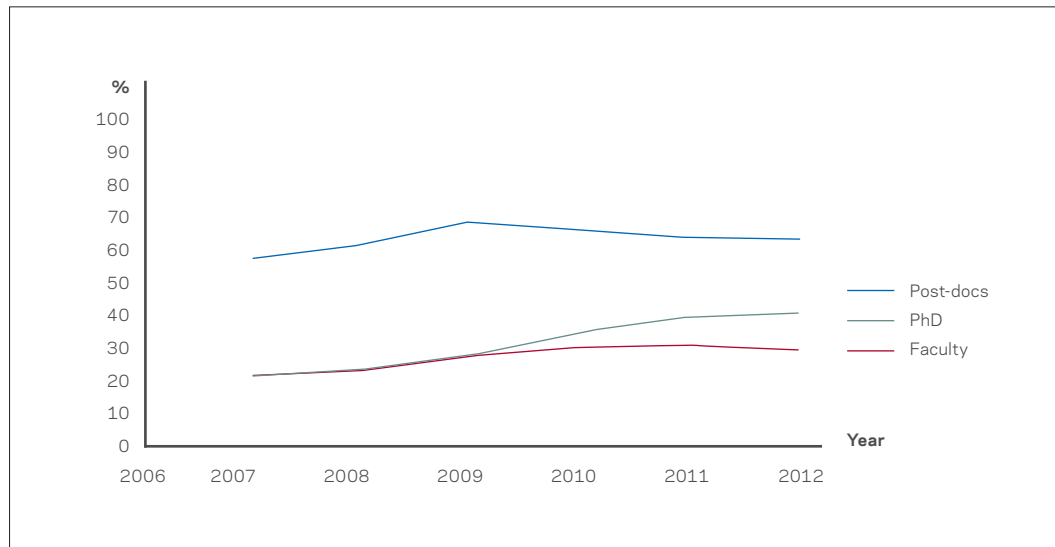
Claus Hviid Christensen, chairman of the Danish Council for Research Policy; Brian Bech Nielsen, rector, Aarhus University; Per Falholt, executive vice president and CSO, Research & Development, Novozymes; Professor Peter Munk Christiansen, chairman of the Danish Council for Independent Research; and Professor Dorthe Dahl-Jensen, center leader, Center for Ice and Climate, engaged in a panel debate with the panel's chairman, Dr. Wilhelm Krull, and the foundation's director, Thomas Sinkjær.



**Stakeholder debate**

The evaluation panel formulated a number of recommendations intended to help the continuation and further development of the DNRF's impressively successful work. Whereas most of the recommendations are addressed to the DNRF, some are directed to the wider Danish research sector or the Danish government. Key stakeholders discussed the evaluation of the foundation and the panel's recommendations.

### CENTER MEMBERS FROM ABROAD (PERCENTAGE OF TOTAL NUMBER)



#### International hubs

The Centers of Excellence program has a strong international element. The Centers are, to a large degree, international environments. Almost one-third of faculty members were foreigners in 2012, and more than 60% of all post-docs and 40% of Ph.D. students were from abroad.

In addition, the Centers collaborate extensively with other research organizations around the world, creating a vibrant international atmosphere. The ability to recruit researchers from abroad is an indication that a Center is pursuing excellent and exciting research, since researchers in a given field are the best ones to assess the results and potential of a research center. Moreover, people's readiness to move great distances to work at a DNRF Center is itself evidence of the interest that the Center commands within the research world. The same can be said for collaborations with partners abroad at research institutions with a global reputation.

“It is no exaggeration to state that the orientation towards scientific and scholarly excellence which characterizes the Danish research sector could not have been achieved to this extent without the DNRF and its CoE scheme.”

The international evaluation panel



In front from left: Permanent Secretary Uffe Toudal Pedersen and Director of the Agency for Science, Technology and Innovation; Hans Müller Pedersen. In the background Peder Olesen Larsen who was the first director and chairman of the DNRF.



## RECOMMENDATIONS FROM THE EVALUATION PANEL

**In its evaluation report, the international panel put forward the following recommendations:**

### To the government

- 1.** In order to enable the DNRF to continue its successful work, the Danish parliament is advised to make the decision on re-funding the DNRF. The capital should be sufficient to maintain the DNRF's current annual budget of at least 400 million DKK in real terms for at least another 10 years.
- 2.** The DNRF should remain an independent foundation and not be fused with the Independent Research Council or any other organizations in the Danish funding system. The advantages of a small organization, including the clear mission of promoting excellence on all levels, the openness for new ideas and potentially risky projects, lean management, and the direct contact with the CoEs would hardly be possible in a large funding agency with diverse objectives.
- 3.** The legal form of a foundation is an asset of the DNRF and should be kept. The substantial one-time investments into the DNRF have given it flexibility and long-term financial security and have made it independent of annual budgets.
- 4.** Some international scientists and scholars from outside the Nordic countries should be appointed to the DNRF's Board of Trustees.
- 5.** The current funding system of independent, curiosity driven research in Denmark appears to

be well balanced. The Independent Research Council also plays an important role since it provides the basis for the elite funding instruments of the DNRF, or the ERC. Its performance will be assessed by an evaluation in 2014.

**6.** In Denmark, as in many other European countries, the ratio of third-party university funding has reached a critical limit. The government should ensure that in the future sufficient core funding is provided for the universities.

### To the DNRF

- 7.** The commitment of the DNRF to excellence on all levels of its work is the unique characteristic of the DNRF within the Danish system of research funding and should be kept by all means.
- 8.** The original concept of the CoE instrument, 1) to focus on the promotion of scientists and scholars who are both outstanding researchers as well as good research leaders, 2) to ensure that the grant recipients have considerable freedom and time in spending the means at their disposal and 3) to provide large grants, was visionary and should be continued.
- 9.** One of the strengths of the CoE scheme is the willingness to consider unconventional, risky projects and to give young talents a chance, even if they do not have an established position at a university. The DNRF should continue this approach and should not become risk averse in the selection of center leaders.
- 10.** Although there is a risk that externally funded centers chal-

lenge the strategies of the universities, the DNRF should continue to be open to applications that were not approved by the host institutions at the first stage of the application process. However, if the proposals enter the second stage of the selection process, the applicants should be encouraged to seek full support of the respective host institution.

**11.** The Centre of Excellence scheme should remain the core activity of the DNRF. This initiative also contributes significantly to the internationalization of Danish research. The Niels Bohr Professorships are a successful additional instrument to recruit excellent researchers from abroad and should be continued. However, the panel feels that further initiatives aiming at internationalization are not necessary. It recommends not to expand the primarily politically motivated binational agreements with international academies, funding agencies, etc. Instead the money should be used to provide the CoEs with additional incentives for researcher-driven international collaborations and joint international centers.

**12.** The period of total funding for a CoE should be kept at 10 years. A shorter perspective would be opposed to the aim of this initiative to foster new and potentially risky approaches. A longer perspective would prevent a continuous influx of new ideas and new talents.

**13.** The success-rate with respect to the continuation of CoEs in the mid-term evaluation is rather high. This might be an



indication that most of the risky projects have already been sorted out in the selection process or that risky proposals were not submitted in the first place. The DNRF should consider whether its willingness to promote unconventional, risky projects is sufficiently communicated to the research community in Denmark.

**14.** The CoEs show diversity for their size, modes of organization, degree of interdisciplinarity, etc. This flexibility is strength of the funding scheme and should be maintained. However, it is important that grants are of a size that makes it possible to create an environment with critical mass for excellent research and research education.

**15.** The humanities, certain fields in the social sciences, and engineering sciences are underrepresented among the CoEs. The panel did not find evidence for a systematic bias against these disciplines in the DNRF's selection procedures. However, the DNRF should discuss whether the selection process and the criteria of excellence that are used are suitable for these disciplines.

**16.** There were no indications that the selection procedure of the CoEs needs to be changed. The DNRF board is very successful in identifying the best talents. Introduction of peer-review elements in the first stage of selection might lower the chances of unconventional, risky projects in between the established disciplines. However, there might be some potential for optimization in the review-process at the midterm-evaluations, in particular with respect to recruiting the best researchers for the review panel.

**17.** Although the number of

patent applications and patents granted indicates a potential for applications for the research conducted at the CoEs, the DNRF is advised to continue its policy not to make this a criterion when selecting new CoEs. Scientific quality should remain the sole criterion in the selection process, and the CoEs should focus on curiosity-driven research. It is their quality of research which makes the CoEs an essential part of the innovation chain.

**18.** The DNRF's board and the center leaders as well as the universities generally should take active measures, such as developing a pipeline for future female leaders, to address the gender problem.

**19.** The DNRF head office should be led by a high-profile director who is accepted by the research community also in the future.

**20.** The management courses for center leaders are very useful and highly appreciated and should be carried on and further developed.

**21.** Social media should be used for the outreach activities of the CoEs in order to address new target groups.

### To the Danish Research System

**22.** Considering the catalytic effect the CoEs have on their host institutions in creating environments of excellence and internationalization, the universities are strongly advised to continue their support for the CoEs by contributing complementary resources and by committing themselves to open new positions for some of the center's researchers after the end of the funding period.

**23.** Despite of the legitimate

concerns of the universities that newly established CoEs should fit into the institution's overall strategy, the universities are advised to be open to bottom-up initiatives that result in applications for CoEs.

**24.** The panel does not recommend a new funding instrument for humanities or social sciences under the auspices of the DNRF. The bridging of the gap between small, individual grants and large grants like the CoEs is a task for the Independent Research Council. Private foundations like the Carlsberg Foundation and the Velux Foundation can also contribute to the aim of bringing up these disciplines to working in medium to large research collaborations.

**25.** Senior researchers working at CoEs should not be put at a disadvantage when applying for a grant at the Independent Research Council.

**26.** The number of Danish young researchers who spend a longer period of time abroad is rather low. To encourage the mobility of young researchers, the Danish universities should not employ postdocs who have been PhD students at the same institution if they did not spend a substantial period of time at a different institution.

**27.** In order to attract even more international PhD students, the Danish universities should make possible dual degrees with universities abroad (e.g., within Eurodoc programmes).

**28.** At the CoEs visited by the evaluation panel, most of the PhD students were integrated into graduate schools at the respective universities. As a rule, the universities should consider to integrate their PhD students into graduate schools.



## CURIOSITY PAYS OFF



When selecting new Centers of Excellence the board looks for proposals of highly ambitious and original research; that is, research projects that may advance scientific development and lead to real breakthroughs. We ask the applicants to present their “dream projects” to us – the projects they would most prefer to spend their time on – and we do so because we see that fantastic results spring from research that is propelled by desire, curiosity and wonder and conducted with dedication, focus and passion. This strategy pays off. The bibliometric analysis that was conducted as part of the evaluation of the Foundation in 2013 showed that DNRF-supported research produced more potential “breakthrough” papers than would be anticipated based solely on statistical expectations.

### Commercial aspects

Perhaps more surprisingly, we also see commercialization activity far exceeding that which might be expected after taking into account the share of Danish public research funding that is channeled through the DNRF. Remarkably often, it would appear, frontier research provides a

launch pad for original and groundbreaking ideas that often give rise to practical applications and commercial opportunities. In an effort to try to understand what lies behind some of the numbers, we created a publication called Curiosity Pays Off, in which we collected eight examples of commercialization activities from the centers. These examples confirm that the combination of selection criteria, focusing on the ability and courage to pursue new and big ideas, and the freedom and flexibility offered by a center grant produces results that make a difference. An impressive number of spin-out companies emerge from the Centers of Excellence. When asked about this, the people behind these new companies are united in explaining their success. They find that their competitive edge is often due to having based their business on original and groundbreaking basic research. They are not just good at what they do; they have made a scientific breakthrough and have translated this knowledge into practice.

## COMMERCIALIZATION DATA

	2007	2008	2009	2010	2011	2012
<b>Patent applications submitted</b>						
Public research institutions	131	128	129	122	171	175
DNRF's share (number)	17	13	11	19	24	23
DNRF's share (%)	13	10	9	16	14	13
<b>Patents granted</b>						
Public research institutions	13	11	16	13	45	37
DNRF's share (number)	6	1	2	4	7	6
DNRF's share (%)	46	9	13	31	16	16
<b>Spin-out companies</b>						
Public research institutions	9	12	7	11	7	19
DNRF's share (number)	2	1	2	1	1	3
DNRF's share (%)	22	8	29	9	14	16

Source: Commercialization statistics 2012 compared with data from annual reports from the centers.

“It is extremely satisfying to see how our research can have a direct, positive impact on society.”

– Eske Willerslev, Center for GeoGenetics



One water sample is all it takes to determine the biodiversity in a lake or an ocean.

## 8<sup>TH</sup> APPLICATION ROUND

The call for proposals for new Centers of Excellence was launched just before the summer break, and in the fall, information meetings were held with researchers at all universities. In the call and at the meetings it was emphasized that researchers from all research areas could apply for the Centers of Excellence program and that no up-front declaration was needed from the host institution. It was also made clear that there is no fixed formula for creating a Center of Excellence; in fact, centers may differ in size and mode of organization, depending on their subject and scope.

A center may consist of one or more visionary research teams that diligently work together to

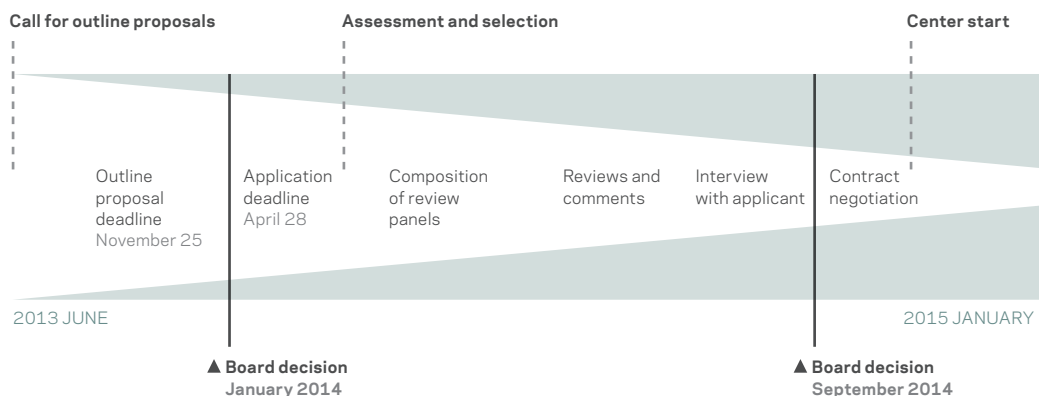
solve a complex research question. Of vital importance is that the center has an overarching, ambitious idea or vision and a well-defined and relevant structure and mode of organization.

A total of 186 outline proposals were submitted by the deadline of November 25, 2013. On the opposite page can be seen how these outline proposals are distributed among research fields and institutions and the age/gender of the proposed center leader.

The next call for new centers – and under the current financial framework the last one – will be announced in mid-2015.

### THE ASSESSMENT AND SELECTION PROCESS

Outline proposals were assessed at a meeting on January 30-31, 2014. Subsequently, 30 applicants have been invited to submit full proposals. During the autumn, the board will make its final decision and the new centers may start operating by January 1, 2015.



#### Assessment criteria

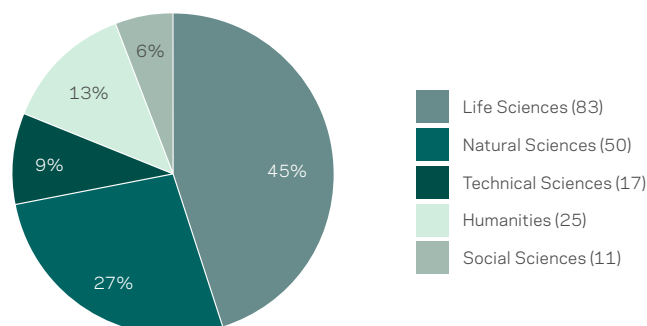
In the assessment of outline proposals and applications, the following dimensions are emphasized:

- The research idea is ambitious and original and has the potential for real scientific breakthroughs in the relevant research field(s).
- The proposed center leader has a high standing in the international research community as well as managerial skills.
- The center includes high-quality personnel in order to establish a creative and dynamic international research environment that will provide an inspirational training ground for young researchers.
- The focus, structure, and size of the proposed center are such that they set the stage for scientific ventures that are not feasible using conventional funding from other sources.

## OUTLINE PROPOSALS DISTRIBUTED ON FIELDS OF RESEARCH

### 8th application round outline proposals distributed on the 5 fields of research

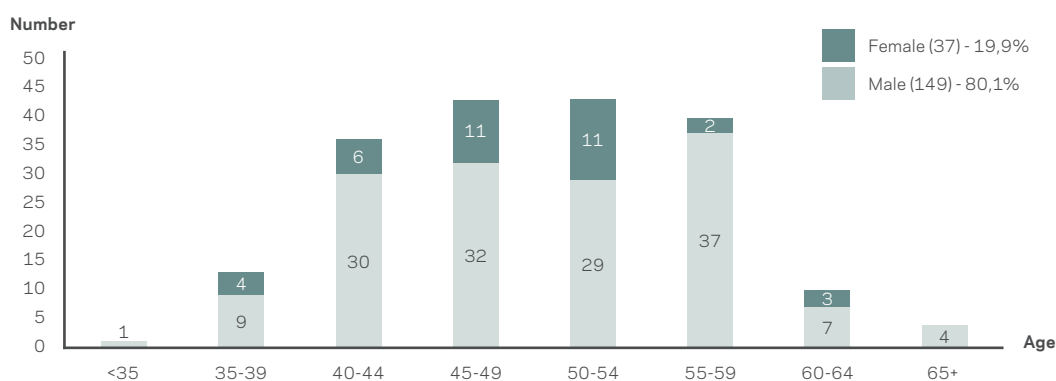
Five main fields of research are used to categorize the centers. The division of research fields is tentative, since 58 percent of the proposed centers can be assigned to more than one category.



## GENDER AND AGE

### 8th application round outline proposals distributed on age and gender

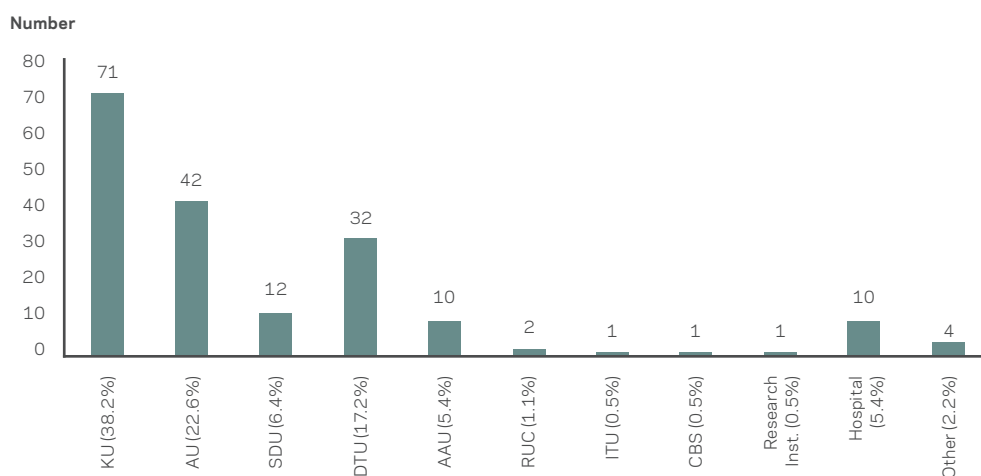
A slight increase in the number of female applicants can be seen in this application round compared to the 7th application round, where 18% of the applicants were women.



## OUTLINE PROPOSALS DISTRIBUTED ON HOST UNIVERSITIES

### 8th application round 186 outline proposals distributed on host institutions

The distribution of institutions does not differ much from that in previous rounds.





## ONGOING ACTIVITIES

### CENTERS OF EXCELLENCE ESTABLISHED IN 2001

#### Center for Quantum Optics (QUANTOP)

Location:	University of Copenhagen (and Aarhus University)
Center leader:	Professor Eugene S. Polzik
Total grant:	80.6 MDKK



### CENTERS OF EXCELLENCE ESTABLISHED IN 2005

#### Nordic Center for Earth Evolution (NordCEE)

Location:	University of Southern Denmark (and University of Copenhagen)
Center leader:	Professor Don Canfield
Total grant:	89.4 MDKK



#### Center for Individual Nanoparticle Functionality (CINF)

Location:	Technical University of Denmark
Center leader:	Professor Ib Chorkendorff
Total grant:	84.1 MDKK



#### Center for Inflammation and Metabolism (CIM)

Location:	Rigshospitalet (and University of Copenhagen)
Center leader:	Professor Bente Klarlund Pedersen
Total grant:	55.8 MDKK



#### Embedment, Center for Genotoxic Stress (GENOTOXIC)

Location:	The Danish Cancer Society
Total grant:	65.5 MDKK

#### Center for Social Evolution (CSE)

Location:	University of Copenhagen
Center leader:	Professor Jacobus J. Boomsma
Total grant:	78.0 MDKK



#### Center for mRNP Biogenesis and Metabolism

Location:	Aarhus University
Center leader:	Professor Torben Heick Jensen
Total grant:	79.9 MDKK



**Embedment, Center for Insoluble Protein Structures (inSPIN)**

Location: Aarhus University

Total grant: 80.0 MDKK

**Center for Oxygen Microscopi and Imaging (COMI)**

Location: Aarhus University

Center leader: Professor Peter R. Ogilby

Total grant: 50.3 MDKK

**Center for Viscous Fluid Dynamics (Glass and Time)**

Location: Roskilde University

Center leader: Professor Jeppe Dyre

Total grant: 68.4 MDKK

**Dark Cosmology Center (DARK)**

Location: University of Copenhagen

Center leader: Professor Jens Hjorth

Total grant: 114.3 MDKK

**Center for Language Change in Real Time (LANCHART)**

Location: University of Copenhagen

Center leader: Professor Frans Gregersen

Total grant: 71.0 MDKK

**Center for Textile Research (CTR)**

Location: University of Copenhagen

Center leader: Professor Marie-Louise Nosch

Total grant: 44.7 MDKK

**Center for Models of Life (CMOL)**

Location: University of Copenhagen

Center leader: Professor Kim Sneppen

Total grant: 52.1 MDKK

**Danish Arrhythmia Center (DARC)**

Location: University of Copenhagen (and Rigshospitalet)

Center leader: Professor Søren-Peter Olesen

Total grant: 69.7 MDKK

**Embedment, Center for Molecular Movies (CMM)**

Location: Technical University of Denmark

Total grant: 35.4 MDKK

## CENTERS OF EXCELLENCE ESTABLISHED IN 2007

**Center for Research in Econometric Analysis of Time Series (CREATES)**

Location: Aarhus University

Center leader: Professor Niels Haldrup

Total grant: 80.2 MDKK

**Center for Carbohydrate Recognition and Signaling (CARB)**

Location: Aarhus University

Center leader: Professor Jens Stougaard

Total grant: 90.6 MDKK

**Center for DNA Nanotechnology (CDNA)**

Location: Aarhus University

Center leader: Professor Kurt Vesterager Gothelf

Total grant: 94.5 MDKK

**Center for Epigenetics**

Location: University of Copenhagen (and University of Southern Denmark)

Center leader: Professor Kristian Helin

Total grant: 111.0 MDKK

**Center for Ice and Climate**

Location: University of Copenhagen

Center leader: Professor Dorthe Dahl-Jensen

Total grant: 116.0 MDKK

**Center for Massive Data Algorithmics (MADALGO)**

Location: Aarhus University

Center leader: Professor Lars Arge

Total grant: 72.5 MDKK

**Membrane Pumps in Cells and Disease (PUMPKIN)**

Location: Aarhus University

Center leader: Professor Poul Nissen

Total grant: 106.3 MDKK



## CENTERS OF EXCELLENCE ESTABLISHED IN 2009/2010

**Center on Autobiographical Memory Research (Con Amore)**

Location: Aarhus University

Center leader: Professor Dorthe Berntsen

Total grant: 42.1 MDKK

**Center for Cosmology and Particle Physics Phenomenology (CP<sup>3</sup> - Origins)**

Location: University of Southern Denmark

Center leader: Professor Francesco Sannino

Total grant: 40.0 MDKK



**Center for Particle Physics (Discovery)**

Location: University of Copenhagen

Center leader: Professor Peter H. Hansen

Total grant: 40.0 MDKK

**Center for Symmetry and Deformation (SYM)**

Location: University of Copenhagen

Center leader: Professor Jesper Grodal

Total grant: 50.1 MDKK

**Center for Materials Crystallography (CMC)**

Location: Aarhus University

Center leader: Professor Bo Brummerstedt Iversen

Total grant: 50.0 MDKK

**Center for Geogenetics**

Location: University of Copenhagen

Center leader: Professor Eske Willerslev

Total grant: 50.2 MDKK

**Center for Quantum Geometry of Moduli Spaces (QGM)**

Location: Aarhus University

Center leader: Professor Jørgen Ellegaard Andersen

Total grant: 54.3 MDKK

**Center for Macroecology, Evolution and Climate (CMEC)**

Location: University of Copenhagen

Center leader: Professor Carsten Rahbek

Total grant: 60.5 MDKK

**Center for Star and Planet Formation (STARPLAN)**

Location: University of Copenhagen

Center leader: Professor Martin Bizzarro

Total grant: 38.4 MDKK



## CENTERS OF EXCELLENCE ESTABLISHED IN 2012

**Center for Medieval Literature (CML)**

Location: University of Southern Denmark

Center leader: Professor Lars Boje Mortensen

Total grant: 36.0 MDKK

**Center for Dynamic Molecular Interactions (DynaMo)**

Location: University of Copenhagen

Center leader: Professor Barbara Halkier

Total grant: 49.0 MDKK





**Center for Permafrost Dynamics in Greenland (CENPERM)**

Location: University of Copenhagen

Center leader: Professor Bo Elberling

Total grant: 60.0 MDKK

**Center for Quantum Devices**

Location: University of Copenhagen

Center leader: Professor Charles Marcus

Total grant: 64.4 MDKK

**Center for Financial Frictions (FRIC)**

Location: Copenhagen Business School

Center leader: Professor David Lando

Total grant: 48.0 MDKK

**Center for Nanostructured Graphene (CNG)**

Location: Technical University of Denmark

Center leader: Professor Antti-Pekka Jauho

Total grant: 54.0 MDKK

**Center for Geomicrobiology**

Location: Aarhus University

Center leader: Professor Bo Barker Jørgensen

Total grant: 58.1 MDKK

**Center for International Courts (iCourts)**

Location: University of Copenhagen

Center leader: Professor Mikael Rask Madsen

Total grant: 42.0 MDKK

**Stellar Astrophysics Center (SAC)**

Location: Aarhus University

Center leader: Professor Jørgen Christensen-Dalsgaard

Total grant: 55.0 MDKK

**Copenhagen Center for Glycomics (CCG)**

Location: University of Copenhagen

Center leader: Professor Henrik Clausen

Total grant: 62.0 MDKK

**Center for Vitamins and Vaccines (CVIVA)**

Location: Statens Serum Institut

Center leader: Professor Christine Stæveland Benn

Total grant: 58.0 MDKK



## JOINT FUNDING ACTIVITIES

**National Natural Science Foundation of China (NSFC),  
Danish-Chinese Center for Proteases and Cancer**

Location: Aarhus University

Leader: Professor Peter A. Andreasen

Total grant: 21.5 MDKK

**National Natural Science Foundation of China (NSFC),  
Danish-Chinese Center of Breast Cancer Research**

Location: University of Copenhagen

Leader: Professor Nils Brünner

Total grant: 22.7 MDKK

**National Natural Science Foundation of China (NSFC), Danish-Chinese Center for  
Self-Assembly and Function of Molecular Nanostructures on Surfaces**

Location: Aarhus University

Leader: Professor Flemming Besenbacher

Total grant: 24.8 MDKK

**National Natural Science Foundation of China (NSFC),  
Danish-Chinese Center for Molecular Nano-Electronics**

Location: University of Copenhagen

Leader: Professor Thomas Bjørnholm

Total grant: 24.5 MDKK

**National Natural Science Foundation of China (NSFC),  
Danish-Chinese Center for Nanometals**

Location: Technical University of Denmark

Leader: Professor Dorte Juul Jensen

Total grant: 23.6 MDKK

**National Natural Science Foundation of China (NSFC),  
Danish-Chinese Center for Organic-based Photovoltaic Cells with Morphology Control**

Location: Technical University of Denmark

Leader: Professor Frederik Christian Krebs

Total grant: 25.0 MDKK

**National Natural Science Foundation of China (NSFC), Danish-Chinese Center for  
Applications of Algebraic Geometry in Coding Theory and Cryptography**

Location: Technical University of Denmark

Leader: Professor Tom Høholdt

Total grant: 13.1 MDKK

**National Natural Science Foundation of China (NSFC),  
Danish-Chinese Center for the Theory of Interactive Computation**

Location: Aarhus University

Leader: Professor Peter Bro Miltersen

Total grant: 14.9 MDKK



**National Natural Science Foundation of China (NSFC),  
Danish-Chinese Center for IDEA4CPS: Foundations for Cyber-Physical Systems**

Location:	Aalborg University
Leader:	Professor Kim Guldstrand Larsen
Total grant:	24.4 MDKK


**Centre National de la Recherche Scientifique (CNRS)**

Total grant:	(1.6 MDKK, included in the above mentioned center grants).
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**National Science Foundation (NSF)**

Total grant:	(3.3 MDKK, included in the above mentioned center grants).
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**DNRF'S NIELS BOHR PROFESSORSHIPS ESTABLISHED IN 2013**
**Professor Anna Lowenhaupt Tsing, University of California, Santa Cruz**

Location:	Department of Culture and Society, Aarhus University
Total grant:	29.0 MDKK


**Professor David Needham, Duke University**

Location:	Department of Physics, Chemistry and Pharmacy, University of Southern Denmark
Total grant:	29.0 MDKK


**Professor Lars Hesselholt, Nagoya University**

Location:	Department of Mathematical Sciences, University of Copenhagen
Total grant:	30.0 MDKK


**Professor Charles Leshner, University of California, Davis**

Location:	Department for Geoscience, Aarhus University
Total grant:	30.0 MDKK


**Professor Jaan Valsiner, Clark University**

Location:	Department of Communication and Psychology, Aalborg University
Total grant:	20.0 MDKK


**Professor Subir Sarkar, University of Oxford**

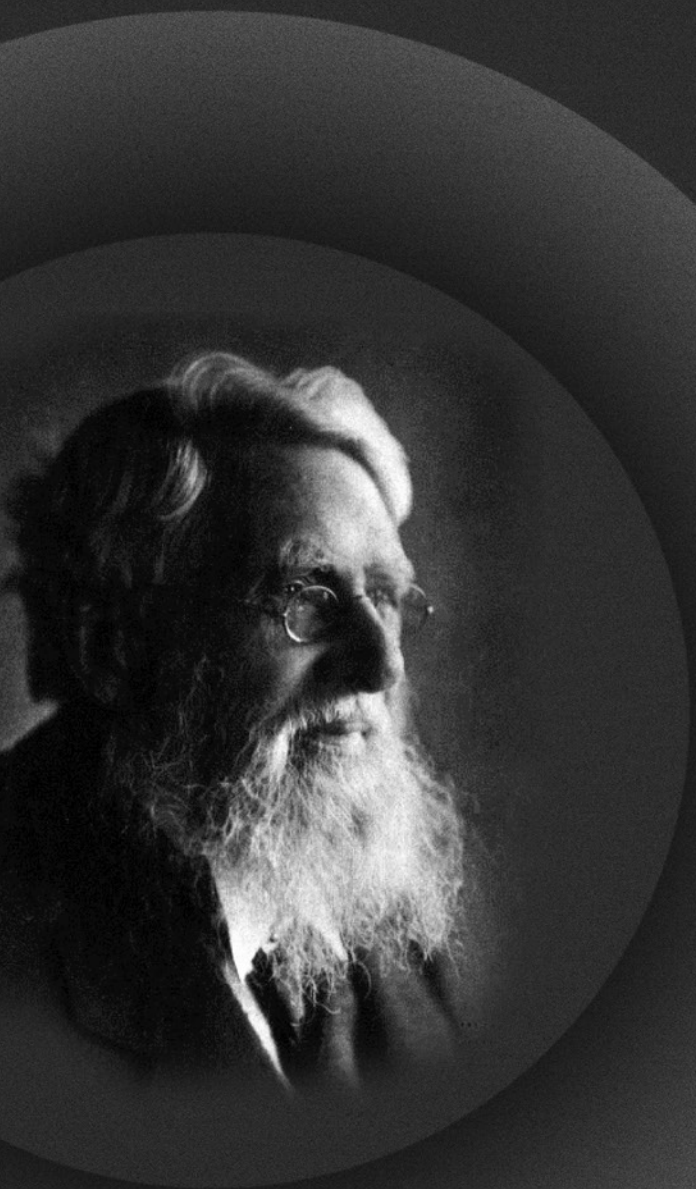
Location:	Niels Bohr Institute, University of Copenhagen
Total grant:	29.0 MDKK


**COURSE ACTIVITIES FOR CENTER LEADERS/OUTREACH  
PROGRAM FOR CENTERS**

Total grant:	3.6 MDKK
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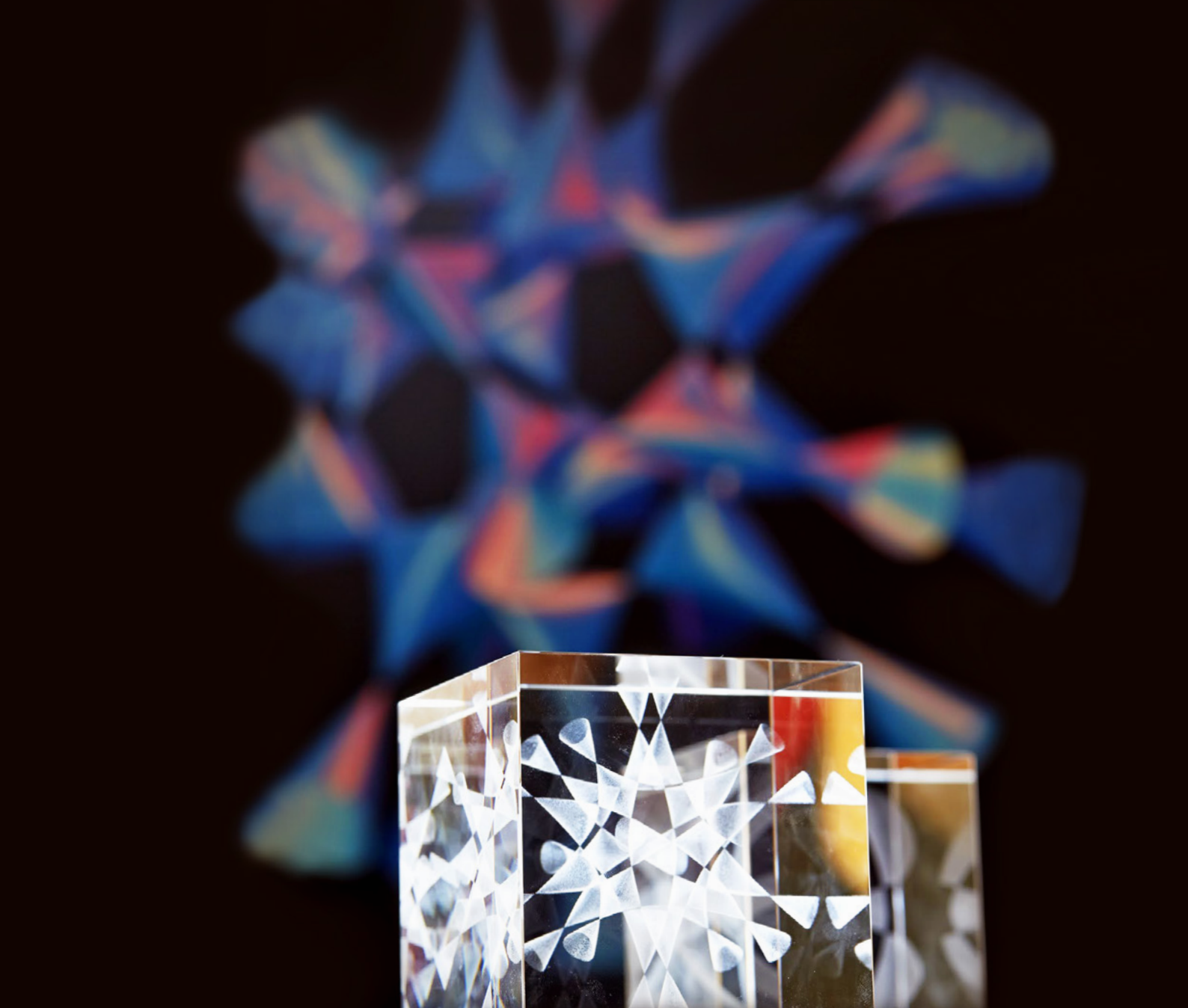
## CENTER FOR MACROECOLOGY, EVOLUTION AND CLIMATE (CMEC)



**Center leader:** Professor Carsten Rahbek  
**Host institution:** University of Copenhagen  
**1. period:** 60.5 MDKK  
**2. period, granted in 2014:** 50 MDKK

“ These new approaches are therefore not without risk but, in our opinion, they represent the type and scale of vision required to drive a successful center if it is to remain at the cutting edge of science.

- From midterm evaluation report



## CENTER FOR QUANTUM GEOMETRY OF MODULI SPACES (QGM)



**Center leader:**

Professor Jørgen Ellegaard Andersen

**Host Institution:** Aarhus University

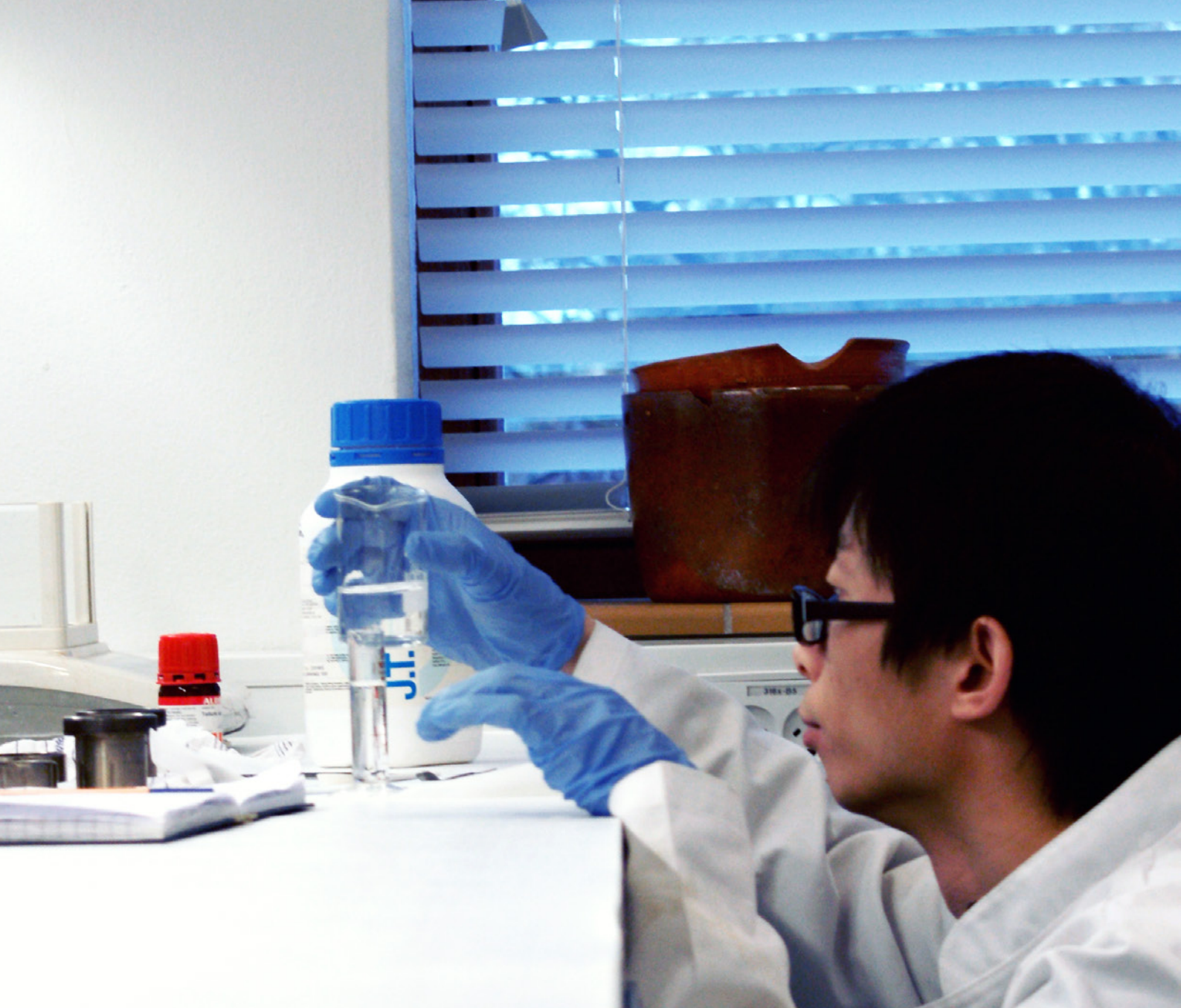
**1. period:** 54.3 MDKK

**2. period, granted in 2014:** 35 MDKK

“ In a short period of time the QGM has established itself as the premiere center for research in the area of moduli spaces and quantization. The importance of this subject is reflected in the high level of activity by internationally recognized mathematicians.

- From midterm evaluation report





## CENTER FOR MATERIALS CRYSTALLO- GRAPHY (CMC)



**Center leader:**

Professor Bo Brummerstedt Iversen

**Host Institution:** Aarhus University

**1. period:** 50 MDKK

**2. period, granted in 2014:** 55 MDKK

“ The CMC is unique in its collective level of expertise in crystallography and has been able to extend the boundaries of what is possible experimentally as well as how the results can be analyzed through theoretical methods.

- From midterm evaluation report





## CENTER FOR GEOGENETICS



**Center leader:** Professor Eske Willerslev  
**Host institution:** University of Copenhagen  
**1. period:** 50.2 MDKK  
**2. period, granted in 2014:** 50 MDKK

“ Our overall impressions are extremely positive. We feel that the Center for GeoGenetics has been extraordinarily successful during the three+ years of its existence, and we anticipate continued success in its future research activities.

- From midterm evaluation report





## CENTER FOR STAR AND PLANET FORMATION (STARPLAN)



**Center leader:** Professor Martin Bizzarro

**Host institution:** University of Copenhagen

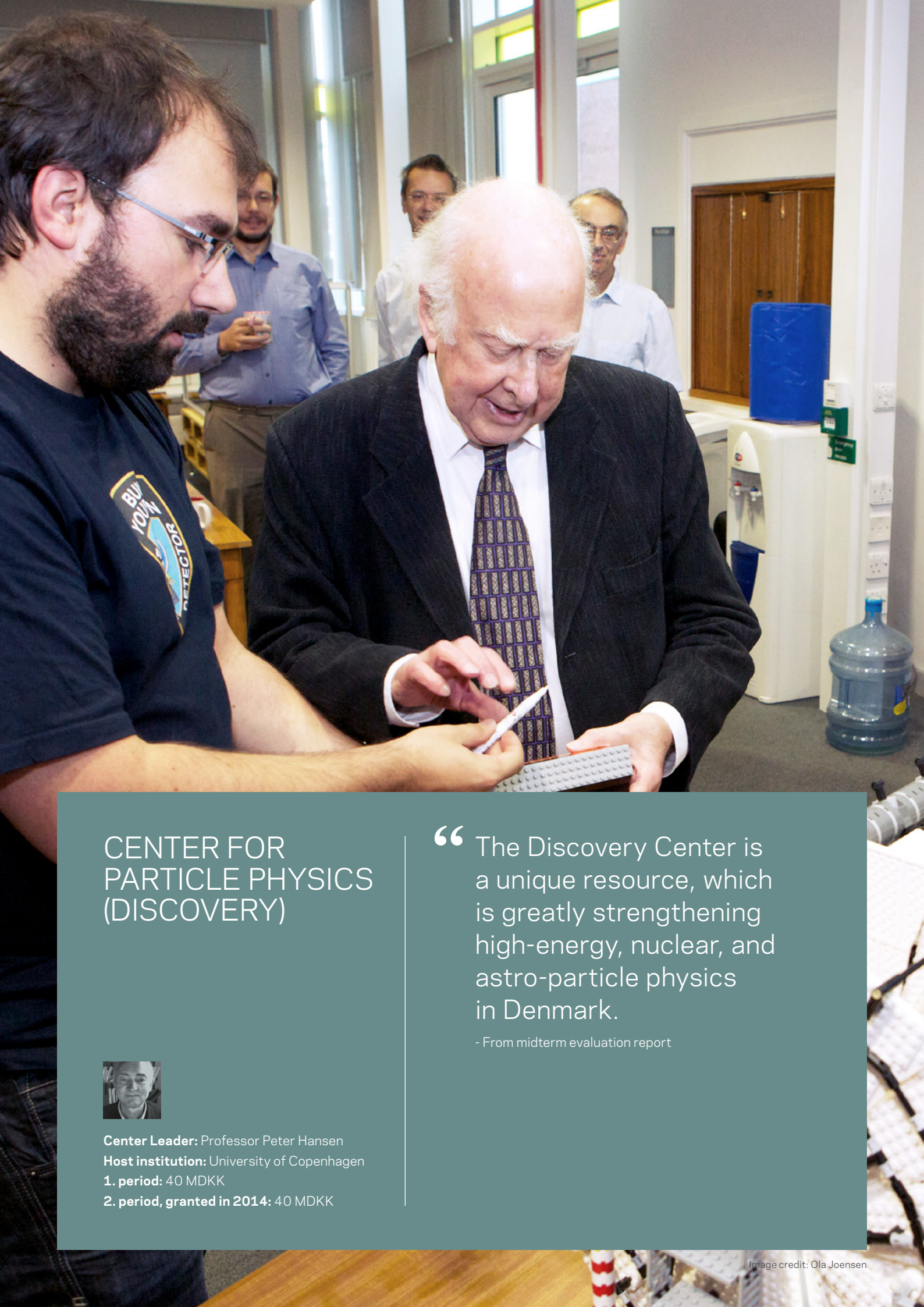
**1. period:** 38.4 MDKK

**2. period, granted in 2014:** 44 MDKK

“ The quality of their results, the team members' standing in all three sub-fields, and the worldwide recognition of their joint research is outstanding.

- From midterm evaluation report





## CENTER FOR PARTICLE PHYSICS (DISCOVERY)



**Center Leader:** Professor Peter Hansen  
**Host institution:** University of Copenhagen  
**1. period:** 40 MDKK  
**2. period, granted in 2014:** 40 MDKK

“ The Discovery Center is a unique resource, which is greatly strengthening high-energy, nuclear, and astro-particle physics in Denmark.

- From midterm evaluation report





## CENTER FOR COSMOLOGY AND PARTICLE PHYSICS PHENOMENOLOGY (CP<sup>3</sup>-ORIGINS)



**Center leader:** Professor Francesco Sannino

**Host institution:**

University of Southern Denmark

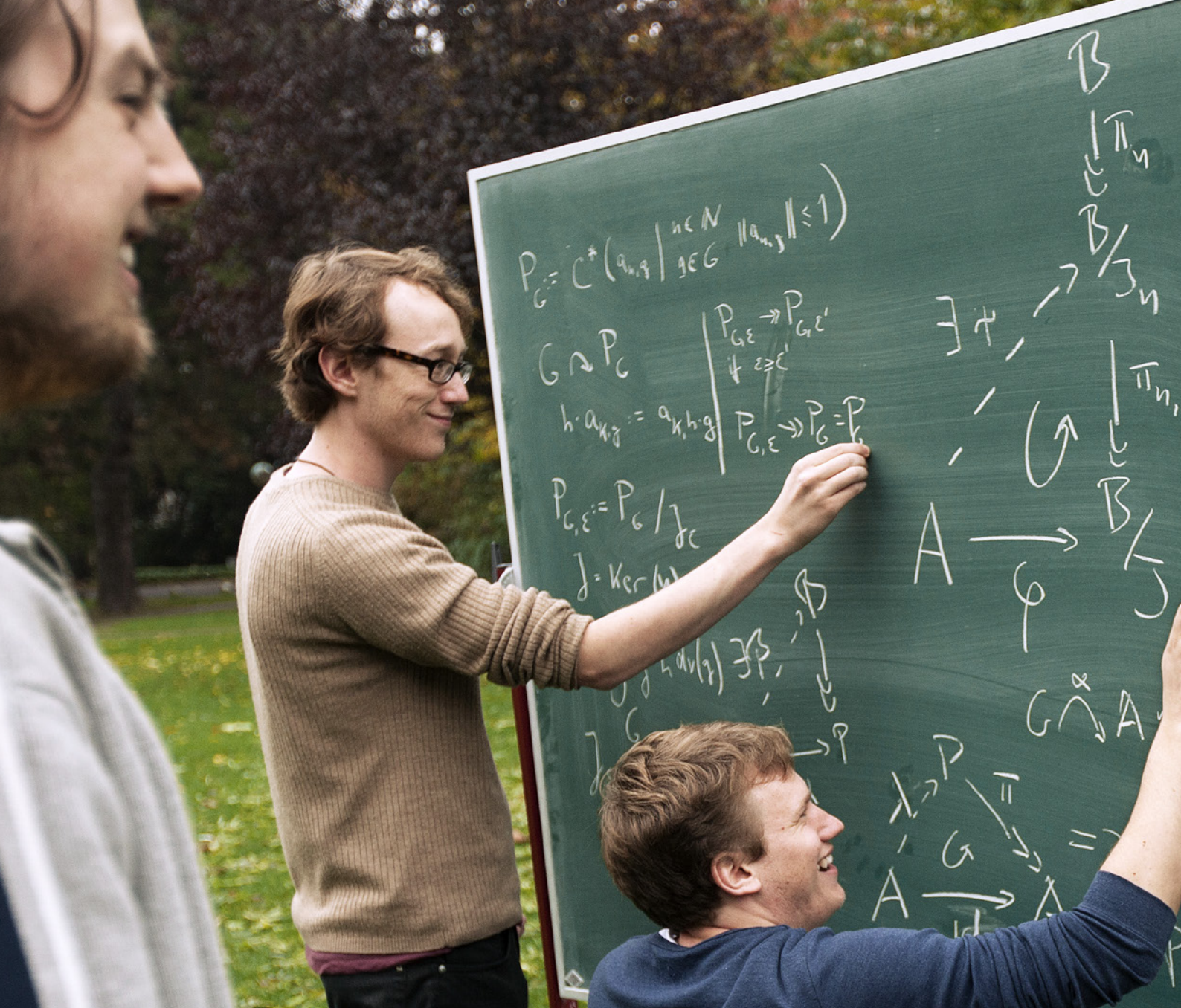
**1. period:** 40 MDKK

**2. period, granted in 2014:** 40 MDKK

“ We can hardly think of a similar example, in which a research group has gained a high scientific profile in such a short amount of time. CP<sup>3</sup> is a great investment for Danish science.

- From midterm evaluation report





## CENTER FOR SYMMETRY AND DEFORMATION (SYM)




**Center leader:** Professor Jesper Grodal  
**Host institution:** University of Copenhagen  
**1. period:** 50.1 MDKK  
**2. period, granted in 2014:** 40 MDKK

“Collaborations and impact extend well beyond the center proper: It has become a destination for some of the best research mathematicians in these subjects.

- From midterm evaluation report





## CENTER ON AUTO- BIOGRAPHICAL MEMORY RESEARCH (CON AMORE)



**Center Leader:** Professor Dorthe Berntsen

**Host Institution:** Aarhus University

**1. period:** 42.1 MDKK

**2. period, granted in 2014:** 42 MDKK

“ The center has become a hub internationally known for its research in autobiographical memory, and there is little doubt that its fame will further increase in the years to come.

- From midterm evaluation report





The crime novel "The Arc of the Swallow," written by the famous Danish author Sissel-Jo Gazan, is inspired by research performed at our Center for Vitamins and Vaccines (CVIVA) led by professor Christine Stabell Benn. At the DNRF annual meeting Sissel-Jo and Christine gave a presentation about their collaboration and how to combine facts and fiction.

# TOTAL ASSETS AND RETURN ON INVESTMENT

## Introduction

The foundation distributed 423 MDKK in 2013, which is the largest amount since the foundation was established in 1991. At the beginning of 2013, the planned distribution was 455 MDKK, but during the year, the foundation approved the centers' transference of 32 MDKK to the following years, mainly to facilitate the institutional embedment of the centers' activities.

Total return on investment amounted to 218 MDKK. Administrative and financial expenses amounted to 16 MDKK and, accordingly, the net capital was brought down from 3.872 MDKK to 3.651 MDKK.

## Return on investment

As mentioned above total net return on investment amounted to 218 MDKK in 2013. Equities accounted for 256 MDKK and bonds for -38 MDKK. The overall investment strategy is balanced, containing both equities and bonds in order to ensure a robust and resilient portfolio that is able to perform in different financial environments. The allocation of equities in total assets is generally 35% and the allocation of bonds 65% of total assets.

### Equities

The exposure to global equities is first and foremost the investment of 30% of total foundation assets in a Deutsche Bank Exchange Traded Fund (ETF), which represents a highly liquid instrument for achieving a precise exposure in a given market. At the end of November 2013, our holding was transferred to a new, more cost-efficient institutional ETF with ethical restrictions. The performance was 24.6% compared to the benchmark 25.0% inclusive of the USD and JPY currency hedge.

Furthermore, the foundation has invested 1% of its funds in an index-linked mutual fund (Danske Capital) consisting of global equities.

The currency hedge (USD and JPY) is an integral part of the portfolio agreement and the performance was 25.1% versus benchmark 24.5%.

Finally, the foundation has included a strategic allocation to the emerging markets (Danske Capital) in its equity portfolio reflecting the actual weight of emerging markets in MSCI World AC (All Countries). The performance of this 4% of total assets was -10.4% versus the benchmark -6.8%. The growth rates of the emerging market countries are currently low, and in 2013 the emerging market equities' performance was more than 30% lower than the performance of the developed market equities.

When the Exchange Traded Fund holding was transferred at the end of November, an ethical MSCI world benchmark was substituted for the MSCI (Morgan Stanley Capital International, developed countries) world benchmark. As a result, a number of stocks have been removed from the portfolio, corresponding to the two Danske Capital portfolios (global equities and emerging market equities) covered by Danske Capital's Socially Responsible Investment (SRI) policy with ongoing screening by Ethix SRI Advisors.

### Bonds

Danish bonds are government and mortgage bonds and represent 35% of the foundations fixed-income products, which amount to 65% in total. Nykredit's return on investment was -0.9% compared to the benchmark -1.7% (25% Nordea Danish government bonds, constant duration 7 years, 75% Nordea Danish government bonds, constant duration 5 years, tightened up with a 0.50 % outperformance requirement).

Twenty percent of the total assets are invested in global inflation-linked bonds based on the assumption that, in the long term, inflation would erode the return on nominal bonds. In 2013, the real interest rate increased more than the nomi-

Return on investment	2013	2012	2011	2010	2009
Bonds and time deposits, MDKK	-38.1	182.4	261.4	164.5	183.6
Equities, MDKK	256.1	207.7	-71.3	169.7	350.4
Total return, MDKK	218.0	390.1	190.1	334.2	534.0
Time-weighted return % <sup>1)</sup>	5.6	10.7	5.2	8.5	13.5
Benchmark %	5.6	10.1	4.9	8.8	12.9
Return according to legal basis % <sup>2)</sup>	4.2	4.9	5.5	5.8	5.5
Time-weighted return Annualized, 5 years % <sup>3)</sup>	8.7	5.3	3.7	3.3	3.3
Benchmark Annualized, 5 years %	8.5	5.2	3.8	3.3	3.2
Return according to legal basis Annualized, 5 years % <sup>4)</sup>	5.2	5.5	5.7	5.5	5.5

- 1) The annual time-weighted return of the total investment is a weighted average of each portfolio's time-weighted return. A time-weighted return is calculated as  $((1 + (i_{\text{period1}})) \times (1 + (i_{\text{period2}})) \times \dots) - 1)$ , where  $i$  is the return in percent.
- 2) From January 1, 2007 to July 1, 2008, opening balance assumes a 3% real return plus the annual rate of inflation. Since July 1, 2008 a 3.3% annual real return has been assumed.
- 3)  $((1 + (\text{time-weighted return}_{\text{year1}})) \times (1 + (\text{time-weighted return}_{\text{year2}})) \times \dots)^{(1/\text{number of years}) - 1}$ , where the time-weighted return is calculated in percent and the number of years is 5.
- 4) Calculated by the same method as annualized time-weighted return.

nal rate and the benchmark was -4.8%. Danske Capital's performance was -5.2%. On December 1, the duration was reduced (benchmark: 60% Barclays 33% US 33% Eurozone 33% Global Customized AA3+, 40% Barclays Global Inflation-Linked Bond Index 1-10Y, currency hedged 95 % to DKK).

The return on the 10% European corporate bond portfolio is highly correlated with the return on Danish bonds, but it helps to diversify risk. Investment in European corporate bonds also leads to expectations of higher returns. In 2013, Danske Capital's performance was 3.2% versus the benchmark 2.4% (Barclays Capital Euro Major Corporate Index).

As can be seen from the table, the total return on investment in 2013 was 5.6%, which was exactly equal to the benchmark for the investment strategy. According to the legal basis, a return of 4.2% would have been sufficient in 2013 because the real return was 3.3% and the inflation was only 0.9%.

The foundation's annual return in 2009-2013 was 8.7% against an annual benchmark of

8.5%. Compared to the 5.2% return according to the legal basis, the foundation has generated highly satisfactory returns. However, in the years to come the allocation to equities has to be brought down step by step as a consequence of the successively shortened investment horizon. Also, the duration of the bond portfolio has to be continually reduced. The activities are funded mainly by drawing down the foundation's capital and obviously, an early capital injection followed by an increased return on investment could deal with this capital reduction.

The foundation constantly ensures a match between returns and distribution obligations. In 2008, the foundation received 3 billion DKK from the Danish Parliament and the life of the foundation was extended from 2013 to 2026. It was a condition precedent to the legislative amendment that the foundation was capable of distributing grants of up to DKK 400 million a year (2008 prices) up to and including 2017 when the final 10-year centers would be launched. The foundation fully meets this requirement.



## THE BOARD

In 2013, the board conducted 5 regular meetings and was represented at 40 follow-up center meetings. The composition of the board was as follows:



**Liselotte Højgaard (Chair)**

Professor, University of Copenhagen, Head of Department, Rigshospitalet  
Nominated by the Minister for Higher Education and Science  
(01.01.13-31.12.18)



**Christina Moberg**

Professor, Royal Institute of Technology, KTH, Stockholm. Nominated by the Danish Council for Strategic Research  
(01.11.13-31.10.17)



**Bo Erno Honoré (Deputy chairman)**

Professor, Department of Economics, Princeton University. Nominated by Danish Rectors' Conference  
(01.01.12-31.12.15)



**Pirjo Nuutila**

Professor, Turku University  
Nominated by the Danish Council for Independent Research  
(08.06.10-31.10.13)



**Bart De Moor**

Professor, KU Leuven  
Nominated by the Minister for Higher Education and Science  
(01.11.13-31.10.17)



**Birgitte Possing**

Professor, the Danish State Archives  
Nominated by the Joint Committee of Directors at the Governmental Research Institutes  
(01.01.12-31.12.15)



**Kirsten Hastrup**

Professor, Department of Anthropology, University of Copenhagen. Nominated by the Royal Danish Academy of Sciences and Letters  
(01.01.12-31.12.15)



**Birte Svensson**

Professor, Department of Systems Biology, Technical University of Denmark. Nominated by the Danish Council for Strategic Research  
(01.11.09-31.10.13)



**Eivind Hiis Hauge**

Professor emeritus, Department of Physics, Norwegian University of Science and Technology. Nominated by the Danish Academy of Technical Sciences  
(01.11.09-31.10.13) (01.11.13-31.10.17)



**Eero Vuorio**

Director, professor, Biocenter Finland, University of Helsinki, Finland. Nominated by the Danish Council for Independent Research  
(01.11.13-31.10.17)



**Svend Erik Larsen**

Professor, Department of Aesthetics and Communication – Comparative Literature, Aarhus University. Nominated by the Danish Council for Independent Research  
(01.01.12-31.12.15)



**Gunnar Öquist**

Professor emeritus, Umeå University  
Nominated by the Minister for Higher Education and Science  
(01.11.09-31.10.13)

## STATEMENT BY MANAGEMENT ON THE ANNUAL REPORT

The board and the director have today considered and approved the annual report of the Danish National Research Foundation for the financial year 2013.

The annual report is presented in accordance with the Consolidated Act on the Danish National Research Foundation, the Danish Executive Order on the Administration of the Funds of the Danish National Research Foundation, the Royal Decree on the Charter of the Danish National Research Foundation and the provisions of the Danish Financial Statements Act with the adjustments resulting from the special nature of the Danish National Research Foundation.

In our opinion, the annual accounts give a true and fair view of the foundation's financial position at December 31, 2013 and of the results of its operations for the financial year January 1 - to December 31, 2013. Also, we believe that the management commentary contains a fair review of the affairs and conditions referred to therein.

Finally, it is our opinion, that the established administrative procedures and internal controls, covered by the annual accounts, are in accordance with grants given, laws and other regulations, and also agreements entered into and normal practice.

Copenhagen, 4 April 2014

Thomas Sinkjær  
Director

Board members:

Liselotte Højgaard  
Chair

Bo Ernø Honoré  
Deputy Chairman

Bart De Moor

Kirsten Hastrup

Eivind Hiis Hauge

Svend Erik Larsen

Christina Moberg

Birgitte Possing

Eero Vuorio

# INDEPENDENT AUDITOR'S REPORT

TO THE BOARD OF THE DANISH  
NATIONAL RESEARCH FOUNDATION

## **Report on the financial statements**

We have audited the financial statements of the Danish National Research Foundation for the financial year 1 January to 31 December 2013, which comprise the accounting policies, income statement, balance sheet and notes. The financial statements are prepared in accordance with the provisions of the Danish Financial Statements Act subject to the adjustments caused by the special nature of the foundation.

## **Management's responsibility for the financial statements**

The board is responsible for the preparation of financial statements that give a true and fair view in accordance with the Danish Financial Statements Act subject to the adjustments caused by the special nature of the foundation, and for such internal control as the board determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error, as well as for electing and applying appropriate accounting policies, and making accounting estimates that are reasonable in the circumstances.

Furthermore, the board is responsible for transactions covered by the financial statements complying with the appropriations granted, statutes, other regulations, agreements and usual practice.

## **Auditor's responsibility**

Our responsibility is to express an opinion on the financial statements based on our audit. We conducted our audit in accordance with International Standards on Auditing and additional requirements under Danish audit regulation as well as generally accepted government auditing standards, see the Danish Act on the auditing of the government accounts, and the contract of the Danish National Research Foundation pursuant to S 9(2) Danish Auditor General's Act. This requires that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing audit procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the foundation's preparation of financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the foundation's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates

made by the board, as well as the overall presentation of the financial statements.

The audit also involves assessing whether business processes and internal controls have been established, supporting that the transactions covered by the financial statements comply with the appropriations granted, statutes, other regulations, agreements and usual practice.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Our audit has not resulted in any qualification.

### **Opinion**

In our opinion, the financial statements give a true and fair view of the foundation's financial position at 31 December 2013 and of the results of its operations for the financial year 1

January to 31 December 2013 in accordance with the Danish Financial Statements Act subject to the adjustments caused by the special nature of the foundation. It is also our opinion that business processes and internal controls have been established, supporting that the transactions covered by the financial statements comply with the appropriations granted, statutes, other regulations, agreements and usual practice.

### **Statement on the management commentary**

Pursuant to the Danish Financial Statements Act, we have read the management commentary. We have not performed any further procedures in addition to the audit of the financial statements.

On this basis, it is our opinion that the information provided in the management commentary is consistent with the financial statements.

Copenhagen, 4 April 2014

### **Deloitte**

Statsautoriseret Revisionspartnerselskab

Jens Sejer Pedersen  
State Authorised  
Public Accountant



## ACCOUNTING POLICIES

The annual report is presented in accordance with the Consolidated Act on the Danish National Research Foundation, the Danish Executive Order on the Administration of the Funds of the Danish National Research Foundation, the Royal Decree on the Charter of the Danish National Research Foundation and the provisions of the Danish Financial Statements Act governing reporting class C enterprises (large) with the adjustments resulting from the special nature of the foundation.

The provisions of the Danish Financial Statements Act governing reporting class C enterprises (large) prescribe preparation of a cash flow statement. Due to the nature of the foundation's activities, the cash flows cannot reasonably be broken down by cash flows from operating, investing and financing activities, for which reason the cash flow statement has been omitted, referring to Section 11(3) of the Danish Financial Statements Act. Also, the foundation has decided to derogate from the format requirements laid down by the Danish Financial Statements Act for the income statement in order to illustrate the special nature of the foundation.

The accounting policies applied are consistent with those applied last year.

### INCOME STATEMENT

#### Interest income

Interest income from bonds and bank deposits have been accrued to the effect that they relate to the financial year under audit.

#### Dividend

Dividend received on shares is included in the income statement at the time of distribution.

#### Realized capital gains and losses on and market value adjustments of securities

Realized capital gains and losses on and market value adjustments of securities (bonds and equities) are included in the income statement.

#### Other income

Under the Danish Appropriation Act, more funds have been made available to the foundation for distribution. The funds are recognized when transferred to the foundation.

#### Distribution

Funds distributed are expensed in the financial year in which they are distributed. Funds are distributed as research plans are implemented, see note 16b. Time lags may exist to a limited extent.

#### External expenses for the scientific activities of the Foundation

Such expenses comprise expenses for the foundation's scientific activities, including expenses for the consideration of applications and evaluation of grants.

### BALANCE SHEET

#### Fixed assets

Leasehold improvements are recognized in the balance sheet at cost less accumulated depreciation. Fixed assets are depreciated straight-line over their estimated useful lives of five years.

Office equipment and furniture is recognized at cost less accumulated depreciation. Office equipment and furniture is depreciated straight-line over their estimated useful lives, meaning three years for IT hardware and software and five years for other office equipment.

Assets costing less than DKK 15,000 per unit are expensed in the year of acquisition.

**Securities**

Listed securities (bonds and equities) are measured at fair value (quoted price) at the balance sheet date.

Bonds redeemed at the time of presentation of the annual accounts are recognized at par value.

Other investments are measured at the lower of the value at the date of acquisition and fair value.

**Distribution obligations**

Distributions by the foundation mainly take the form of multiannual total grants awarded over a number of years as research projects are completed, however, grants usually are not awarded for more than a six-year period.

The distribution obligations which can be accommodated by equity and budgeted earnings, are not provided for in the balance sheet. Instead, distribution obligations are disclosed in notes 16a and 16b stating estimated residual amounts to be distributed.

**Income tax**

The foundation is not liable to tax.

**Foreign currency translation**

Foreign currency transactions are translated into Danish kroner applying the exchange rate at the transaction date.

Realized and unrealized gains and losses are recognized in capital income in the income statement.

Bank deposits and securities denominated in foreign currencies are translated into DKK applying the balance sheet date exchange rate. Realized and unrealized foreign exchange gains and losses are recognized in capital income in the income statement.

**Derivative financial instruments**

The Danish National Research Foundation only applies derivative financial instruments to hedge the currency and interest rate risks involved in the portfolio of securities.

Changes in the fair value of derivative financial instruments classified as and complying with the requirement for hedging the fair value of a recognized asset or a recognized liability are recorded in the income statement together with changes in the value of the hedged asset or the hedged liability. In doing so, symmetrical recognition of gains and losses on the item hedged and the hedging instrument, respectively, is ensured.

Premiums received or paid as well as forward premiums and discounts are recognized in the income statement over the terms of the instruments.

The fair value of derivative financial statements classified as and qualifying for hedging of an instrument to hedge a recognized asset or liability is recognized in the balance sheet along with the asset or liability to which hedging relates.

# INCOME STATEMENT

## JANUARY 1 – DECEMBER 31

	Note	2013	2012
<b>Return on investment</b>			
Realized gains and losses, bonds		25,449,254	67,788,521
Unrealized gains and losses, bonds		-63,573,430	114,395,589
Realized gains and losses, equities		58,106,839	15,636,714
Unrealized gains and losses, equities		198,027,827	192,109,167
Interest, bank deposits		16,923	169,688
<b>Return on investment, total</b>		218,027,413	390,099,679
<b>Other receipts, net</b>	1	73,973	5,382,125
<b>Costs</b>			
Distributions	16	-423,038,546	-390,989,631
Custody and bank fees etc.	2	-3,252,208	-2,938,176
Salaries etc.	3	-7,308,452	-7,189,486
Office expenses	4	-648,859	-570,695
Premises	5	-846,841	-852,725
Accountant/attorney remuneration etc.	6	-1,027,159	-1,032,088
External expenses, external research activities	7	-1,855,918	-955,578
Other costs	8	-899,586	-930,433
<b>Costs, total</b>		-438,877,569	-405,458,812
<b>Loss before depreciation</b>		-220,776,183	-9,977,008
Depreciation	9	-73,002	-73,002
<b>Loss for the year</b>		<u>-220,849,185</u>	<u>-10,050,010</u>

# BALANCE SHEET AS OF DECEMBER 31

	Note	2013	2012
<b>ASSETS</b>			
<b>Fixed assets</b>			
<b>Tangible fixed assets</b>			
	10		
Leasehold improvements		66,521	99,781
Office equipment and furniture		37,258	77,000
		103,779	176,781
<b>Fixed asset investments</b>			
	11		
Other investments		51,228	18,903
Deposits		211,248	210,172
		262,476	229,075
<b>Fixed assets, total</b>		366,255	405,856
<b>Current assets</b>			
<b>Receivables</b>			
Accrued interest		20,817,549	22,165,983
Other receivables		68,962	530,581
Deferred charges		259,747	239,790
		21,146,258	22,936,354
<b>Liquid funds</b>			
Securities, bonds	12	2,320,119,928	2,483,561,735
Securities, equities	13	1,294,791,722	1,356,920,878
Bank deposits	14	16,602,136	9,479,693
		3,631,513,786	3,849,962,306
<b>Current assets, total</b>		3,652,660,044	3,872,898,660
<b>ASSETS, TOTAL</b>		3,653,026,299	3,873,304,516

## EQUITY AND LIABILITIES

<b>Net capital</b>	15	3,650,636,545	3,871,485,730
<b>Payables</b>			
<b>Short-term payables</b>			
Payables and back costs		2,389,754	1,818,786
<b>Payables, total</b>		2,389,754	1,818,786
<b>EQUITY AND LIABILITIES, TOTAL</b>		3,653,026,299	3,873,304,516
<b>Distribution obligations</b>	16		
<b>Contingent liabilities</b>	17		



# NOTES

	2013	2012
<b>1 OTHER RECEIPTS, NET</b>		
Government grants 2009, see below	0	5,328,800
Receipts, intellectual property rights	41,648	62,500
Market value adjustment, other investments, see note 11	32,325	-9,175
<b>Other receipts, total</b>	<b>73,973</b>	<b>5,382,125</b>
<b>Government grants booked as income</b>		
Government grants 2005	40,000,000	40,000,000
Booked as income 2005, grant no 65-68, see note 16a	-4,432,000	-4,432,000
Booked as income 2006, grant no 65-74, see note 16a	-26,919,579	-26,919,579
Booked as income 2007, grant no 65-77, see note 16a	-8,648,421	-8,648,421
To be booked as income in the following years	0	0
Government grants 2006	65,000,000	65,000,000
Booked as income 2007, grant no 65-77, see note 16a	-30,412,292	-30,412,292
Booked as income 2008, grant no 65-77, see note 16a	-28,699,949	-28,699,949
Booked as income 2009, grant no 65-77, see note 16a	-5,887,759	-5,887,759
To be booked as income in the following years	0	0
Government grants 2007	65,000,000	65,000,000
Booked as income 2008, grant no 65-77, see note 16a	-22,392,337	-22,392,337
Booked as income 2009, grant no 65-77, see note 16a	-39,008,053	-39,008,053
Booked as income 2010, grant no 65-77, see note 16a	-3,599,610	-3,599,610
To be booked as income in the following years	0	0
Government grants 2008, overhead compensation	10,498,204	10,498,204
Booked as income 2008, grant no 65-77, see note 16a	-5,385,980	-5,385,980
Booked as income 2009, grant no 65-77, see note 16a	-4,732,765	-4,732,765
Booked as income 2010, grant no 65-77, see note 16a	-379,459	-379,459
To be booked as income in the following years	0	0
Government grants 2009	49,800,000	49,800,000
Booked as income 2010, grant no 86-1-86-5, see note 16a	-22,967,365	-22,967,365
Booked as income 2011, grant no 86-1-86-5, see note 16a	-21,503,835	-21,503,835
Booked as income 2012, grant no 86-3-86-5, see note 16a	-5,328,800	-5,328,800
To be booked as income in the following years	0	0
<b>To be booked as income later on, total</b>	<b>0</b>	<b>0</b>

Government grants are booked as income as the Ministry transfers funds to the foundation to cover expenses for center activities.

	2013	2012
<b>2 CUSTODY AND BANK FEES, ETC.</b>		
Bonds	2,691,567	2,548,518
Equities	539,220	371,770
Fees, portfolio managers	3,230,787	2,920,288
Bank	10,762	8,381
Other	10,659	9,507
<b>Custody and bank fees, total</b>	<b>3,252,208</b>	<b>2,938,176</b>
<b>3 SALARIES ETC.</b>		
Director and board members	2,502,813	2,403,245
Salaries, other employees	4,181,029	4,189,309
Pension costs	620,889	594,717
Holiday allowance	-27,059	-37,917
Danish Labor Market Supplementary Pension Scheme (ATP)	30,780	40,132
<b>Salaries etc., foundation staff, total</b>	<b>7,308,452</b>	<b>7,189,486</b>
Average staff number, accounting year	9	9
<b>4 OFFICE EXPENSES</b>		
Office supplies	74,644	57,547
Postage and freight	39,883	12,649
Telephone, Internet	120,413	158,206
Minor acquisitions	128,460	101,894
Journal, books, etc.	27,269	22,867
Servicing contracts etc.	258,190	217,532
<b>Office expenses, total</b>	<b>648,859</b>	<b>570,695</b>
<b>5 PREMISES</b>		
Rent of office	627,744	597,864
Electricity, heating	76,339	97,909
Cleaning	134,870	139,357
Repairs and maintenance	7,888	17,595
<b>Premises, total</b>	<b>846,841</b>	<b>852,725</b>
<b>6 ACCOUNTANT/ATTORNEY REMUNERATION ETC.</b>		
Accountant remuneration, Deloitte	290,000	147,500
Accountant remuneration, Office of the Auditor General	-4,440	129,850
Accountancy consultation, Deloitte	47,063	3,500
Attorney's remuneration	71,503	0
Other consultancy services	623,033	751,238
<b>Accountant/attorney remuneration etc., total</b>	<b>1,027,159</b>	<b>1,032,088</b>

	2013	2012
<b>7 EXTERNAL EXPENSES, RESEARCH ACTIVITIES</b>		
Peer review expenses	684,246	282,854
Preparation of publications	121,132	135,219
Research presentations, meetings etc.	876,872	365,498
European Science Foundation, Science Europe membership fee	173,668	172,007
<b>External expenses, research activities, total</b>	<b>1,855,918</b>	<b>955,578</b>
<b>8 OTHER EXPENSES</b>		
Travelling and accomodation	622,478	646,291
Advertising	14,506	29,209
Entertainment expenses, gifts	7,259	33,485
Courses	80,569	42,852
Insurance	92,172	92,241
Cost of staff and board	82,602	86,355
<b>Other expenses, total</b>	<b>899,586</b>	<b>930,433</b>
<b>9 DEPRECIATION</b>		
Leasehold improvements, see note 10	33,260	33,260
Office furniture and equipment, see note 10	39,742	39,742
<b>Depreciation, total</b>	<b>73,002</b>	<b>73,002</b>

	Leasehold improvements	Office equipment and furniture	Total
<b>10 TANGIBLE FIXED ASSETS</b>			
Acquisition cost, January 1, 2013	1,545,734	1,009,388	2,555,122
Additions	0	0	0
Disposals	0	0	0
Acquisition cost, December 31, 2013	1,545,734	1,009,388	2,555,122
Depreciation, accumulated, January 1, 2013	-1,445,953	-932,388	-2,378,341
Depreciation for the year	-33,260	-39,742	-73,002
Reversed depreciation, disposals for the year	0	0	0
Depreciation, accumulated, December 31, 2013	-1,479,213	-972,130	-2,451,343
<b>Book value at year-end</b>	<b>66,521</b>	<b>37,258</b>	<b>103,779</b>

	Other investments	Deposits	Total
<b>11 FIXED ASSET INVESTMENTS</b>			
Acquisition cost, January 1, 2013	1,773,954	210,172	1,984,126
Additions	0	0	0
Disposals	0	1,076	1,076
Acquisition cost, December 31, 2013	1,773,954	211,248	1,985,202
Value adjustments, accumulated, January 1, 2013	-1,755,051	0	-1,755,051
Value adjustment for the year	32,325	0	32,325
Reversed value adjustments, disposals for the year	0	0	0
Value adjustments, accumulated, December 31, 2013	-1,722,726	0	-1,722,726
<b>Book value at year-end</b>	<b>51,228</b>	<b>211,248</b>	<b>262,476</b>

Other investments include 0.005% of the capital stock of a listed research- and development company, previously received as remuneration for intellectual property rights. The value of the investment is the listed value as of December 31.

	2013	2012
<b>12 SECURITIES, BONDS</b>		
<b>Asset classes</b>		
Danish bonds	1,255,930,710	1,341,119,910
European corporate bonds	348,070,610	377,239,795
Global inflation-linked bonds	716,118,608	765,202,030
<b>Bonds, total</b>	<b>2,320,119,928</b>	<b>2,483,561,735</b>
<b>Danish bonds</b>		
<b>Distribution by type of security:</b>		
Mortgage bonds	998,320,030	843,305,150
Government bonds	257,610,680	497,814,760
	<b>1,255,930,710</b>	<b>1,341,119,910</b>

Option adjusted duration December 31, 2013: 5.46 (December 31, 2012: 5.61)



**European corporate bonds****Distribution by rating category and forward currency contract:**

	2013	2012
AA	8,651,890	10,485,951
A	95,833,640	112,643,092
BBB	244,381,015	253,873,146
Forward currency contracts, EUR	-212,693	-160,926
Forward currency contracts, USD	127,136	92,729
Interest rate futures, EUR	-769,157	284,316
Interest-rate futures, USD	58,779	21,487
	348,070,610	377,239,795

Rating category according to Standard & Poor's Long-Term Credit Rating.

Option adjusted duration, December 31, 2013: 4.17 (December 31, 2012: 4.02).

**Global inflation-linked bonds****Distribution by country and forward currency contract:**

Canada	14,496,539	21,585,744
Germany	74,769,837	77,839,243
France	143,854,835	219,057,377
Great Britain	142,876,924	199,881,806
Japan	28,925,682	19,352,125
Sweden	8,415,825	9,692,341
USA	289,444,202	215,572,123
Australia	12,766,545	0
Forward currency contracts, CAD	224,036	189,034
Forward currency contracts, EUR	-142,956	-38,000
Forward currency contracts, GBP	-626,587	1,272,192
Forward currency contracts, JPY	815,465	585,739
Forward currency contracts, SEK	-167,051	-204,541
Forward currency contracts, USD	424,551	416,847
Forward currency contracts, AUD	40,761	0
	716,118,608	765,202,030

Option adjusted duration, December 31, 2013: 4.64 (December 31, 2012: 5.70).

	2013	2012
<b>13 SECURITIES, EQUITIES</b>		
<b>Distribution by type of security and forward currency contract</b>		
Exchange Traded Fund, db x-tracker, Ethical MSCI Index	1,088,682,794	1,117,711,754
Danske Invest Global Index	58,614,840	47,001,723
Danske Invest Global Emerging Markets I	138,168,740	183,445,881
Forward currency contracts, JPY	3,408,693	4,200,089
Forward currency contracts, USD	5,916,655	4,561,431
<b>Equities, total</b>	<b>1,294,791,722</b>	<b>1,356,920,878</b>
<b>14 LIQUID FUNDS</b>		
Cash	4,511	5,457
Current bank accounts	798,852	624,677
Portfolio accounts	15,798,773	8,849,559
<b>Liquid funds, total</b>	<b>16,602,136</b>	<b>9,479,693</b>
<b>15 NET CAPITAL</b>		
Net capital, January 1	3,871,485,730	3,881,535,740
Loss for the year	-220,849,185	-10,050,010
<b>Net capital, December 31, total</b>	<b>3,650,636,545</b>	<b>3,871,485,730</b>

## 16A DISTRIBUTION OBLIGATIONS

2013 distributions and total grants, DKK thousand

Grant No		Ordinary distribution period 1	Ordinary distribution period 2	Embedment/ extension	Grants total	Disbursed 2013	Residual disbursement, expected
<b>Centers established in 1993/94</b>							
1.	Søren Kierkegaard Research Center	27,739	55,404	6,250	89,393		*
2.	The Danish Epidemiology Science Center	41,932	42,302	11,850	96,084		*
3.	Center for Labour Market and Social Research	25,127		1,293	26,420		*
4.	Theoretical Astrophysics Center	47,340	37,961	2,084	87,385		*
5.	Center for Atomic Physics	53,999	42,888	3,011	99,898		*
6.	Center for Atomic-Scale Materials Physics	39,595	48,335	1,804	89,734		*
7.	Center for Basic Research In Computer Science	32,608	15,925		48,533		*
8.	International Research Centre for Computational Hydrodynamics	43,950		4,586	48,536		*
9.	Danish Center for Remote Sensing	50,742			50,742		*
10.	Danish Lithosphere Center	71,874	77,853	23,800	173,527		*
11.	Danish Center for Experimental Parasitology	48,013	40,487	12,729	101,229		*
12.	Center for Biological Sequence Analysis	25,271	35,000		60,271		*
13.	Center for Biomolecular Recognition	35,080			35,080		*
14.	The Copenhagen Muscle Research Center	72,326	83,397	1,681	157,404		*
15.	Center for Sensory-Motor Interaction	25,000	42,958	21,371	89,329		*
16.	Center for Sound Communication	22,713	23,520	1,655	47,888		*
17.	Center for Crystallographic Studies	25,451	29,062	1,065	55,578		*
18.	Center for Enzyme Research	22,472		809	23,281		*
19.	Center for Gene Regulation and Plasticity of Neuro-Endocrine Network	37,571		2,442	40,013		*
20.	Center for Semiotic Research	12,741		5,000	17,741		*
21.	Copenhagen Polis Center	7,991	10,078	636	18,705		*
22.	Center for Maritime Archaeology	40,364	50,047		90,411		*
23.	Economic Policy Research Unit	17,921	14,654	5,020	37,595		*
	To be carried forward	827,820	649,871	107,086	1,584,777	0	0

## 16A DISTRIBUTION OBLIGATIONS

2013 distributions and total grants, DKK thousand

Grant No		Ordinary distribution period 1	Ordinary distribution period 2	Embedment/ extension	Grants total	Disbursed 2013	Residual disbursement, expected
	Brought forward	827,820	649,871	107,086	1,584,777	0	0
<b>Other activities</b>							
24.	The National Center for Register-Based Research	11,573	15,000		26,573		*
25.	Statistics Denmark, Research Unit Aarhus	7,090	3,122		10,212		*
26.	Research Machine, Statistics Denmark	1,357			1,357		*
27.	ERAS (Danish Data Archives)	6,401			6,401		*
28.	Research School, Århus	74,913		20,161	95,074		*
29.	Research School, Aalborg	39,572			39,572		*
30.	Danish National Birth Cohort	17,990			17,990		*
<b>Centers established in 1997/98</b>							
31.	Center for Solid Phase Organic Combinatorial Chemistry	20,527	18,928	577	40,032		*
32.	Center for Catalysis	24,986	26,857	3,044	54,887		*
33.	Center for Plant-Microbe Symbiosis	22,799		1,320	24,119		*
34.	Center for Demographic Research	34,987			34,987		*
35.	The Danish Center for Earth System Science	49,718		9,569	59,287		*
36.	Network in Mathematical Physics and Stochastics	23,519	6,937	5,863	36,319		*
37.	Center for Molecular Plant Physiology	40,000	45,597	3,961	89,558		*
38.	Center for Experimental Bioinformatics	34,603	35,674		70,277		*
39.	Center for Human-Machine Interaction	25,027			25,027		*
<b>Centers established in 2001</b>							
40.	Center for Metal Structures in 4 Dimensions	36,572	32,525	1,300	70,397		*
41.	Center for Nucleic Acid (NAC)	34,307	32,550		66,857		*
42.	Center for Applied Microeconometrics	24,787		1,936	26,723		*
43.	Center for Biomembrane Physics	35,137	27,316	3,140	65,593		*
44.	Center for Quantum Optics	29,800	42,071	8,724	80,595	3,742	0
	To be carried forward	1,423,485	936,448	166,681	2,526,614	3,742	0



## 16A DISTRIBUTION OBLIGATIONS

2013 distributions and total grants, DKK thousand

Grant No		Ordinary distribution period 1	Ordinary distribution period 2	Embedment/ extension	Grants total	Disbursed 2013	Residual disbursement, expected
	Brought forward	1,423,485	936,448	166,681	2,526,614	3,742	0
45.	The Water and Salt Research Center	32,503	19,379	14,001	65,883		*
46.	Quantum Protein Center	30,468		5,311	35,779		*
47.	Center of Functionally Integrative Neuroscience	33,765	40,864	1,334	75,963		*
48.	Wilhelm Johannsen Center for Functional Genome Research	30,226	29,453	144	59,823	-12	*
<b>Centers established in 2002</b>							
49.	Center for the Study of Cultural Heritage of Medieval Rituals	15,209	10,813	1,393	27,415		*
50.	Center for Black Sea Studies	17,292	16,321	1,316	34,929		*
51.	Center for Subjectivity Research	17,416	14,691	4,271	36,378		*
<b>Initiatives established in 2003</b>							
52.	National Platform for Integrative Biology	17,909			17,909		*
<b>Centers established in 2005</b>							
53.	Nordic Center for Earth Evolution	43,954	45,440		89,394	8,968	14,863
54.	Center for Individual Nanoparticle Functionality	38,942	45,190		84,132	9,246	14,154
55.	Center for Inflammation and Metabolism	25,824	30,000		55,824	6,133	9,288
56.	Center for Genotoxic Stress	39,533	26,000		65,533	4,674	1,689
57.	Center for Social Evolution	32,827	45,206		78,033	5,528	12,309
58.	Center for mRNP Biogenesis and Metabolism	39,264	40,594		79,858	6,433	8,615
59.	Center for Insoluble Protein Structures	39,934	40,026		79,960	9,071	10,904
60.	Center for Oxygen Microscopy and Imaging	22,228	28,026		50,254	4,673	7,184
61.	Center for Viscous Fluid Dynamics	38,391	30,001		68,392	5,643	12,212
	To be carried forward	1,939,170	1,398,452	194,451	3,532,073	64,099	91,218

## 16A DISTRIBUTION OBLIGATIONS

2013 distributions and total grants, DKK thousand

Grant No		Ordinary distribution period 1	Ordinary distribution period 2	Embedment/ extension	Grants total	Disbursed 2013	Residual disbursement, expected
	Brought forward	1,939,170	1,398,452	194,451	3,532,073	64,099	91,218
62.	Dark Cosmology Center	49,162	65,123		114,285	14,729	21,193
63.	Center for Language Change in Real Time	29,757	41,202		70,959	7,776	11,868
64.	Center for Textile Research	19,387	23,272	2,073	44,732	4,565	8,216
65.	Center for Models of Life	22,053	30,090		52,143	4,973	14,066
66.	Danish Arrhythmia Research Center	29,692	40,000		69,692	6,492	11,636
67.	Center for Sustainable and Green Chemistry	18,320		6,477	24,797		*
68.	Center for Molecular Movies	29,606		5,813	35,419	1,194	0
<b>Niels Bohr Professorships established in 2006</b>							
69.	David Arnot, University of Copenhagen	18,915		1,093	20,008		*
70.	Dale T. Mortensen, Aarhus University	12,630			12,630		*
71.	Nikolai Reshetikhin, Aarhus University	21,118			21,118		*
72.	Christopher Frith, Aarhus University	12,136		897	13,033	-4	*
73.	Cathie Martin, University of Copenhagen	11,044		5,779	16,823		*
74.	Hassan Aref, Technical University of Denmark	10,642		153	10,795	78	*
<b>DNRF Professorships established in 2007</b>							
75.	Steen Rasmussen, University of Southern Denmark	21,164		910	22,074	910	*
76.	Jørgen S. Nielsen, University of Copenhagen	18,872		218	19,090	218	*
77.	John Couchman, University of Copenhagen	19,811		2,106	21,917		*
<b>Centers established in 2007</b>							
78.	Center for Research in Econometric Analysis of Time Series	40,204	40,000		80,204	8,491	24,076
79.	Center for Carbohydrate Recognition and Signalling	45,581	45,000		90,581	8,942	28,266
80.	Center for Comparative Genomics	6,363		10,126	16,489		*
81.	Center for DNA Nanotechnology	44,501	50,000		94,501	9,827	30,193
82.	Center for Epigenetics	61,029	50,000		111,029	12,365	36,052
83.	Center for Ice og Climate	60,985	55,000		115,985	10,977	38,924
84.	Center for Massive Data Algorithmics	32,541	40,000		72,541	7,515	27,591
85.	Pumpkin-Membrane Pumps in Cells and Disease	56,296	50,000		106,296	11,090	30,737
	To be carried forward	2.630.979	1,928,139	230,096	4,789,214	174,237	374,036

## 16A DISTRIBUTION OBLIGATIONS

2013 distributions and total grants, DKK thousand

Grant No		Ordinary distribution period 1	Ordinary distribution period 2	Embedment/ extension	Grants total	Disbursed 2013	Residual disbursement, expected
	Brought forward	2,630,979	1,928,139	230,096	4,789,214	174,237	374,036
<b>Joint funding</b>							
86.	National Natural Science Foundation of China (NSFC), seminars	641			641		*
86-1.	NSFC, Danish-Chinese Center for Proteases and Cancer	11,534	10,000		21,534	3,156	2,423
86-2.	NSFC, Danish-Chinese Center of Breast Cancer Research	12,681	10,000		22,681	3,535	2,899
86-3.	NSFC, Danish-Chinese Center for Molecular Nanostructures on Surfaces	14,755	10,000		24,755	3,385	8,828
86-4.	NSFC, Danish-Chinese Center for Molecular Nanosystems	14,536	10,000		24,536	3,623	7,149
86-5.	NSFC, Danish-Chinese Center for Nanometals	13,589	10,000		23,589	3,743	4,880
86-6.	NSFC, Danish-Chinese Center for Proton Conducting Systems	14,537			14,537	2,597	*
86-7.	NSFC, Danish-Chinese Center for Organic-based photovoltaic cells	15,000	10,000		25,000	4,142	9,788
86-8.	NSFC, Danish-Chinese Center for Appl. of Algebraic Geometry	11,221		1,833	13,054	6,246	1,833
86-9.	NSFC, Danish-Chinese Center for the Theory of Interactive Comp.	14,908			14,908	5,672	1,574
86-10.	NSFC, Danish-Chinese Center for IDEA4CPS	14,399	10,000		24,399	5,383	13,468
87.	Max Planck Society, Center for Geomicrobiology	24,029			24,029		*
<b>Course activities for center leaders/outreach program</b>							
88.	Management course/communication	3,550			3,550	531	1,366
<b>Centers established in 2009/2010</b>							
89.	Center on Autobiographical Memory Research	42,085			42,085	7,827	12,652
90.	Center for Cosmology and Particle Physics Phenomenology	40,000			40,000	11,410	9,932
91.	Center for Particle Physics	40,000			40,000	9,951	8,634
92.	Center for Symmetry and Deformation	50,104			50,104	13,462	17,000
93.	Center for Materials and Crystallography	50,000			50,000	13,071	9,984
94.	Center for Geogenetics	50,210			50,210	12,374	4,342
	To be carried forward	3,068,758	1,998,139	231,929	5,298,826	284,345	490,788

## 16A DISTRIBUTION OBLIGATIONS

2013 distributions and total grants, DKK thousand

Grant No		Ordinary distribution period 1	Ordinary distribution period 2	Embedment/ extension	Grants total	Disbursed 2013	Residual disbursement, expected
	Brought forward	3,068,758	1,998,139	231,929	5,298,826	284,345	490,788
95.	Center for Quantum Geometry of Moduli Spaces	54,271			54,271	11,458	10,526
96.	Center for Macroecology, Evolution and Climate	60,487			60,487	11,668	16,276
97.	Center for Star and Planet Formation	38,400			38,400	11,208	2,821
<b>Centers established in 2013</b>							
98.	Centre for Medieval Literature	36,000			36,000	4,881	28,447
99.	Center for Dynamic Molecular Interactions (DynaMo)	49,000			49,000	6,178	39,332
100.	Center for Permafrost (CENPERM)	60,000			60,000	14,019	35,009
101.	Center for Quantum Devices (QDev)	64,415			64,415	9,129	41,290
102.	Center for Financial Frictions (FRIC)	48,000			48,000	5,585	40,125
103.	Center for Nanostructured Graphene (CNG)	54,000			54,000	11,267	37,367
104.	Center for Geomicrobiology	58,149			58,149	10,368	45,267
105.	Center for International Courts (iCourts)	42,000			42,000	4,580	35,039
106.	Stellar Astrophysics Center (SAC)	55,000			55,000	5,948	46,035
107.	Copenhagen Center for Glycomics (CCG)	62,000			62,000	10,265	41,518
108.	Center for Vitamins and Vaccines (CVIVA)	58,000			58,000	9,883	44,352
<b>Niels Bohr Professorships established in 2013</b>							
109.	Anna Tsing, Aarhus University	29,000			29,000	1,539	27,461
110.	David Needham, University of Southern Denmark	29,000			29,000	3,977	25,023
111.	Lars Hesselholt, University of Copenhagen	30,000			30,000	2,315	27,685
112.	Charles Lesher, Aarhus University	29,952			29,952	1,347	28,605
113.	Jaan Valsiner, Aalborg University	20,000			20,000	1,680	18,320
114.	Subir Sarkar, University of Copenhagen	29,000			29,000	1,399	27,601
		3,975,432	1,998,139	231,929	6,205,500	423,039	1,108,887

The number of grants listed in the key figures includes the Centers of Excellence, the joint funding activities and the Niels Bohr Professorships, listed on pages 24-30. Grants terminated before December 2013 are marked with a \*.

All payments are subject to a contractual qualification that the foundation has to receive the expected and required revenue.



## 16B DISTRIBUTION OBLIGATIONS

Annual disbursements, DKK thousand:	Disbursed	Expected disbursements to activities listed above	Total
1993	19,133		
1994	141,708		
1995	154,509		
1996	176,194		
1997	200,876		
1998	247,751		
1999	243,346		
2000	224,484		
2001	228,789		
2002	256,877		
2003	239,916		
2004	173,489		
2005	195,185		
2006	195,225		
2007	242,803		
2008	321,277		
2009	274,998		
2010	387,270		
2011	358,754		
2012	390,990		
2013	423,039		
2014		451,281	
2015		313,038	
2016		200,599	
2017		122,428	
2018		21,541	
	5,096,613	1,108,887	6,205,500

The disbursements specified above are distributed according to the expected year of disbursement.

Disbursements are made on the basis of the grant holders' revised budgets. In consequence, the final presentation of accounts to the foundation may result in adjustments of the disbursements for the following years.

## 16C EXPECTED DISTRIBUTIONS 2014-2018

In addition to the distribution obligations listed in notes 16a and 16b, new centers will be established in 2015 and 2017 as a result of the current 8th application round and the 9th application round, which will be announced in 2015. In the period 2014-2018, total distributions are expected to be as follows:

	MDKK
2014	430
2015	498
2016	453
2017	474
2018	456
	<u>2,311</u>

## 17 CONTINGENT LIABILITIES

The foundation has to give six months' notice to terminate the tenancy agreement. The obligation amounts to DKK 323,274.

The foundation has entered into forward currency contracts for the purchase and sale of the following currencies (amounts calculated in the currencies in question):

	2013	
Currency	Purchase	Sale
AUD	126,000	2,440,628
USD	12,208,810	145,923,807
JPY	0	2,057,440,802
CAD	0	3,800,000
EUR	2,635,000	79,104,857
GBP	4,200,000	21,075,000
SEK	202,000	20,000,000
	2012	
Currency	Purchase	Sale
USD	392,000	125,480,852
JPY	0	1,478,428,145
CAD	45,000	3,810,000
EUR	100,000	88,481,000
GBP	0	21,828,000
SEK	0	11,000,000

The market price of the forward currency contracts as of December 31 is set at the value of the securities in question, see notes 12 and 13.

The foundation has entered into interest-rate futures for the purchase and sale of the following, calculated in the currencies in question:

	2013	
Currency	Purchase	Sale
USD	0	500,000
EUR	5,500,000	1,000,000
	2012	
Currency	Purchase	Sale
USD	0	400,000
EUR	6,800,000	0

The market price of the interest-rate futures as of December 31 is set at the value of the securities in question, see note 12.

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ISBN: 978-87-989527-5-6

#### **Audit**

The annual accounts of the foundation must be audited by the Auditor General and a state authorised public accountant to be appointed by the board for a term of three years. The appointment is subject to approval by the Minister for Higher Education and Science. Jens Sejer Pedersen, State Authorised Public Accountant is appointed for the period May 1, 2013 – April 30, 2016.

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#### **Cover photo**

Magritte, René (1898-1967): La clairvoyance  
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#### **Design**

Ineo Designlab / [www.ineo.dk](http://www.ineo.dk)

#### **Print**

We Produce / [www.weproduce.dk](http://www.weproduce.dk)

#### **Paper**

Tom&Otto  
Cover: 300 g. Pages: 150 g.  
Printed by an ISO 14001 certified printer.



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