novo nordisk fonden

Benefiting people and society

Grant Report 2018

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Novo Nordisk Foundation Grant Report 2018

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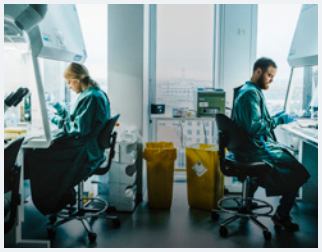

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Foreword

Benefiting people and society

Lars Rebien Sørensen, Chairman, Novo Nordisk Foundation

2018 was another year of record activity for the Novo Nordisk Foundation. We further increased our annual payouts, received a record-high number of applications and adopted a new grant strategy for the years 2019–2023.

Essentially, we are supporting projects that have the potential to improve people's lives and the sustainability of society.

In 2018, we have supported projects in a broad range of fields such as medical science, natural science, biotechnology, diabetes treatment, education and innovation and social and humanitarian causes.

Our payouts of DKK 1.7 billion in 2018 are the highest amount in the history of the Foundation, up from DKK 1.3 billion in 2017.

Our new initiatives in 2018 include establishing LIFE, a major not-for-profit learning centre that will provide science education resources free of charge to schools throughout Denmark. Christine Antorini, Denmark's former Minister of Education, has been appointed Director of LIFE.

Another new initiative was significantly expanding the Foundation's Research Leader Programme aimed at research leaders at all stages of their careers. The Foundation awards grants in open competition under the Programme, to which DKK 2.4 billion has now been allocated over 5 years. Once fully implemented, the Programme will support up to 240 research leaders.

To match our grant ambitions and the desire to support new areas, we strengthened our organization in 2018. This includes establishing new scientific committees to ensure the highest possible quality in our awarding of grants.

In May 2018, the Board of Directors adopted the Foundation's new strategy, which establishes the framework for the Foundation's activities and grants for the next 5 years from 2019 to 2023. Our ambition is to increase the Foundation's total annual payouts to about DKK 5 billion in 2023.

The performance of the companies in the Novo Group, Novo Nordisk and Novozymes, and successful investments by Novo Holdings – the Foundation's holding and investment company – continue to enable the increases in grants.

We will broaden our scope

In the coming years, we plan to support more scientific areas than previously. We will continue to support research, treatment and development that can improve people's lives. In addition, we will now also focus more on education, innovation and areas that can contribute to creating greater sustainability in society.

The Foundation will continue to focus its activities with Denmark and the other Nordic countries as the centre of gravity while also stimulating international collaborations.

This booklet provides information on our 2018 activities, including facts and figures, examples of projects funded, our grant-awarding policy and an overview of our scientific committees. 2018 is the last year of the old strategy period which ran from 2014 to 2018.

We hope you will enjoy reading this overview.

Best regards,

Lars Rebien Sørensen
Chairman, Board of Directors

The Strategy 2014–2018

The Grant Report 2018 describes the grant awarding activity of the Foundation and is the last year in the Strategy 2014–2018.

The Novo Nordisk Foundation Strategy 2014–2018 contained pay-out ambitions, development targets and prioritized actions for the Foundation and six strategic grant-giving goals. It also implied grant-awarding within 4 overall grant categories: Research & Innovation Grants (in open competition), Strategic Awards (Thematic Grants), Steno Grants and Humanitarian & Social Grants.

The pay-out has increased from DKK 0.7 billion in 2014 to DKK 1.7 billion in 2018. The annual amount of grant-awarding has increased from DKK 1.0 billion in 2014 to DKK 3.9 billion in 2018.

The number of committees to implement the grants that the Board has decided to award increased from 10 in 2014 to 24 in 2018.

Example of large initiatives are:

- Steno Diabetes Centres in all Danish administrative regions
- LIFE
- BioInnovation Institute
- The National Genome Center Infrastructure
- Open competition infrastructure programme
- Expansion of research centres
- Development and expansion of Research Leader Programme
- Expansion of Challenge Programme
- Expansion of Social and Humanitarian Grant-awarding

Strategic grant-giving goals:

- Strengthen biomedical and biotechnology research in selected fields
- Fuel cross-disciplinarity
- Advance individual scientific excellence
- Spur imagination, inspiration and knowledge about science and technology
- Build bridges between scientific discoveries and their commercial applications
- Achieve social and humanitarian impact

Facts and figures 2018

Read more ❯

DKK 3,891 million awarded

DKK 1,749 million paid out

2,614 applications received

463 grants awarded

Grants awarded in open competition by administrative region in Denmark, 2018

***DKK million**

North Denmark Region

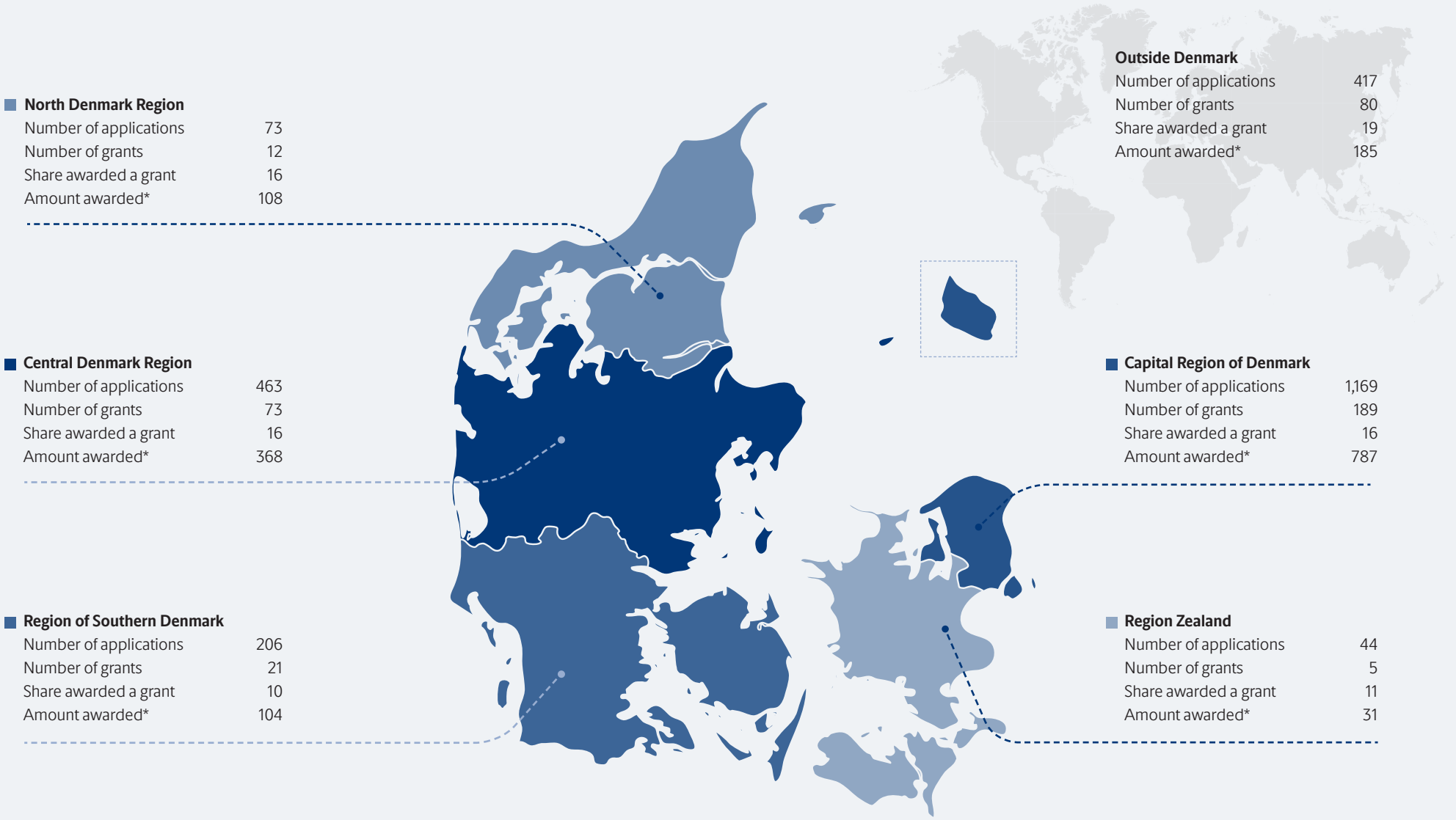
Number of applications	73
Number of grants	12
Share awarded a grant	16
Amount awarded*	108

Central Denmark Region

Number of applications	463
Number of grants	73
Share awarded a grant	16
Amount awarded*	368

Region of Southern Denmark

Number of applications	206
Number of grants	21
Share awarded a grant	10
Amount awarded*	104



Outside Denmark

Number of applications	417
Number of grants	80
Share awarded a grant	19
Amount awarded*	185

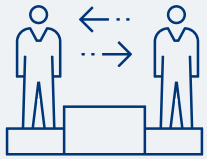
Capital Region of Denmark

Number of applications	1,169
Number of grants	189
Share awarded a grant	16
Amount awarded*	787

Region Zealand

Number of applications	44
Number of grants	5
Share awarded a grant	11
Amount awarded*	31

Grants awarded in open competition within research, education and innovation



1,499

DKK million

Strategic Awards within research, education and innovation

1,397

DKK million

Amount granted in 2018 by focus areas

In 2018, the Foundation received 2317 applications in open competition and 297 applications for strategic awards, an increase of 30% from 2017. 380 were awarded a grant in open competition, and 83 grants were strategic grants. The average share awarded a grant in open competition was 16%.

Steno Grants

903

DKK million

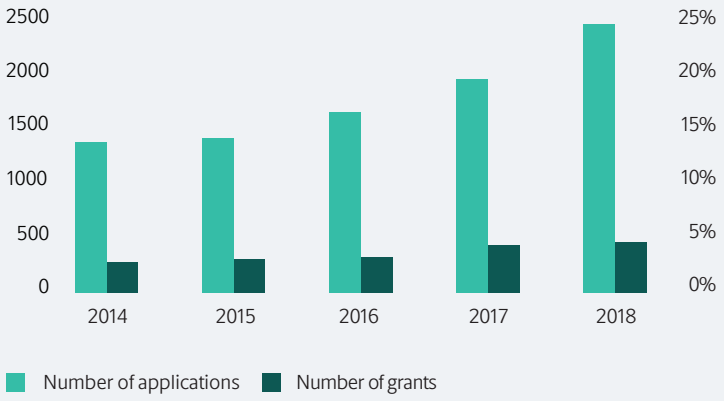
Social and humanitarian Grants

92

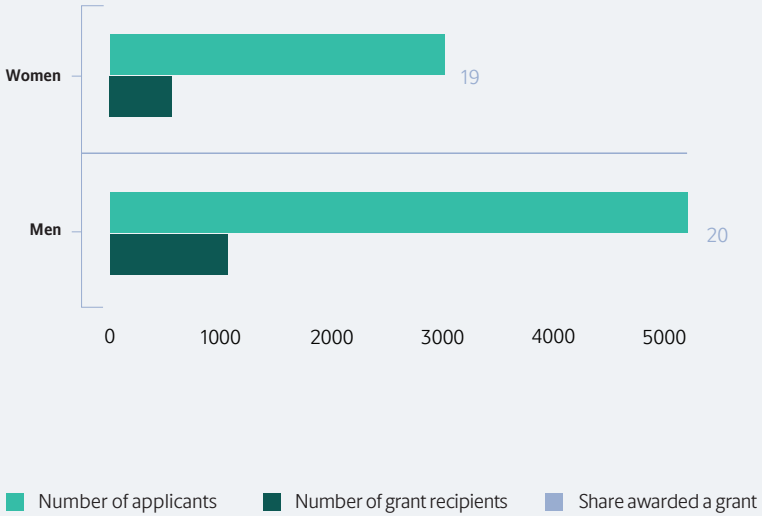
DKK million

Development in grant-awarding activities, Strategy 2014–2018

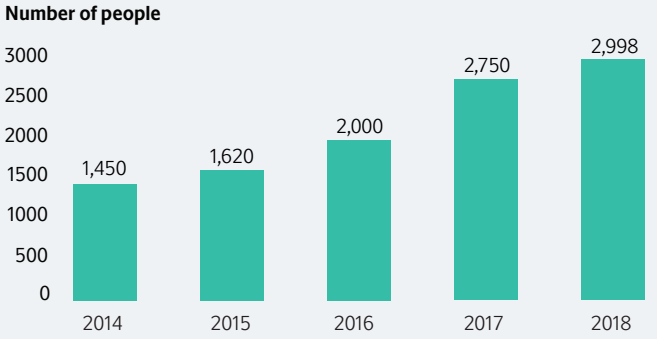
*Excludes unsolicited applications



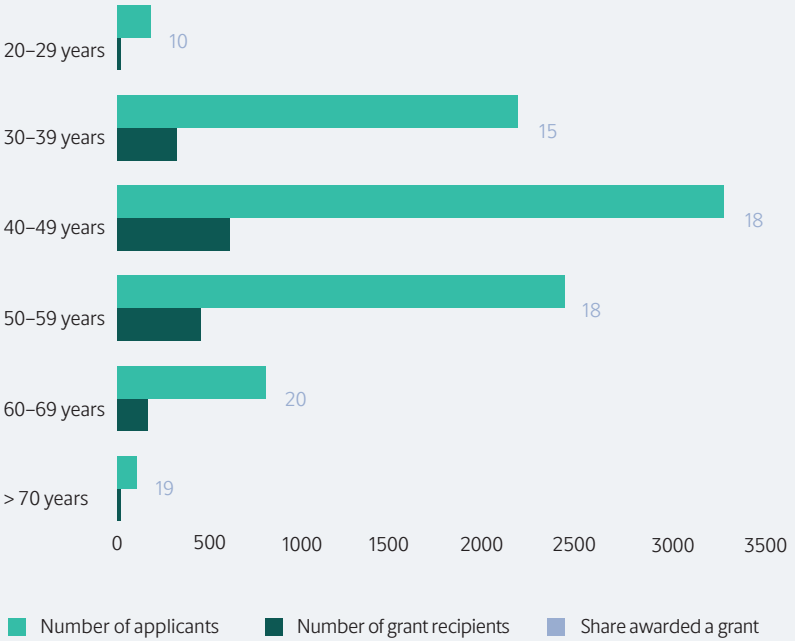
Grant recipients by gender, Strategy 2014–2018



Number of employees either fully or partly funded by Foundation grants, Strategy 2014–2018



Grant recipients by age, Strategy 2014–2018



The Foundation's grants and payouts, Strategy 2014–2018

*DKK million

In 2018, a new strategy was approved covering the years 2019–2023.

The focus areas and long-term objectives in the new Strategy 2019–2023

Biomedical and health science research and applications
Enable people to live healthier and better lives by facilitating research that advances knowledge of human health and diseases, solves health challenges and develops the healthcare system.

Patient-centred and research-based care
Make Denmark a global leader in delivering patient-centred and research-based care for people with diabetes and facilitate the development of patient-centred and research-based care within diabetes comorbidities and other endocrine disorders.

Life science research and industrial applications promoting sustainability
Act to promote and inspire the development of a more sustainable world by supporting research that translates into life science solutions to benefit people and the environment.

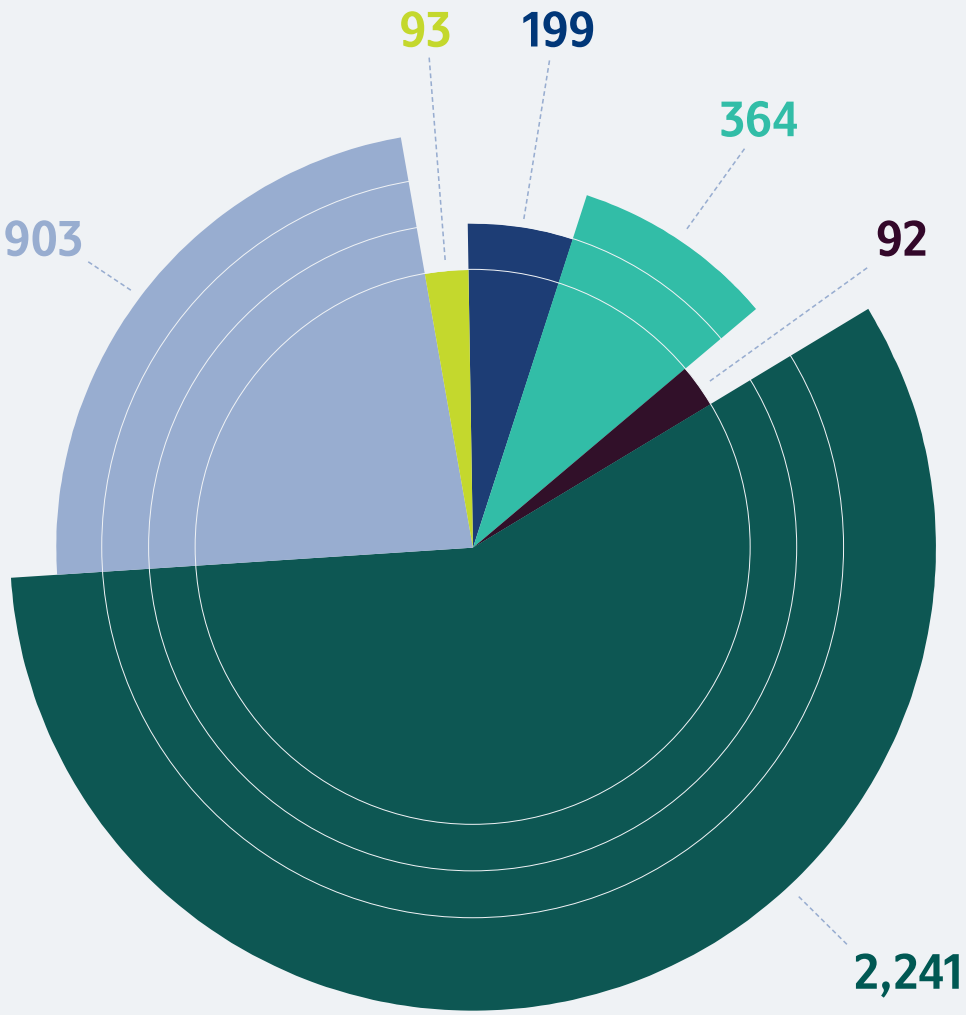
Natural and technical science research and interdisciplinarity
Catalyse natural and technical science research, especially in fields with potential interdisciplinary application to the life and health sciences and industrial biotechnology.

Education, outreach and innovation
Support general science education and cultivate scientific and technical competencies and engagement. To benefit people, promote life science ecosystems that translate scientific discoveries into products and solutions and drive growth.

Social, humanitarian and development aid
Improve the lives and prospects of vulnerable children and young people through education, developing competencies and other interventions.

Amount granted in 2018 by focus areas in the new Strategy 2019–2023

***DKK million**



- Biomedical and health science research and applications
- Patient-centred and research-based care
- Life science research and industrial applications promoting sustainability
- Natural and technical science research and interdisciplinarity
- Education, outreach and innovation
- Social, humanitarian and development aid

Grants awarded

Biomedical and health science research and applications		**268**	**DKK 2,240,595,887**
Grant type	**Grant instrument**	**Number of grants**	**Amount awarded (DKK)**
Prize and symposium	The Novo Nordisk Prize and Prize Symposium	2	3,500,000
Prize and symposium	The Novo Nordisk Foundation Symposia	7	2,289,607
Prize	The Marie and August Krogh Prize	1	1,500,000
Prize	The Hagedorn Prize	1	1,500,000
Prize	Novo Nordisk Foundation Lecture	1	600,000
Prize and symposium	The Jacobæus Prize and Symposium	2	1,700,000
Pre-graduate scholarship	Scholarship	26	3,605,200
PhD scholarship	Research Education: Copenhagen Bioscience PhD Programme – DanStem and CBMR	2	16,720,000
Postdoctoral fellowship	Postdoctoral fellowships for Research Abroad	7	27,359,516
Project	Project Grants in Bioscience and Basic Biomedicine	51	80,000,000
Project	Project Grants in Clinical and Translational Medicine	31	60,000,000
Project	Endocrinology and Metabolism – Nordic countries	53	80,000,000
Programme	Tandem Programme	4	59,764,640
Programme	Investigator Initiated Clinical Trials (IICT)	11	80,000,000
Programme	Challenge Programme (CP)	5	299,941,281
Programme	Interdisciplinary Synergy Programme (ISP)	2	29,538,232
Programme	Research Awards: Genetic variants associated with changes in human health: an ancient genomics approach	1	20,000,000
Investigator grant	Laureate Research Grant	2	100,000,000
Investigator grant	Borregaard Clinical Research Scholarship	4	19,875,410
Investigator grant	Advanced Grant – ENDO	1	10,000,000
Investigator grant	Young investigator award	2	50,000,000
Investigator grant	Distinguished Investigator Grant	4	39,806,474
Investigator grant	Hallas-Møller scholarship	8	79,965,814
Investigator grant	Research Stipends in General Practice	2	3,196,856
Investigator grant	Excellence project – Endocrinologic research – Nordic countries	4	20,000,000
Infrastructure	National Genome Center Infrastructure	2	132,100,000
Infrastructure	Infrastructure	3	35,398,270
Cluster centre	Cluster Centre: Center for Basic Metabolic Research	1	700,000,000
Education programme	BRIDGE Translational Excellence Programme	1	46,000,000
Education programme	Improving Quality of Laboratory Learning at University Level	1	9,317,650
Fellowship programme	BioMedical Design Novo Nordisk Foundation Fellowship programme	1	81,626,267
Programme	National Elite Sports Center	1	100,000,000
Project	Thematic stand-alone	3	13,350,000
Coferences, Symposia and Workshops	Sponsorship	3	850,000
Network	Copenhagen Bioscience Conferences	1	6,500,000
PhD scholarship	Research Education: Copenhagen Bioscience PhD Programme	1	800,000
Project	Pasteur21 – Denmark. A proof of concept Study	1	2,500,000

	Nursing		
Programme	Nursing Research Programme	1	7,500,000
PhD scholarship	PhD Scholarships in Nursing Research	3	5,400,000
Postdoctoral fellowship	Postdoctoral fellowships in Nursing Research	3	5,390,670
Project	Project Grants for Clinical Nursing Research	8	3,000,000

Patient-centred and research-based care		**18**	**DKK 902,759,118**
Grant type	**Grant instrument**	**Number of grants**	**Amount awarded (DKK)**
Prize	EASD–NNF Diabetes Prize for Excellence	2	7,000,000
Project	Steno Collaborative Grants	9	50,000,000
Diabetes center	Steno Diabetes Center Zealand	2	835,400,000
Diabetes center	Steno Diabetes Center Greenland	2	2,400,000
Diabetes center	Steno DK – implementation plan 2018–2020	1	6,500,000
Conferences, Symposia and Workshops	Steno DK Symposium	1	500,000
Project	Vulnerable patients	1	959,118

Life science research and industrial applications promoting sustainability		**26**	**DKK 93,113,544**
Grant type	**Grant instrument**	**Number of grants**	**Amount awarded (DKK)**
Prize and symposium	The Novozymes Prize and Prize Symposia	2	3,500,000
PhD scholarship	Research Education: Copenhagen Bioscience PhD Programme – CFB	1	6,270,000
Postdoctoral fellowship	Postdoctoral fellowship within for biotechnology-based synthesis and production research	7	13,400,000
Project	Project Grants in Biotechnology-based Synthesis and Production Research	14	40,000,000
Programme	Interdisciplinary Synergy Programme (ISP)	2	29,943,544

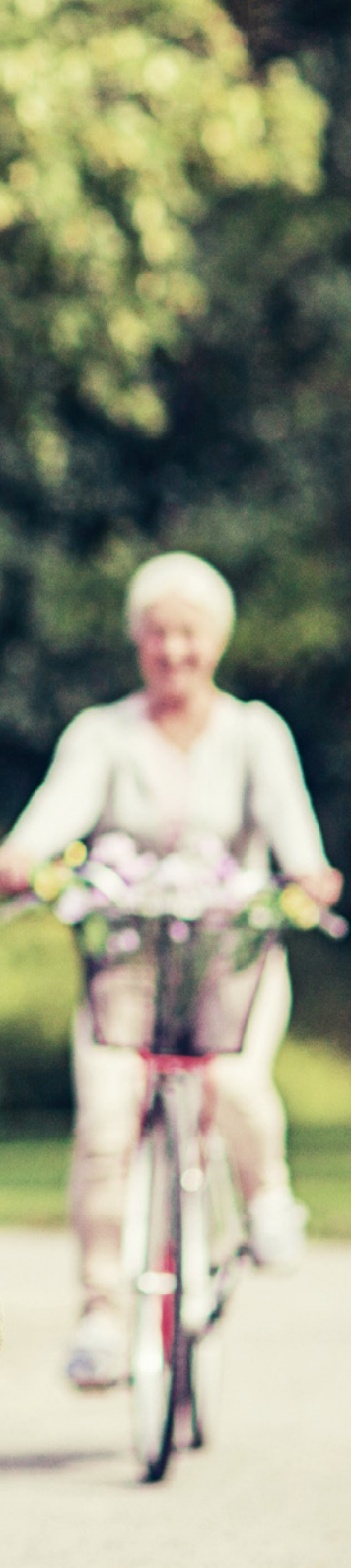
Natural and technical science research and interdisciplinarity		**14**	**DKK 198,536,245**
Grant type	**Grant instrument**	**Number of grants**	**Amount awarded (DKK)**
PhD scholarship	Research Education: Copenhagen Bioscience PhD Programme – CPR	1	10,450,000
Postdoctoral fellowship	Visiting Scholar Fellow at Standford Bio-X	2	7,775,479
Programme	Challenge programme (CP)	1	60,000,000
Programme	Interdisciplinary Synergy Programme (ISP)	1	14,644,581
Infrastructure	Infrastructure	3	39,444,450
Programme	Niels Bohr International Academy recruitment of up to five researchers	1	35,000,000
Project	Impact Space Initiative	1	800,000
Programme	Socioeconomic Impact of Research	3	29,921,735
Programme	Socioeconomic Impact of Research	1	500,000

Education, outreach and innovation		**97**	**DKK 363,740,952**
Grant type	**Grant instrument**	**Number of grants**	**Amount awarded (DKK)**
Prize	Teachers prizes	10	2,200,000
Conferences, Symposia and Workshops	Synapse LIFE Science Connect activities 2018–2021	1	732,000
Conferences, Symposia and Workshops	Centre for Artistic Research – Art Hub Copenhagen	1	2,000,000
Project	Project Grants for Natural Science Education and Outreach	19	100,000,000
Education programme	Learn, Inspire, Facinate, Engage (LIFE)	5	72,979,480
Education programme	Copenhagen Honours College for science students in the period 2018–2023	1	27,973,503
Infrastructure	Additional grant to the new SNM	1	22,000,000
Project	Fuglsang Herregård – Researcher refugium and education center	1	2,500,000
Programme	Shaping the Future of Health and Healthcare, Centre for Global Public Goods	1	10,500,000
Other	Royal Run 2019	1	2,500,000
	Art		
PhD scholarship	Mads Øvlisen PhD Scholarship	5	8,846,780
Postdoctoral fellowship	Mads Øvlisen Postdoctoral Fellowship	4	5,759,551
Project	Project Grants for Art History Research	4	2,000,000
Programme	Visiting Professorship in Art and Art History	2	2,483,261
Investigator grant	Investigator Grant in Art History Research	2	7,468,082
	Innovation		
Project	Exploratory Pre-seed grants (XPS)	18	8,970,100
Project	Pre-seed grants	7	24,500,000
Programme	Proof of Concept Program (BII)	8	7,499,300
Programme	Incubator program (BII)	3	29,976,780
Programme	BioInnovation Institute (BII) and Business Acceleration Academy (BAA)	1	14,852,115
Visiting internship	International Innovation – 2i	1	7,000,000
Other	The association Danmark wins – Sprint-project for pre-startups	1	1,000,000

Social, humanitarian and development aid		**40**	**DKK 92,328,880**
Grant type	**Grant instrument**	**Number of grants**	**Amount awarded (DKK)**
Support	Social	11	40,093,227
Support	Acute humanitarian	20	13,945,427
Support	Humanitarian	9	38,290,226

Better lives for people with diabetes

Steno Diabetes Center Zealand expects to treat about 10,000 people with diabetes each year. The Center will especially focus on people with diabetes who are socially disadvantaged or have mental health disorders.



Steno Diabetes Center Zealand

”Diabetes severely reduces people’s quality of life. Unfortunately, the quality of treatment varies depending on where you live. The quality of treatment therefore needs to be more uniform in all corners of the Region,” says Lise Tarnow, Executive Director of the newly established Steno Diabetes Center Zealand.

The Center, which is headquartered at Holbæk Hospital, is the fifth specialized diabetes centre in Denmark the Novo Nordisk Foundation has funded in recent years. The Steno Diabetes Centers aim to have fewer people develop diabetes and to ensure that people with diabetes have a longer and higher-quality life without complications.

The Foundation’s grant of DKK 835 million is based on an ambitious project plan for establishing and operating the Center based on the input from more than 100 health professionals, patients and representatives from other sectors in the Region. A political majority of the Zealand Regional Council approved the plan in August 2018.

”The Center is being established in new and existing buildings in Region Zealand’s four hospitals in Køge, Holbæk, Slagelse and Nykøbing Falster and in its mental health services. For us, quality and accessibility are indivisible. Establishing the Center also involves transferring some treatment to the municipalities and providing better support and resources to general practitioners and their employees to care for people with diabetes,” says Lise Tarnow, a doctor who has worked with people with diabetes for many years.

Differences in treatment

“We have identified several areas that especially need a boost in quality, including minimizing inequality in health in relation to diabetes, chronic complications and comorbidity and strengthening collaboration with mental health services,” explains Lise Tarnow.

One example she gives that clearly illustrates where quality broadly needs to be boosted is treating people with foot ulcers, a very debilitating result of diabetes. These people previously received widely differing treatment across the Region, with especially negative effects in fringe communities. Now the goal is for everyone to be offered the same high level of treatment, whether they live in Gedser, far from any hospital, or next door to Zealand University Hospital in Køge.

“We want to differentiate the improvement so that the people with the greatest need also get the most help. The people in different parts of the region have very different social and economic circumstances, and we want to compensate for this. We want to create equality in health by ensuring that we allocate resources where they are especially needed. Based on this, we especially want to focus on the most vulnerable patients, including vulnerable families with children or adolescents who have diabetes, children and adolescents with a high risk of developing diabetes, obese adults, people with mental health disorders, socially disadvantaged adults and ethnic minorities,” says Lise Tarnow.

Specifically, this will result in special initiatives in Lolland and Falster, where Nykøbing Falster Hospital will focus on reaching people with the least resources. Similarly, a special effort will be made for people with mental health disorders based at the psychiatric hospital in Slagelse by establishing a diabetes clinic inside the hospital.

The new Center opened officially on 1 January 2019. About 10,000 people are expected to receive treatment at Steno Diabetes Center Zealand each year, but the ambition is that all the approximately 45,000 people with diabetes in the Region will notice an improvement in the quality of diabetes treatment.

Executive Director Lise Tarnow

Improving treatment in Denmark and Greenland

The Novo Nordisk Foundation has awarded a total of DKK 7.375 billion (€990 million) for establishing Steno Diabetes Centers in all five administrative regions in Denmark. The vision is to create world-class treatment results for every individual patient attending the Centers.

The Foundation and Greenland’s healthcare system have also taken the initiative to establish a diabetes and lifestyle centre in Greenland.

Understanding the survival mechanisms of bacteria

In the spring of 2018, Ditlev E. Brodersen received a Hallas-Møller Ascending Investigator Grant of DKK 10 million from the Novo Nordisk Foundation. These grants support talented and independent associate professors in the effort to reach their full potential and the highest international level within their field.

Associate Professor Ditlev E. Brodersen

Novo Nordisk Foundation Research Leader Programme

The coffee and biscuits on Ditlev E. Brodersen's small meeting table provide a nice way to start a rather complicated discussion about the life and survival of microorganisms.

In April 2018, the Novo Nordisk Foundation awarded Ditlev E. Brodersen a Hallas-Møller Ascending Investigator Grant, which will provide the financial basis for the work that he and his research team will carry out over the next 5 years.

Hallas-Møller Ascending Investigator Grants are part of a major new DKK 2.4 billion Research Leader Programme initiative from the Foundation targeting the most talented researchers at all levels. The Programme comprises three types of grants aimed at research leaders at different stages of their careers – also including researchers at the associate professor level.

"Recently, the funding trend in natural science research has targeted young 'upcoming' researchers as well as the more established researchers at the peak of their research careers," explains Ditlev E. Brodersen. "The group in between, the one to which I belong, has become somewhat invisible. This is not an ideal situation, because there is lots of potential here, and this is precisely what the Hallas-Møller Ascending Investigator Grants will help to change."

The greatest threat to our health

Ditlev E. Brodersen leads a group of 10 researchers, of whom four are employed as PhD students and postdoctoral fellows in temporary positions, and the rest are BSc and MSc students. Ditlev completed his own PhD degree in 1999 at Aarhus University and spent the following 4 years at the Medical Research Council in Cambridge, UK. In 2003, he returned to the Department of Molecular Biology and Genetics. Ditlev E. Brodersen began his career as a chemist but has since specialized in biology.

"Aarhus University has one of the strongest research communities in the Nordic countries within structural biology, where we investigate the three-dimensional structure of biological molecules using various biophysical methods. This was precisely what made it attractive for me to return here," says Ditlev E. Brodersen.

Microorganisms such as bacteria, viruses and fungi strongly influence human health and welfare both positively and negatively. Gut bacteria are vital for our digestive system, nutrition and health, but microbes from the external environment can also cause health-threatening infectious diseases and constantly try to compromise our immune system to survive. To win this battle, many microorganisms have developed sophisticated defence mechanisms that allow them to overcome periods of starvation and exposure to heat or antibiotics.

"Our projects seek to understand the fundamental molecular mechanisms underlying the survival mechanisms of bacteria. This may potentially have far-reaching consequences at a time when we are increasingly challenged by the ability of bacteria to develop antibiotic resistance. To put this in perspective, WHO currently considers multidrug-resistant bacteria to be the greatest threat to our health," emphasizes Ditlev E. Brodersen.

However, this does not mean that the group's work directly targets developing antibiotics and specific treatment methods. The ultimate aim of this basic research is to provide a basis for developing future antimicrobial drugs and treatment regimens.

According to Ditlev E. Brodersen, "This is not about actual pharmaceutical research. Our work mainly results in new insight and knowledge that is disseminated through scientific articles and publications and will prove their worth in the future, such as in the form of drugs."

"The Grant is a recognition of our work and what we are striving for, and its relatively long timeframe gives us the opportunity to immerse ourselves in the field. This is vital to generate meaningful results," concludes Ditlev E. Brodersen.

Supporting researchers at all career levels

The Novo Nordisk Foundation has allocated DKK 2.4 billion (€322 million) for its Research Leader Programme aimed at research leaders at all stages of their careers.

The Programme comprises three different types of grants:

- Emerging Investigator. Young promising research leaders who want to establish or are in the process of establishing their own research group and profile.
- Ascending Investigator. Talented research leaders at the associate professor level to enable them to consolidate their research group and profile.
- Distinguished Investigator. Professors of the highest international standing and calibre.

Grants are awarded within the following four fields:

- endocrinology and metabolic research;
- biotechnology-based synthesis and production research;
- clinical and translational research; and
- bioscience and basic biomedical research.

The Foundation awards grants in open competetion under the Progamme.

LEARN, INSPIRE, FASCINATE, ENGAGE

LIFE is a new not-for-profit learning laboratory that provides education within the natural sciences and the science, technology, engineering and mathematics (STEM) disciplines free of charge to students at Denmark's primary and secondary schools. Childcare centres will also be included in the long term.

LIFE comprises a digital learning platform that includes virtual laboratories and games, a large learning centre in Lyngby, mobile laboratories designed in specially constructed semi-trailers that will travel to schools throughout Denmark and learning packages that will be disseminated to schools.

"At LIFE, we have emphasized the development of learning packages that are attractive for teachers and schools and in which the teaching motivates individual students to become interested in the natural sciences. Our laboratories especially designed for children will provide opportunities to study real problems related to the Sustainable Development Goals towards which companies and universities are also working. For example, this can be done by visiting the LIFE Center in Lyngby or by being visited by one of our future mobile laboratories that will enable students to use laboratory technology that is not available in schools," says Christine Antorini, Director of LIFE.

"Our overall goal with LIFE is to help to create motivation for the natural sciences. We want to help increase the interest in and improve the competencies of children and adolescents in learning about the natural sciences, and we hope that this will make them more interested in entering science-related educational programmes in all types of upper-secondary schools," she says.

"Our overall goal with LIFE is to help to create motivation for the natural sciences"

Christine Antorini, Director, LIFE

LIFE

In 2018, the Novo Nordisk Foundation allocated a budget of DKK 123 million to establish LIFE over 2 years. The Foundation intends to award grants of up to nearly DKK 1.6 billion to fund LIFE's activities for the following 10 years. LIFE is currently testing the learning packages and plans to initiate partnerships with Denmark's municipalities and schools in the years ahead.

Director of LIFE
Christine Antorini

Inge Storgaard Bonfils, Associate Professor and Project Manager, University College Copenhagen

Reconnect

will get young people with anxiety or depression into education or work

The Novo Nordisk Foundation has awarded a social grant of nearly DKK 20 million to the Reconnect project, which will help young people in Denmark with symptoms of anxiety or depression to reconnect with education or work.

Many young people in Denmark with symptoms of anxiety or depression have not been diagnosed by the healthcare system. They therefore often become invisible to the municipal social authorities and seldom receive professional help. In addition, they often have difficulty completing an education or finding and keeping a job.

The Reconnect project will test and evaluate a combined education, employment and psychotherapy initiative targeting 15- to 24- years-olds. The basis of the initiative is an adjustment of the evidence-based employment method called individual placement and support that has traditionally been targeted at adults with severe mental disorders. Reconnect is based at the Department of Social Work of University College Copenhagen and is being implemented and evaluated in collaboration with the Municipality of Rødovre, Regional Municipality of Bornholm, City of Copenhagen, Aalborg University and VIVE: the Danish Center for Social Science Research.

The numbers are alarming: every sixth 15- to 29-year-old Dane (186,000 people) is either not in education or not working. This excludes them from some of the most important communities in society, with an increased risk of unemployment, social exclusion and reduced quality of life. For society, this means increased public expenditure on transfer payments, treating people for illness and intervention by social authorities.

Mental health problems

Inge Storgaard Bonfils, Associate Professor and Project Manager, University College Copenhagen, explains: "Research shows that up to 60% of the young people who drop out of an educational programme or quit a job have mental health problems. Some of these young people are not specifically diagnosed with any mental health disorder and are therefore not being treated. Early preventive efforts are important to target these people's mental distress alongside the municipal initiatives to promote education and employment."

The project is adapting individual placement and support to 15- to 24-year-olds with symptoms of anxiety and/or depression who are not in education or employment. If mental distress is suspected, the young person will be offered further examination, and the people who show signs of mental vulnerability may participate in Reconnect. On 1 August 2019, new legislation will enter into force requiring Denmark's municipalities to ensure coherent initiatives targeting young people that are coordinated across the education, employment and social sectors. This opens up opportunities for the municipalities to use new methods similar to those Reconnect will use.

Just like everyone else

The philosophy behind individual placement with support is that the right job and the right working environment can enable people with a mental health diagnosis or mental vulnerability to get an education or to work in the ordinary labour market without previous training but with support on the side.

"Our experience shows that people can thrive in a workplace even if they have mental health disorders. This requires considering each individual's challenges and treatment and maintaining the focus on the young person's own motivation and hopes for the future. It is important to understand that these young people really want to be active, to earn money and to be just like everyone else," says Inge Storgaard Bonfils.

The first participants are expected to be enrolled in Reconnect in early 2020, and the first evaluation of the project will be carried out later that year.

Increasing social and humanitarian grants

In 2018, the Novo Nordisk Foundation increased its grants for social, humanitarian and development aid from DKK 63 million in 2017 to DKK 92 million in 2018.

The aim is to contribute to improving the lives and prospects of vulnerable children and young people through education, developing competencies and other interventions.

Research abroad provides new perspectives

Robert Koivula and Peter Refsing Andersen received postdoctoral fellowships for research abroad from the Novo Nordisk Foundation. New knowledge and greater autonomy are two benefits of leaving their home countries for a while, they say.

Robert Koivula was born in Finland, but his father's job as a director in the chemical industry meant the family was constantly moving as he grew up. When asked where he really comes from, he hesitates:

"I have actually spent a lot of time figuring this out. I feel Nordic but with a touch of British," he says, referring to the fact that his wife is British.

After completing his PhD studies at Lund University in Sweden, Robert Koivula upped sticks again in 2018 and moved his research to the University of Oxford after receiving a 4-year postdoctoral fellowship for research abroad from the Novo Nordisk Foundation.

These fellowships enable the recipients to conduct research for a minimum of 3 years abroad and then move back and complete the postdoctoral fellowship with up to 1 year of research at their own research institution.

"My experience is that being away from the usual home environment for several years and meeting other cultures and research and teaching communities leads to a process of maturing professionally and personally," says Robert Koivula.

Chemistry is important

Robert Koivula has just started his postdoctoral fellowship, whereas Peter Refsing Andersen has now completed a similar research stay in Vienna, Austria and has moved back to Denmark after the Foundation awarded him a postdoctoral fellowship in 2014. Peter Refsing Andersen completed his PhD degree at the Department of Molecular Biology and Genetics of Aarhus University in 2012, studying how human cells sort RNA molecules to keep only the usable ones and break down the useless and damaged ones. Fellowships from the Novo Nordisk Foundation and from the Alfred Benzon Foundation enabled him to move to Vienna and join one of the world's leading research groups in understanding how regulating RNA controls genetic parasites.

"I chose the Institute of Molecular Biotechnology in Vienna because of the professional fit and great research environment. There was a newly established research group, which had already become a leader in the field and we were immediately compatible. Good chemistry is important, because you invest a lot of time and effort," he says.

Peter Refsing Andersen is enthusiastic about his stay in Vienna and emphasizes the value of encountering a completely different culture and research tradition: "It differed more than I expected. Austria is central European and a mix of eastern Europe, Germany and Italy. I benefited scientifically and learned how to create effective working relationships in science. A good and creative mix of German *ordnung muss sein* and Italian improvisation." After a successful postdoctoral fellowship, Peter Refsing Andersen will return this spring to the Department of Molecular Biology and Genetics of Aarhus University to start his own research group based on a new grant from the Foundation: a Hallas-Møller Emerging Investigator grant of DKK 10 million.

"I think that the residency in Vienna has given me a great scientific base and independence and thereby prepared me to start my own research group," says Peter Refsing Andersen.

Greater development

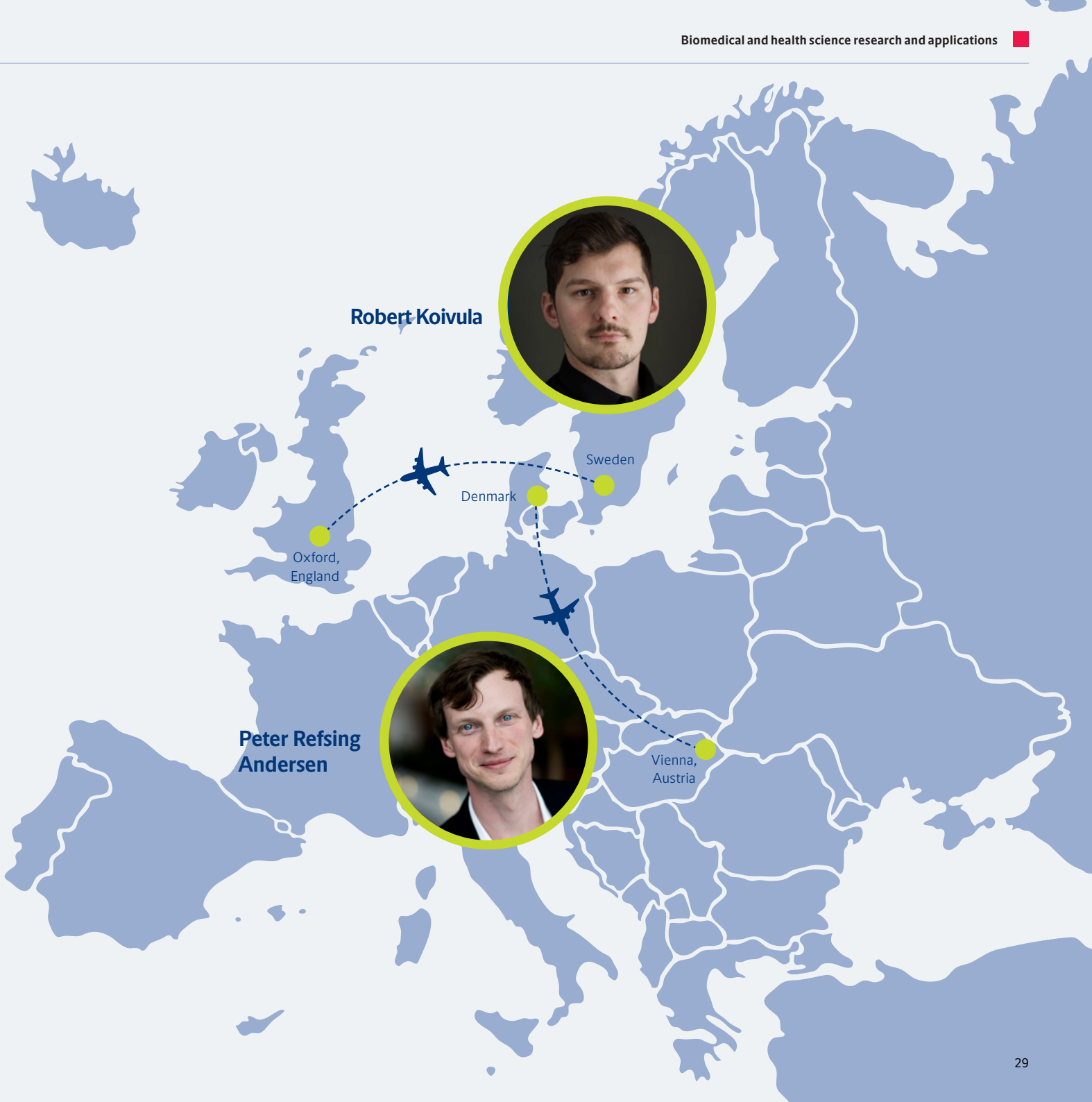
Back in Oxford, Robert Koivula is already thriving. He knew without a shadow of doubt that he wanted to carry out his postdoctoral fellowship at the McCarthy Lab of the Oxford Centre for Diabetes, Endocrinology and Metabolism. His research focuses on diabetes and nonalcoholic fatty liver disease, which is the accumulation of fat in the liver of people who drink no or little alcohol.
"I feel at home here, and the academic environment is very special, because it includes so many inspiring individuals and nationalities.

The financial support I received through my fellowship ensures that I can get the support I need to carry out an ambitious and highly rewarding project, which I expect will develop me more than if I had stayed in Sweden or Finland," concludes Robert Koivula.

Away from home

Since 2014, the Novo Nordisk Foundation has awarded nearly 40 postdoctural fellowships for research abroad. The purpose is for the recipients to acquire new knowledge, new methods and different perspectives on research that can strengthen the recipients' own research and the research communities in their home countries when they return.

The grants are awarded in open competition within three different grant programmes focusing on endocrinology & metabolism, bioscience & basic biomedicine and interdisciplinarity, respectively.



Rethinking protein chemistry

In December 2018, Birthe B. Kragelund and her research team at the Department of Biology of the University of Copenhagen received DKK 60 million from the Novo Nordisk Foundation Challenge Programme. The grant will be used to improve understanding of how proteins interact.

Professor
Birthe B. Kragelund

Novo Nordisk Foundation Challenge Programme

Although Birthe B. Kragelund is known as an excellent communicator of her field, you have to brace yourself when she explains about her research project Rethinking Protein Interactions (REPIN) and the questions she and her research team will strive to answer.

She says the project will challenge the prevailing understanding of how proteins interact in what is described as a paradigm shift in protein chemistry.

The project has just received a grant of DKK 60 million from the Novo Nordisk Foundation Challenge Program. Through the Programme's substantial, 6-year grants, the Foundation wants to support and provide stability for ambitious projects seeking answers to key global challenges within technology or health.

As a new initiative, the Foundation expanded its support areas in 2018 to include research in the natural and technical sciences, and Birthe B. Kragelund's research project on protein chemistry falls within this area.

Operating in uncharted territory

Proteins are the body's building blocks and are important for building and maintaining cells and tissues and producing hormones and enzymes. Proteins also have an important role in the immune system.

"We have known about proteins for far more than 100 years. In protein chemistry, we have worked within a paradigm based on proteins having a shape," explains Birthe B. Kragelund.

"If we can determine this shape by determining the structure and shape of a specific protein, we may be able to make assumptions about its function. The basic view has been – and still is – that the function of a molecule is linked to its shape. When you see a chair, you know that you can sit on it, and we are used to shape indicating function. We call this the structure–function paradigm for proteins."

"In 2000, the entire human genome was mapped for the first time," continues Birthe B. Kragelund, Professor at the Department of Biology and Head of the Structural Biology and NMR Laboratory at the University of Copenhagen.

"This paved the way to the discovery that 30–40% of our proteins do not seem to have a specific shape. We then started examining these proteins more closely and realized that they actually do not have a specific structure and are able to assume a multitude of diverse and dynamic shapes. This challenged the prevailing paradigm and led to the concept of intrinsically disordered proteins. Our paradigm had been driven by the assumption that interacting proteins fit like a key in a lock. That paradigm could no longer be maintained because the intrinsically disordered proteins can remain dynamic and unstructured, even while interacting functionally. This pulled the rug out from under us," explains Birthe B. Kragelund enthusiastically.

"We are operating in an uncharted territory. The textbooks used at universities all over the world say virtually nothing about this. We must now rethink a concept that had included some sort of order. We are taking on this challenge."

Big questions require lots of courage

Of course, the burning question is how such basic knowledge can be applied in practice. Birthe B. Kragelund explains: "The overall goal is to contribute to understanding humans as a biological phenomenon. There can be a huge gap between the basic knowledge we develop and converting this in a more practical and specific context, but the distance can actually sometimes be surprisingly short."

"One protein we are examining is a growth hormone receptor, and in this connection, we recently examined a specific mutation that causes an aggressive type of lung cancer. The mutation is located in a specific disordered region of the protein, and we used nuclear magnetic resonance (NMR) spectroscopy to create a hypothesis as to why this mutation triggers lung cancer – by inducing order. This is a prerequisite for being able to develop more targeted medicine," explains Birthe B. Kragelund.

"As basic researchers, we ask the big questions, and this requires lots of courage because we always risk not finding the answers. These major issues require stable, long-term efforts. That is why getting such solid support for our work is so great," concludes Birthe B. Kragelund.

The DKK 60 million grant from the Foundation creates the conditions for the Rethinking Protein Interactions (REPIN) project to plan 6 years ahead. In addition to Birthe B. Kragelund, participants in the project include professors Karen Skriver and Rasmus Hartmann-Petersen, Department of Biology, University of Copenhagen, and Ben Schuler, Professor, Department of Biochemistry, University of Zürich.

Finding answers to global challenges

The Foundation awards grants of up to DKK 360 million each year through its Challenge Programme for up to six grants for major, ambitious research projects. The Foundation awards grants in open competetion under the Progamme.

The purpose of the Programme is to promote and support world-class research that focuses on contributing to finding answers to today's challenges in global technology or health.

A melting pot for talented researchers

The Novo Nordisk Foundation Center for Basic Metabolic Research builds on collaboration and synergy to create ground-breaking new knowledge on how to prevent and treat metabolic diseases. In 2018, the Novo Nordisk Foundation awarded a grant of DKK 700 million to the Center to strengthen its research, education and outreach activities.

Novo Nordisk Foundation Center for Basic Metabolic Research

The Novo Nordisk Foundation Center for Basic Metabolic Research and its nearly 200 employees have their home in the 15-storey copper-coloured Maersk Tower on Blegdamsvej in Copenhagen. The Tower is part of the Faculty of Health and Medical Sciences of the University of Copenhagen, and its website describes how the architecture of the building is predicated on the idea of creating communities between researchers, between students and with the city.

These words and values perfectly reflect the Center's vision of becoming a world leader within its field by carrying out pioneering research based on collaboration and synergy.

"Metabolic diseases often whittle away the quality of a person's life, and often there is a stigma attached to metabolic diseases. People feel embarrassed about being obese, but there are real molecular explanations for why people are obese or diabetic," says Juleen R. Zierath.

"We want to find ways to prevent metabolic diseases, and we also want to provide insight to help to treat metabolic diseases," she adds.

The Center just received a grant of DKK 700 million from the Novo Nordisk Foundation to implement its recently revised 5-year strategy. The strategy comprises four streams – four research programmes in which the Center investigators can join each other to solve problems. It is also setting up new advanced shared technology platforms to reach its goals.

"Centers are unique because you bring together exceptional scientists in one place. To really move a field forward, often you need to collaborate, and so this Center provides an environment where people can come together, and they can have complementary expertise to solve complex problems in the field of metabolism, and that is what we have done."

Strong individuals and collaboration

Juleen R. Zierath describes the three main priorities underpinning the work in the years ahead:

- to retain existing talent at the Center, giving them the space and resources they need;
- to recruit new strong and talented researchers at a high international level; and
- to develop interdisciplinary projects that can contribute to greater understanding of the mechanisms behind metabolic diseases.

"We want to involve people who are driven by personal ambition and who value having collaborative relations. It's important that we take pride in being here, that we have particular ways of solving problems and that we create our best results by working collaboratively," says Juleen R. Zierath.

She has been at the Center since it was established in 2010, and in 2016 the Dean of the Faculty of Health and Medical Sciences asked her to become the Center's Executive Director. Juleen R. Zierath, who was born and mostly educated in the United States, has been a Swedish citizen for nearly a decade. Her Swedish links are especially the result of her long association with the Karolinska Institutet (KI) in Stockholm, starting in 1989, and her being a member of the Nobel Assembly at KI, the awarding body for the Nobel Prize in Physiology or Medicine, since 2006.

Diversity is a strength

When Juleen R. Zierath explains the future path for the Center, international recruiting is clearly a high priority. But what makes a research centre in Denmark attractive in the rest of the world? Her surprising answer is what she calls the Scandinavian opportunity, which comes from her own experiences in the Nordic countries and the values she describes as Scandinavian.

"The Scandinavian opportunity is an expression I use a lot because it is one of the greatest assets in our efforts to attract people from international research environments. In Scandinavia, we have a strong tradition for consensus-based dialogue and discussion and for a flat decision-taking hierarchy. This is vital, because the solutions to many major challenges stem from a framework that provides the individual with a say and strengthens the collaboration at work and how a person's voice is heard," explains Juleen R. Zierath.

With employees from more than 27 countries, the Novo Nordisk Foundation Center for Basic Metabolic Research is already a melting pot of different cultures and traditions. In Juleen R. Zierath's opinion, this trend will be even more pronounced in the future. Diversity is one of the Center's key strengths and a precondition for creating advances and new research results that benefit people and society.

Professor
Juleen R. Zierath

Pulsating synergy

The Novo Nordisk Foundation Center for Basic Metabolic Research was established at the University of Copenhagen in 2010 based on a grant of DKK 885 million from the Foundation. In 2018, it recieved an additional grant of DKK 700 million to accelrate its research.

The Center is part of the Copenhagen Bioscience Cluster – a Novo Nordisk Foundation initiative to establishing world-class research centres and infrastructure within biomedicine and biotechnology.

Prize recipient:
Evolution explains why we become obese

Since 1942, the Novo Nordisk Foundation has awarded scientific prizes to recognize and reward individuals for their unique efforts in research, teaching or other efforts relevant to research. In 2018, Gökhan Hotamışlıgil received the Foundation's largest prize of DKK 6 million.

Professor Gökhan Hotamışlıgil

EASD–Novo Nordisk Foundation Diabetes Prize for Excellence

Metabolic diseases such as obesity and diabetes are among the greatest threats to human health. Worldwide, 425 million people have diabetes and 650 million are obese, and forecasts show that these numbers will continue to escalate in the years ahead.

Gökhan Hotamışlıgil has spent the last 25 years examining the cause of the metabolism crisis and the seeds of a solution. His starting-point is that, if a condition is so common among people, one has to look back into our evolutionary history to understand the root causes for such a development.

"One can imagine that neither obesity nor diabetes were important factors in the evolutionary process and, as a result, we ended up with weak natural defence mechanisms and became vulnerable to these diseases.

"Maybe evolution gave us a biological infrastructure that is in mismatch with the current chapter of human history."

Professor Gökhan Hotamışlıgil

Our goal is to find the mechanisms underlying these vulnerabilities at the molecular level and help people to overcome them," says Gökhan Hotamışlıgil, Professor, Harvard T.H. Chan School of Public Health, Boston, United States.

Gökhan Hotamışlıgil's research has been groundbreaking in many areas, including his discovery of the importance of the chronic inflammation among many people who are overweight and/or have diabetes and, in 2002, his uncovering the underlying mechanisms. This work has led to the completely new scientific research field of immunometabolism.

"We found abnormally elevated levels of the JNK enzyme in obesity and demonstrated that correcting this activity greatly improved metabolic health."

His laboratory has also discovered the metabolic biology of the organelle called the endoplasmic reticulum and its dysfunction in both obesity and diabetes, a contribution that led to a paradigm shift in understanding obesity and diabetes.

Hononouring outstanding contributions

For his outstanding research contributions, Gökhan Hotamışlıgil received the 2018 EASD–Novo Nordisk Foundation Diabetes Prize for Excellence. The prize is the largest in financial terms of the 12 prizes awarded annually by the Foundation.

In awarding prizes, the Foundation wants to recognize and reward individuals for their unique efforts in research, teaching or other efforts relevant to research. Pioneering results and new solutions emerge through innovative, dedicated and sustained efforts.

In addition to honouring the prize recipients, the Foundation awards the prizes to contribute to inspiration and innovation by creating role models for young talents to emulate and be inspired by.

Gökhan Hotamışlıgil says: "I am tremendously humbled to receive this most prestigious award for excellence in diabetes research. There is nothing as valuable as the recognition by peers of one's scientific career. I hope that one day our work will make a small contribution to the quality of human life, especially among those affected by metabolic diseases."

New discoveries

Although Gökhan Hotamışlıgil has achieved great results and has a long career behind him, he has no intention or slowing down his research. Recently, his laboratory developed antibodies against adipocyte protein 2 (aP2), which plays an important role in the development of diabetes, nonalcoholic fatty liver disease and cardiovascular diseases. When aP2 function is blocked, genetically or pharmaceutically in mice, the animals are protected against insulin resistance and diabetes.

"The next step will be to investigate whether the protein can actually be used as a therapy for diabetes and other metabolic diseases in humans. Prospects of therapeutic interventions are emerging while new questions have arisen regarding communication between organs and organelle dysfunction," he says.

New knowledge on diabetes

The EASD–Novo Nordisk Foundation Diabetes Prize for Excellence is awarded to recognize outstanding research or technology contributions to the understanding of diabetes, its disease mechanisms or its complications.

The Prize is accompanied by DKK 6 million – of which DKK 1 million is a personal award and the remaining DKK 5 million is for research purposes.

The Prize is awarded in collaboration between the European Association for the Study of Diabetes (EASD) and the Novo Nordisk Foundation.

Grant-awarding policy

Policy on grants

The following section describes the Foundations's policy on awarding grants pursuant to the Act on Commercial Foundations.

The Board has established a policy on grants. The objective is to support projects of the highest quality in accordance with the Foundation's strategy and national and international standards for assessment, evaluation and grant-awarding practices.

Applications and grants awarded are divided into the following four categories and purposes:

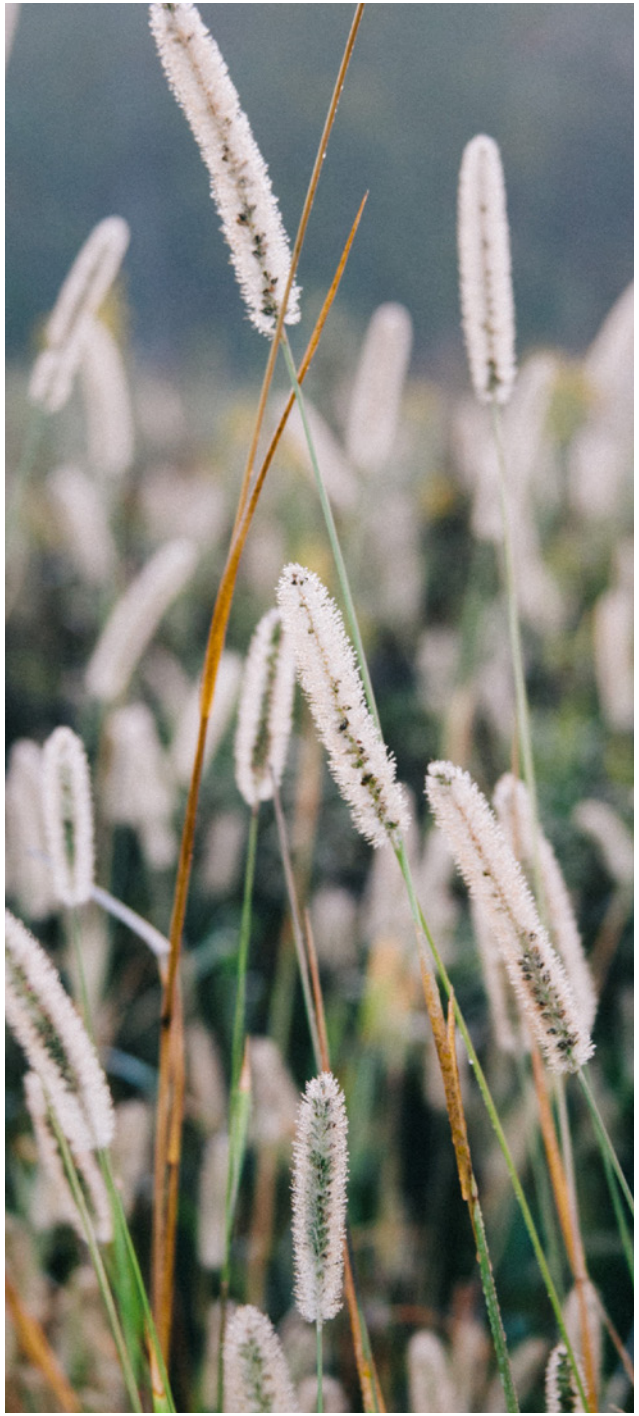
1. Research, education and innovation grants in open competition
The Foundation awards grants in open competition within physiological, endocrinological, metabolic and other medical research and other scientific purposes such as research within biotechnology, innovation, nursing, art, art history, education and the socioeconomic impact of research. Committee members are international recognized experts in their field who ensure that the grants are awarded for the projects of the highest quality and with the most potential in accordance with the international peer-review standard. Grants are not awarded if the applications received during a given application round do not meet the high scientific and quality standards. Grants awarded in open competition generally follow a fixed annual cycle, and grants within a scientific field are announced through open calls.

2. Strategic one-off grants, research centres and Copenhagen Bioscience Cluster activities
The Foundation supports strategic one-off initiatives and the Copenhagen Bioscience Cluster, for which the Board decides the overall theme.

National and international research experts assess the submitted project applications. The applications submitted in education, outreach, innovation, etc. are assessed partly by national and international experts and partly by the Secretariat's internal experts. Based on the expert assessments of applications or of strategic one-off initiatives developed for the Board, the Board decides whether to support the projects.

3. Grants for Steno Diabetes Centers in Denmark
Since 2016, the Foundation has supported research hospital activities within diabetes in Denmark. In 2018, the Foundation's Board developed and supported the establishment of Steno Diabetes Center Zealand in Region Zealand. In 2016–2017, Steno Diabetes Centers were established in Copenhagen, Aarhus, Aalborg and Odense, cities in the other four administrative regions in Denmark. The Board is now planning to develop and support the establishment of a Steno Diabetes Center in Greenland, which is part of the Kingdom of Denmark. The donations by the Foundation's Board include boosting treatment to a high international level, research activities and new construction.

4. Grants for social and humanitarian purposes
The Foundation supports social and humanitarian causes, including support for social and humanitarian aid organizations and research, education and innovation projects with a social purpose. Before deciding to award a grant, the Foundation ensures that the organizations it supports are recognized, focus on promoting the health and welfare of people and file publicly available audited accounts. The Board is now developing a strategy for awarding its social and humanitarian grants.



Grant-awarding policy

Grant-awarding principles

Center of gravity

August Krogh returned to Copenhagen in December 1922 with permission to manufacture insulin to benefit people with diabetes in Scandinavia. The Foundation will stay close to this geographical heritage through its grant-awarding activities.

- The primary geographical focus of the Foundation's grant-awarding activities will be Denmark, followed by the Nordic countries.
- The Foundation's commercial activities will be international.

To strengthen the centre of gravity, the Foundation will foster mutually beneficial relationships between grant recipients and the Foundation and with partners internationally such as universities and foundation peers, to access and contribute to leading the development of knowledge and talent.

Principles

The Board has set out the following overarching grant-awarding principles for what the Foundation will emphasize and seeks to uphold in all its grant-awarding activities.

Excellence
The Foundation pursues the highest standard of quality in all it does and supports.

The Foundation is committed to excellence and quality in all its activities. Only by setting a high standard will real, sustainable impact be achieved. The Foundation will strive for excellence and expects the same of the people and institutions it supports and with which it collaborates, nationally and internationally. The Foundation is prepared to take risks in areas in which it sees excellence and to support promising projects to create the basis for breakthroughs.

Interdisciplinarity
The Foundation facilitates connectivity across disciplines to generate new ways to discovery.

The Foundation believes that interdisciplinary research will drive future waves of discovery and innovation. It advocates and supports the removal of barriers between traditional disciplines and fields of research. It seeks to find new and more effective ways to solve complex problems at the intersection of various disciplines and to apply interdisciplinary approaches in the search for solutions to significant global and societal problems.

Collaboration
The Foundation facilitates inclusiveness and collaboration to catalyse advances in national and international partnerships.

The Foundation celebrates the coming together of unique and differing ideas and perspectives to tackle challenges and develop solutions in new ways. The Foundation fosters collaboration between people and organizations to improve results, including across universities, hospitals, schools and geographical borders. The Foundation supports strategic international collaboration and partnerships.

Innovation
The Foundation acknowledges and values the potential of new ideas.

The Foundation supports new ways of addressing challenging problems facing people and society.

Supplementarity
The Foundation sponsors activities that complement and supplement current systems.

The Foundation aims to create impact by supplementing existing activities, systems and funding.

Respect
The Foundations supports free and independent research.

The Foundation respects other people's ideas and understands that producing landmark results that benefit society can take time. It is prepared to listen to other people's views and advice and to take time to explain the reasons for its priorities and decisions. The Foundation respects the freedom of research and does not claim rights to the results.

Accessibility
The Foundation champions broad dissemination and access to scientific knowledge and results.

Making the scientific knowledge and results available to other people is pivotal to catalyzing further advances in any field. The Foundation believes in the value and importance of this and promotes this in all its grant-awarding activities.

Grant-awarding policy

Standards for good research practice

To be eligible for grants, applicants must comply with the Foundations' standard for good research practice.

Laws and regulations
The grant recipients must comply with laws and regulations. Moreover, the grant recipients must comply with recognized standards for good research practice, national and international rules on the safety and rights of clinical trial patients and health volunteers, animal welfare and bribery and corruption.

Labour practice
The employees on the projects may not be discriminated against and must be treated with respect and dignity.

The employees must be paid in accordance with collective bargaining agreements, have working hours and holidays in accordance with the national rules and have the right to organize and negotiate collectively to the extent that this is standard practice or legally permitted

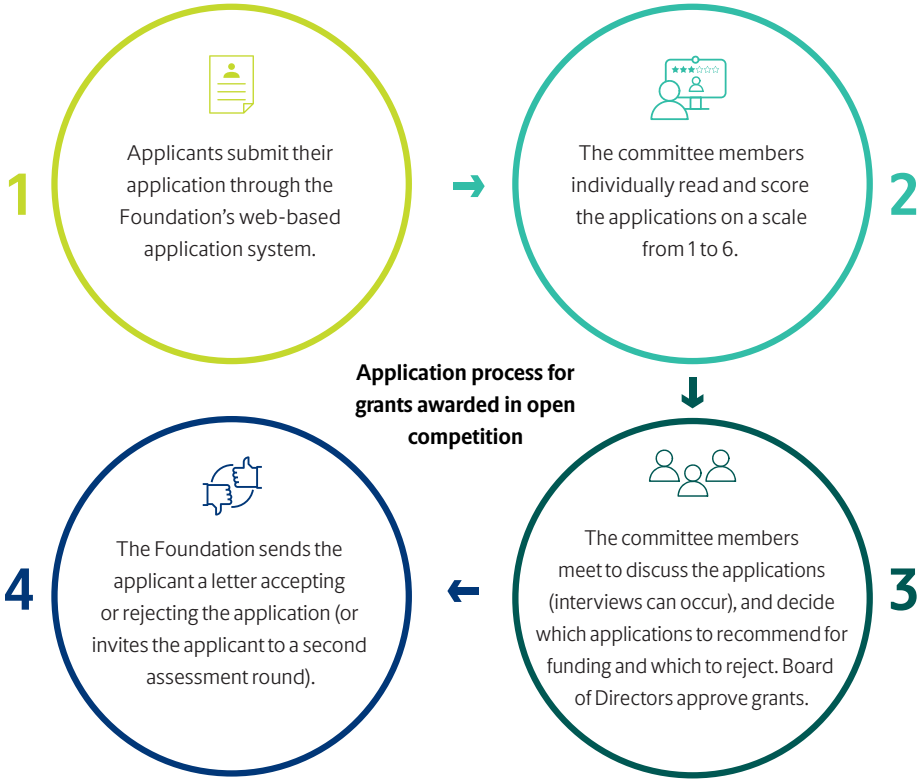
Working environment
The institution hosting a project must provide a safe and healthy workplace.

Environment
The projects must minimize adverse impact on the environment to the greatest possible extent.

In case of non-compliance
If the Foundation learns that the standards have been violated, the grant recipient will be asked to respond.

If the Foundation deems that the standards have been violated, the Foundation may discontinue payments and may require the repayment of funding already disbursed. Moreover, the Foundation may decide to deny future funding.

Read more on:
novonordiskfonden.dk/en/about-the-foundation/standards-for-good-research-practice



Grant-awarding policy

Rules for eligibility

Eligibility for receiving a grant

People disqualified from applying or receiving grants

A. Employees of the Foundation, Novo Holdings, Novo Nordisk, Novozymes and other companies in which the Foundation directly or indirectly has formal or actual control.

B. Members of the Board of Directors, their spouses and children residing in the family home.

C. Members of the committees
Committee members may, however, serve as collaborative partners or advisers on an application and may also be an applicant or co-applicant for grants under auspices of committees other than the one or ones on which they serve.

Eligibility for assessing grant applications

Members and external assessors disqualified from assessing applications

A. Members of committees and external assessors are disqualified from assessing applications if they have a personal, professional or financial interest in the outcome of an application, including family relations such as children, siblings, cousins, grandchildren and grandparents.

B. Members who have co-published a book, article or like with an applicant within the past 5 years are disqualified.

C. A committee member who is disqualified from assessing a specific application may participate in assessing the remaining applications if the number of applications is not too low.

Procedure in case of ineligibility

A. After receiving an application for assessment, committee members and external reviewers must notify the chair of the committee of any potential conflict of interest.

B. If a potential conflict of interest exists in connection with an application, the committee decides by a simple majority whether the conflict of interest disqualifies the committee member.

C. Ineligible committee members are prohibited from participating in assessing an application.

D. If a committee is not quorate or if there are serious misgivings about its ability to assess applications, the committee may decide to allow ineligible members to participate in assessing applications.

E. If a quorum cannot be achieved in the committee, the chair decides on a procedure and makes a decision in consultation with representatives from the Foundation.

Read more on: novonordiskfonden.dk/en/about-the-foundation/rules-for-eligibility

Grant-awarding policy

Measuring the societal impact

The Foundation follows output, outcome and the societal impact from the grant recipients' projects.

Reporting
It is madatory for all grant recipients to use the web-based survey system researchfish® for reporting on activities and results relevant to their grant. The grant recipients report annually for the duration of the project and 1–5 years after the project ends.

Impact assessment and evaluation
Based on reporting of the grant recipients, the Foundation assesses the outcome and impact of the grants.

For large grants such as research centres and hospital centres, the Foundation uses the reporting to produce an annual centre report. The annual centre report is the basis for an annual dialogue on progress between the centre leadership and the Foundation.

The Foundation also uses data in evaluating types of grant and funding instruments – what works and what does not work – to support the Board in its decisions on grant policy and grant-awarding.

Finally, the Foundation provides an overview of how grant-awarding activities support the Foundation's grant-awarding objectives and the subsequent effects on society on research, education, and health and collaboration activities between researchers and industry. The Foundation's annual impact report, which is published in the spring, documents the grant recipients' overall reporting of output and outcome and their impact on society.

Read more on: impact.novonordiskfonden.dk

Grant-awarding policy

Committees implement the decisions of the Board

On behalf of the Board of Directors, 24 committees advice and implement the boards' decisions. The committees serve as the Foundation's window to the research community for grants awarded in open competition.

The Board of Directors appoints each committee and approves the rules of procedure of the committees. The rules of procedure and the annual mandate letter and committee register sets the scope and framework for the committees' work.

The Board of Directors selects the committee members
Committee members are internationally recognized experts in their field who often have experience as members of research councils and academic assessment committees. New committee members are selected based on recommendations from the committee or the Secretariat describing the potential member's scientific credentials, thereby ensuring high expertise within the relevant scientific field.

The Board of Directors decides all grants
The Board of Directors decides the purpose, the research field, the budget, the application and assessment criteria and the assessment process.

The Board of Directors determines the financial framework
The Board of Directors sets the financial framework for each grant when deciding the annual budget.

The committees implement the decisions of the Board of Directors
The committees implement the decisions of the Board of Directors by identifying projects and researchers among the received applications that fulfil the criteria the Board has defined.

The Board of Directors oversees the committees' work
On behalf of the Board of Directors, the Secretariat supervises the committees' activities within the framework decided by the Board.

August Krogh (1874–1949)
A Danish professor at the department of zoophysiology at the University of Copenhagen from 1916 to 1945. August Krogh was also one of the founders of what is today Novo Nordisk A/S and the Novo Nordisk Foundation.

Grant-awarding policy

Committees

The Board of the Foundation has established committees to implement the grants that the Board has decided to award in support of research, symposia and honorary awards.

Dates back to
1959

Committee on Clinical and Translational Medicine
Supports fellowships and project grants in clinical, translational and general practice medicine research in Denmark.

Dates back to
1979

Committee on Research in Art and Art History
Supports projects within art history research and fellowships in art history, art and curating for researchers affiliated with a research institution in Denmark.

Established in
2012

Committee on Exploratory Pre-seed Grants
This initiative targets the research community in the Nordic countries and aims to accelerate the commercialization of application-oriented research findings and ideas within biomedicine and biotechnology that have the potential to be turned into new diagnostic methods, therapies, medical devices and technologies.

Established in
2012

Committee on International Research Leader Grants
Laureate Research Grants and Young Investigator Awards are aimed at promising research leaders who want to establish their research group in Denmark to carry out visionary research within biomedicine or biotechnology.

Dates back to
1925

Committee on Endocrinology and Metabolism
Supports basic and clinical research within endocrinology and metabolism in the Nordic countries. The grant-awarding was managed by the board of Nordisk Insulinlaboratorium and Nordisk Insulin Foundation until 1989.

Awarded for the first time
1963

Committee on the Novo Nordisk Prize
The Prize is awarded to recognize unique medical research or other research contributions that benefit medical science.

Established in
1996

Committee on Nursing Research
Supports projects and fellowships within nursing research in Denmark.

Established in
2012

Committee on Biotechnology-Based Synthesis and Production Research
Supports project grants and postdoctoral fellowships for basic and applied research within biotechnology-based synthesis and production.

Established in
2014

Committee on the Novo Nordisk Foundation Challenge Programme
These grants aim to develop and strengthen Denmark's research community within biomedicine and biotechnology. The focus is on in-depth research on specific challenges within annually selected research themes. In 2018:

A. Pathophysiology, Diagnosis and Treatment of Non-alcoholic Steatohepatitis
B. Understanding Obesity at the Cellular Level
C. Protein Chemistry – Structure, Function and Application

Established in
2016

Committee on Social Science Research
Programmes focus on the socioeconomic impact of research in Denmark.

Established in
2017

Committee on Steno Research Collaboration
These grants target clinical research collaboration between research communities at the newly established Steno Diabetes Centers and research communities outside the Centers. The grants support clinical research, health promotion research, and education research in relation to patients and healthcare personnel.

Established in
2018

Committee on the Novo Nordisk Foundation Teaching Prizes
This Prizes recognize an extraordinary effort among early-childhood educators, primary and secondary schoolteachers and teachers at teacher colleges.

2019

Established in
2014

Committee on Interdisciplinary Research
Postdoctoral fellowships at Stanford Bio-X and the Interdisciplinary Synergy Programme grants support novel, cross-disciplinary research initiatives with high risk and high gain.

Awarded for the first time
2015

Committee on the Novozymes Prize
The Prize is awarded to recognize outstanding research or technology contributions that benefit the development of biotechnological science for innovative solutions.

Established in
2017

Committee on Bioscience and Basic Biomedicine
Supports basic biomedicine and the natural sciences with subject matters that address biomedical issues in Denmark.

Established in
2018

Committee on Science Education and Outreach
Supports projects within natural science education, research on natural science education and natural science outreach.

Members of committees and advisory panels

Committee on Endocrinology and Metabolism

Titel	Member	Country	Joined (resigned)
Professor	**Anna Christina Krook (chair)** Department of Physiology and Pharmacology, Karolinska Institutet	Sweden	1 January 2014
Professor	**Lena Eliason** Department of Clinical Sciences, Lund University Diabetes Centre	Sweden	1 Maj 2018
Professor	**Mikael Rydén** Center for Clinical Metabolic Research, Karolinska Institute, Sweden and Karolinska University Hospital	Sweden	1 January
Professor	**Laszlo Hegedüs** University of Southern Denmark, Denmark and Department of Endocrinology and Metabolism, Odense University Hospital	Denmark	1 January 2014
Professor and Chief Physician	**Mikael Knip** Department of Pediatrics, University of Helsinki, Finland and Institute of Clinical Medicine, Children's Hospital, Helsinki University Central Hospital	Finland	1 January 2012
Professor	**Pål Rasmus Njølstad** KG Jebsen Center for Diabetes Research, Department of Clinical Medicine, University of Bergen, Norway and Department of Paediatrics, Haukeland University Hospital	Norway	1 January 2012
Professor	**Trine Bjøro** Department of Medical Biochemistry, University of Oslo, Norway and Oslo University Hospital	Norway	1 January 2010
Professor	**Lea Sistonen** Department of Biosciences, Åbo Akademi University	Finland	1 January 2010
Professor	**Mette M. Rosenkilde** Department of Neuroscience and Pharmacology, University of Copenhagen	Denmark	1 January 2009
Professor	**Claes Ohlsson**	Sweden	(31 December 2017)

Committee on Clinical and Translational Medicine

Titel	Member	Country	Joined (resigned)
Professor and MD	**Lars Fugger (chair)** Nuffield Department of Clinical Neurology, John Radcliffe Hospital, University of Oxford	United Kingdom	19 March 2013
Professor	**Jens Otto Lunde Jørgensen (vice chair)** Department of Endocrinology and Internal Medicine, Aarhus University Hospital	Denmark	1 October 2015
Professor	**Claus Nerlov** MRC Weatheral Institute of Molecular Medicine, John Radcliffe Hospital, University of Oxford	United Kingdom	1 January 2018
Professor	**Jan Gerstoft** University of Copenhagen, Denmark and Department of Infectious Diseases, Righshospitalet	Denmark	1 January 2017
Professor and MD	**Jørgen Frøkiær** Department of Nuclear Medicine and PET Center, Aarhus University Hospital	Denmark	1 January 2017
Professor	**Henrik Toft Sørensen** Department of Health Research and Policy, Stanford University, United Kingdom and Aarhus University Hospital	Denmark	1 January 2017
Professor	**Lars Køber** Department of Cardiology, Heart Centre, Rigshospitalet	Denmark	1 October 2017
Professor	**Gedske Daugaard** Department of Oncology, The Finsen Center, Copenhagen University Hospital, Rigshospitalet	Denmark	1 October 2015
Professor	**Finn Cilius Nielsen**	Denmark	(31 December 2017)
Professor	**Erik Ilsø Christensen**	Denmark	(31 December 2017)

Committee on the Novo Nordisk Prize

Titel	Member	Country	Joined (resigned)
Professor and MD	**Jørgen Frøkiær (chair)** Aarhus University, Denmark and Department of Nuclear Medicine and PET Center, Aarhus University Hospital	Denmark	1 May 2016
Professor	**Henrik Toft Sørensen** Department of Health Research and Policy, Stanford University, United Kingdom and Aarhus University Hospital	Denmark	1 Maj 2017
Clinical Professor	**Anne Tybjærg Hansen** Department of Clinical Medicine, University of Copenhagen	Denmark	1 Maj 2017
Professor and MD	**Harriet Wallberg (orlov)** Institutionen för fysiologi och famakologi, Karolinska Institute	Sweden	1 May 2016
Professor and MD	**Lars Fugger** Nuffield Department of Clinical Neurology, John Radcliffe Hospital, University of Oxford	United Kingdom	1 June 2013
Professor	**Marja Jäättelä** Cell Death and Metabolism Unit, Danish Cancer Society Research Center	Denmark	1 June 2013
Professor	**Thue W. Schwartz** Department of Neuroscience and Pharmacology, University of Copenhagen	Denmark	1 June 2009
CEO	**Birgitte Nauntofte** Novo Nordisk Foundation	Denmark	1 August 2009

Committee on Research in Art and Art History

Titel	Member	Country	Joined (resigned)
Professor	**Jacob Wamberg (chair)** School of Communication and Culture, Aarhus University	Denmark	1 January 2012
Associate Professor	**Maria Fabricius Hansen** Department of Arts and Cultural Studies, University of Copenhagen	Denmark	1 January 2016
Senior Research Curator	**Marianne Torp** The Collection & Research Department, National Gallery of Denmark	Denmark	1 January 2016
Adjunct Professor	**Mads Øvlisen** Corporate Social Responsibility, Copenhagen Business School, Denmark and Mediation and Complaints-Handling Institution for Responsible Business Conduct	Denmark	1 January 2016
Dean	**Sanne Kofod Olsen** Faculty for Fine and Applied Arts, University of Gothenburg	Sweden	1 January 2012

Committee on Nursing Research

Titel	Member	Country	Joined (resigned)
Professor	**Kirsten Lomborg (chair)** Department of Clinical Medicine, Aarhus University	Denmark	1 January 2014
Professor	**Erik Elgaard Sørensen** Department of Clinical Medicine, Aalborg University, Denmark and Clinical Nursing Research Unit, Aalborg University Hospital	Denmark	1 January 2018
Professor	**Tone Rustøen** Department of Research and Development, Emergency Department, Oslo University Hospital, Norway and Faculty of Medicine, University of Oslo	Norway	1 January 2017
Adjunct Professor	**Mary Jarden** Department of Public Health, University of Copenhagen and Center for Integrated Rehabilitation for Cancer Patients (CIRE), Rigshospitalet	Denmark	1 January 2017
Professor	**Ingrid Egerod** Faculty of Health and Medical Sciences, University of Copenhagen, Denmark and Trauma Centre, Copenhagen University Hospital, Rigshospitalet	Denmark	1 January 2014
Professor emeritus	**Lis Wagner**	Denmark	(31 December 2017)

Committee on Exploratory Pre-seed Grants

Titel	Member	Country	Joined (resigned)
Professor and MD	**Lars Fugger (chair)** Nuffield Department of Clinical Neurosciences, John Radcliffe Hospital, University of Oxford	United Kingdom	3 May 2013
Senior Associate	**Camilla Petrycher Hansen** Novo Seeds, Novo Holdings A/S	Denmark	1 September 2018
Principal	**Morten Graugaard Døssing** Novo Seeds, Novo Holdings A/S	Denmark	1 January 2017
Senior Associate	**Diana Muftic** Novo Seeds, Novo Holdings A/S	Denmark	1 January 2017
Professor	**Lene B. Oddershede** The Optical Tweezers Group, Niels Bohr Institute	Denmark	1 January 2016
Professor	**Søren Kragh Moestrup** Department of Biomedicine, Aarhus University	Denmark	1 January 2011
Professor	**Tue W. Schwartz** Institute of Molecular Medicine, University of Southern Denmark, Denmark and Department of Neuroscience and Pharmacology, University of Copenhagen	Denmark	1 January 2011

Committee on Biotechnology-Based Synthesis and Production Research

Titel	Member	Country	Joined (resigned)
Professor	**Henrik Callesen (chair)** Department of Animal Science, Aarhus University	Denmark	12 april 2012
Professor	**David Robert Spring** Department of Chemistry, University of Cambridge	United Kingdom	1 Januar 2018
Professor	**Sara Snogerup Linse** Department of Biochemistry and Structural Biology and Department of Chemistry, Lund University	Sweden	1 Januar 2017
Professor and Director	**Stephen George Oliver** Department of Biochemistry, University of Cambridge, United Kingdom and Cambridge Systems Biology Centre	United Kingdom	1 January 2016
Professor	**Vincent G. H. Eijsink** Department of Chemistry, Biotechnology and Food Science, Norwegian University of Life Sciences	Norway	12 april 2012
Professor	**Merja Elisa Penttilä** VTT Technical Research Centre of Finland Ltd	Finland	12 april 2012
Professor	**Jan K. Schjørring** Department of Plant and Environmental Sciences, Faculty of Science, University of Copenhagen	Denmark	12 april 2012
Professor	**Jan-Erling Bâckvall**	Sweden	(31 December 2017)

Committee on International Research Leader Grants

Titel	Member	Country	Joined (resigned)
Professor and MD	**Lars Fugger (chair)** Nuffield Department of Clinical Neurosciences, John Radcliffe Hospital, University of Oxford	United Kingdom	9 maj 2012
Professor	**Vincent G. H. Eijsink** Department of Chemistry, Biotechnology and Food Science, Norwegian University of Life Sciences	Norway	1 Januar 2018
Professor	**Jens Otto Lunde Jørgensen** Department of Endocrinology and Internal Medicine, Aarhus University Hospital	Denmark	1 January 2017
Professor	**Susanne Mandrup** Department of Biochemistry and Molecular Biology, University of Southern Denmark	Denmark	1 January 2017
Professor	**Søren Kragh Moestrup** Department of Biomedicine, Aarhus University, Denmark and Institute of Molecular Medicine, University of Southern Denmark	Denmark	1 January 2017
Professor	**Anna Christina Krook** Department of Physiology and Pharmacology, Karolinska Instituttet	Sweden	1 January 2016
Professor	**Mette Marie Rosenkilde** Department of Neuroscience and Pharmacology, University of Copenhagen	Denmark	1 January 2015
Professor	**Henrik Callesen** Department of Animal Science, Aarhus University, Denmark	Denmark	9 may 2012
Professor	**Jan-Erling Bäckvall**	Sweden	(31 December 2017)

Committee on the Novozymes Prize: NZPriz

Titel	Member	Country	Joined (resigned)
Professor	**Jens Nielsen (chair)** Chalmers University of Technology	Sweden	1 Maj 2017
Professor	**Gunnar von Heijne** Department of Biochemistry and Biophysics, Stockholm University	Sweden	1 October 2018
Professor and Honorary Professor	**Bernard Henrissat** Department of Glycogenomics, AFMB lab, University of Marseille, France and Department of Cellular and Molecular Medicine, University of Copenhagen	Denmark	1 January 2018
Professor	**Henrik Callesen** Department of Animal Science, Aarhus University	Denmark	1 October 2014
Professor	**Michael Broberg Palmgren** Department of Plant and Environmental Sciences, University of Copenhagen	Denmark	1 October 2014
Professor emeritus	**Liisa Viikari** Helsinki University	Finland	1 October 2014
CEO	**Birgitte Nauntofte** Novo Nordisk Foundation	Denmark	1 October 2014
Professor	**Søren Molin**	Denmark	(31 December 2017)

Committee on Bioscience and Basic Biomedicine: BBM

Titel	Member	Country	Joined (resigned)
Professor	**Susanne Mandrup (chair)** Department of Biochemistry and Molecular Biology, University of Southern Denmark	Denmark	1 January 2017
Professor	**Anders Krogh** The Bioinformatics Centre, Department of Biology, University of Copenhagen	Denmark	1 August 2018
Professor	**Søren Kragh Moestrup** Department of Biomedicine, Aarhus University, Denmark and Institute of Molecular Medicine, University of Southern Denmark	Denmark	1 January 2017
Professor	**Tim Tolker-Nielsen** Department of Immunology and Microbiology, University of Copenhagen	Denmark	1 January 2017
Professor	**Thomas Lars Andresen** Department for Micro- and Nanotechnology, Technical University of Denmark	Denmark	1 January 2017
Professor	**Ole Nørregaard Jensen** Department of Biochemistry & Molecular Biology, University of Southern Denmark	Denmark	1 January 2017
Professor	**Christian Aalkjær** Department of Biomedicine, Aarhus University, Denmark and University of Copenhagen	Denmark	1 January 2017
Professor	**Helle Waagepetersen** Department of Drug Design & Pharmacology, University of Copenhagen	Denmark	1 January 2017
Professor	**Susanne Ditlevsen** Department of Mathematical Sciences, University of Copenhagen	Denmark	1 January 2017
Professor	**Jens Stougaard** Department of Molecular Biology, University of Aarhus	Denmark	1 January 2017
Professor	**Marja Jäättelä** Cell Death and Metabolism Unit, Danish Cancer Society Research Center	Denmark	1 January 2017
Professor	**Birthe Brandt Kragelund** Department of Biology, University of Copenhagen	Denmark	1 January 2017

Committee on Steno Research Collaboration

Titel	Member	Country	Joined (resigned)
Professor and Vice Rector	**Bo Ahrén (chair)** Lund University	Sweden	1 January 2017
Professor	**Aslak Steinsbeek** Department of Public Health and Nursing, NTNU, Norwegian University of Science and Technology	Norway	1 August 2018
Professor and Dean	**Frode Vartdal** University of Oslo, Norway and Faculty of Medicine, University of Oslo	Norway	1 January 2017
Project Flow Manager	**Linda Mellbin** Coronary artery disease and Coronary Care Unit, Department of Cardiology, Karolinska University Hospital	Sweden	1 January 2017
Professor	**Paul W. Franks** Department of Clinical Sciences, Lund University	Sweden	1 January 2017
Professor	**Tommy Olsson** Faculty of Medicine, Umeå University	Sweden	1 January 2017
Professor and Chief Physician	**Per-Henrik Groop** University of Helsinki, Finland and Division of Nephrology, Helsinki University Central Hospital	Sweden	1 January 2017
Professor	**Mona Landin-Olsson** Department of Clinical Sciences	Sweden	1 January 2017

Committee on Science Education and Outreach

Titel	Member	Country	Joined (resigned)
Principal	**Hanne Hautop (chair)** Rosborg Gymnasium & HF	Denmark	1 July 2018
CEO	**Desiré Christoffersen** Skive College	Denmark	1 July 2018
Professor	**Anja Cetti Andersen** Niels Bohr Institute, University of Copenhagen	Denmark	1 July 2018
Associate Professor	**Jan Alexis Nielsen** Department of Science Education, University of Copenhagen	Denmark	1 July 2018
Associate Professor	**Jan Sølberg** Department of Science Education, University of Copenhagen	Denmark	1 July 2018
Associate Professor	**Thomas Dyreborg Andersen** University College Copenhagen	Denmark	1 July 2018
CEO	**Hanne Serine Finstad** Science Factory	Norway	1 July 2018
Associate Professor	**Sonja Merethe Mork** Naturfagsenteret, University of Oslo	Norway	1 July 2018

Committee on the Novo Nordisk Foundation Teaching Prizes

Titel	Member	Country	Joined (resigned)
Professor and Director	**Claus Michelsen (chair)** Denmark and Laboratory for Coherent Learning and Education, University of Southern Denmark	Denmark	1 january 2018
Associate Professor	**Lars Brian Krogh** VIA University College	Denmark	1 january 2018
Associate Professor	**Thorleif Frøkjær** University College Copenhagen	Denmark	1 january 2018
Associate Professor	**Jan Sølberg** Department of Science Education, University of Copenhagen	Denmark	1 january 2018
Associate Professor	**Hanne Møller Andersen** Aalborg katedralskole	Denmark	1 january 2018
School-teacher	**Aff Hjarnø** Store Heddinge Skole	Denmark	1 january 2018

Committee on Interdisciplinary Research

Titel	Member	Country	Joined (resigned)
Professor and MD	**Lars Fugger (chair)** Nuffield Department of Clinical Neurosciences, John Radcliffe Hospital, University of Oxford	United Kingdom	1 June 2014
Professor	**Jens Otto Lunde Jørgensen** Department of Endocrinology and Internal Medicine, Aarhus University Hospital	Denmark	1 January 2018
Professor	**Ole Nørregaard Jensen** Department of Biochemistry & Molecular Biology, University of Southern Denmark	Denmark	1 January 2017
Professor	**Thomas Lars Andresen** Department for Micro- and Nanotechnology, Technical University of Denmark	Denmark	1 January 2017
Professor	**Anna Christina Krook** Department of Physiology and Pharmacology, Karolinska Institutet	Sweden	1 January 2016
Professor	**Mette Marie Rosenkilde** Department of Neuroscience and Pharmacology, University of Copenhagen	Denmark	1 June 2014
Professor	**Henrik Callesen** Department of Animal Science, Aarhus University	Denmark	1 June 2014
Professor	**Jan K. Schjørring** Department of Plant and Environmental Sciences, University of Copenhagen	Denmark	1 June 2014
Professor	**Finn Cilius Nielsen**	Denmark	(31 December 2017)

Committee on Social Science Research

Titel	Member	Country	Joined (resigned)
Vice President	**Jonathan Grant (chair)** King's College London	United Kingdom	1 January 2016
Emeritus Professor	**Alan Tomkins** University of Nebraska-Lincoln	United Kingdom	1 January 2018
Senior Consultant	**Gillian Ethel McFadzean** Helix Advisory Services Ltd.	United Kingdom	1 January 2018
Chief Economist	**Jon Sussex** RAND Europe	United Kingdom	1 January 2016
Dr.	**Volker Then**	Germany	(31 December 2017)
Associate Professor	**Paul Cunningham**	United Kingdom	(31 December 2017)

Committee on the Novo Nordisk Foundation Challenge Programme

Titel	Member	Country	Joined (resigned)
Pathophysiology, Diagnosis and Treatment of Non-alcoholic Steatohepatitis			
Professor	**Philip Newsome (chair)** Institute of Immunology and Immunotherapy, University of Birmingham	United Kingdom	1 January 2018
Professor	**Vlad Ratziu** Hôpital Pitié Salpêtrière and Université Pierre et Marie Curie	France	1 January 2018
Associate Professor	**Fabio Marra** Dipartimento di Medicina Interna, Università degli Studi di Firenze	Italy	1 January 2018
Professor	**Ronit Shiti-Sverdlov** Molecular Genetics, Maastricht University	Netherlands	1 January 2018
Understanding obesity at the cellular level			
Professor	**Jürgen Eckel (chair)** Deutsches Diabetes-Zentrum Düsseldorf, University of Düsseldorf	Germany	1 January 2018
Professor	**Rodolf Zechner** Institute of Molecular Biosciences, University of Graz	Austria	1 January 2018
Professor	**Francesc Villarroya** Departament de Bioquímica i Biomedicina Molecular, Institut de Biomedic-ina, Universitat de Barcelona and CIBER Fisiopatologia de la Obesidad y Nutrición	Spain	1 January 2018
Professor	**Jörg Heeren** Department of Biochemistry and Molecular Cell Biology, University Medical Centre Hamburg-Eppendorf	Germany	1 January 2018
Associate Professor and MD	**Katarina Kos** Exeter Medical School, University of Exeter	United Kingdom	1 January 2018

Protein Chemistry – structure, function and application			
Professor	**Harald Schwalbe (chair)** Center for Biomolecular Magnetic Resonance, Johann Wolfgang Goethe-University	Germany	1 January 2018
Dr.	**Michael Nilges** Department of Structural Biology and Chemistry, Center of Bioinformatics, Bio-statistics and Intergrative Biology, Institute Pasteur	France	1 January 2018
Professor	**Chas Bountra** Structural Genomics Consortium, Nuffield Department of Clinical Medicine, University of Oxford	United Kingdom	1 January 2018
Associate Professor	**Matteo Dal Peraro** Interfaculty Institute of Bioengineering, School Of Life Sciences, ÉCOLE Polytechnique Fédérale de Lausanne	France	1 January 2018
Professor	**Sabine L. Flitsch** The Manchester Institute of Biotechnology, The University of Manchester	United Kingdom	14 June 2018
Professor	**Titia Sixma**	Netherlands	(14 June 2018)

Ad hoc Committee on General Practice in an Integrated Healthcare System - Optimal Care Pathways

Titel	Member	Country	Joined (resigned)
Professor and MD	**Lars Fugger (chair)** Nuffield Department of Clinical Neurosciences, John Radcliffe Hospital, University of Oxford	United Kingdom	1 January 2018
Professor	**Jens Otte Lund Jørgensen** Department of Endocrinology and Internal Medicine, Aarhus University Hospital	Denmark	1 January 2018
Professor	**Henrik Toft Sørensen** Department of Health Research and Policy, Stanford University, United Kingdom and Aarhus University Hospital	Denmark	1 January 2018
Professor	**Martin Roland** Department of Public Health and Primary Care, School of Clinical Medicine, University of Cambridge	United Kingdom	1 January 2018
Professor	**Chris J. Salisbury** Bristol Population Health Science Institute, Bristol Medical School, University of Bristol	United Kingdom	1 January 2018
Professor	**Jørund Straand** Department of General Practice, Institute of Health and Society, University of Oslo	Norway	1 January 2018

BII board: BioInnovation Institute

Titel	Member	Country	Joined (resigned)
PhD	**Sten Scheibye (chair)** CBS	Denmark	1 July 2018
Professor and MD	**Bo Ahrén (vice chair)** Lund University	Sweden	1 July 2018
CEO	**Hans Schambye** Galecto, Biotech AB	Denmark	1 July 2018
CEO	**Martin Bonde** Vaccibody	Denmark	1 July 2018
EVP	**Thomas Schäfer** Chr. Hansen A/S	Denmark	1 July 2018
Professor	**Jens Nielsen** Chalmers University of Technology	Denmark	1 July 2018

Evaluation Committee on Proof of Concepts og Business Acceleration Academy: BioInnovation Institute

Titel	Member	Country	Joined (resigned)
Professor	**Mette Marie Rosenkilde** Department of Neuroscience and Pharmacology, University of Copenhagen	Denmark	1 September 2018
Diretor	**Poul Nissen** DANDRITE, Aarhus University	Denmark	1 September 2018
Professor	**Thomas Helleday** University of Sheffield	United Kingdom	1 September 2018
CSO	**Henrik Harboe** Innobooster	Denmark	1 September 2018
Partner	**Peter Birk** Accelerace Management A/S	Denmark	1 September 2018
CTO	**Charlotte Vedel** Lactobio	Denmark	1 September 2018
Head	**Niels-Henrik von Holstain-Rathlou** Novo Nordisk Fonden	Denmark	1 September 2018
Senior Associate	**Jeroen Bakker** Novo Holdings A/S, Novo Seed	Denmark	1 September 2018

Evaluation Committee on Creation House and Traction Factory: BioInnovation Institute

Titel	Member	Country	Joined (resigned)
Board member	**Chris Newton** Inventia Pharma	United Kingdom	1 September 2018
CEO	**Anker Lundemose** MISSION Therapeutics	Denmark	1 September 2018
Senior Partner	**Sten Verland** Sunstone Capital	Denmark	1 September 2018
Partner	**Anne Osdoit** Sofinnova Partners	France	1 September 2018
Vice president	**Finn Ketler** Wounndcare at Biotech Pharmacon ASA	Denmark	1 September 2018
Vice president	**Sebastian Søderberg** Novozymes A/S	Denmark	1 September 2018
Director	**Neil Goldsmith** BaseLaunch	Denmark	1 September 2018
Partner	**Emmanuelle Coutanceau** Novo Holdings A/S, Novo Seed	Denmark	1 September 2018

Advisory Panel on Novo Nordisk Foundation Research Cluster

Titel	Member	Country	Joined (resigned)
CEO	**Birgitte Nauntofte (chair)** Novo Nordisk Foundation	Denmark	1 Januar 2012
Professor and MD	**Lars Fugger** Nuffield Department of Clinical Neurosciences, John Radcliffe Hospital, University of Oxford	United Kingdom	1 January 2013
Professor and MD	**Liselotte Højgaard** Medical Technology, Faculty of Health Sciences, University of Copenhagen	Denmark	1 January 2018
Dr.	**Paul Gilna** Biosecurity and Biomedical Initiatives, Oak Ridge National Laboratory	USA	1 January 2017
Professor and MD	**Matthias Tschöp** Institute for Diabetes and Obesity and Scientific Director at Helmholtz Diabetes Center	Germany	1 January 2017
Professor	**Dame Anne Glover** University of Strathclyde, Faculty of Engineering, Royal Society of Edinburgh	United Kingdom	1 January 2016
Professor emeritus	**Eero Ilkka Vuorio** University of Helsinki	Finland	1 January 2016
Professor	**Rolf K. Reed** Department of Biomedicine, University of Bergen	Norway	1 January 2012
Head	**Dagnia Looms** Novo Nordisk Foundation	Denmark	1 January 2012
Professor	**Bo Ahrén**	Sweden	(31 December 2017)
Professor and MD	**Harriet Wallberg**	Sweden	(31 December 2017)

Note: Apart from committees mentioned above the Foundation also has internal expert committees
Committee on NNF Symposia; Committee on Investments (pre-seed); and ad hoc Committee on the Research Infrastructure Programme.

The Grant Report 2018 is part of the Novo Nordisk Foundation Group's report to comply with Section §77 of the Danish Financial Statements Act.

The Novo Nordisk Foundation is subject to the Act on Commercial Foundations, and the Danish Business Authority therefore supervises the Foundation. In addition, the Foundation must comply with the recommendations of the Committee on Good Foundation Governance.

The Foundation organizes its commercial and grant-awarding activities separately.

- The Novo Nordisk Foundation is responsible for awarding grants, and the Foundation's Board decides the strategy for the grants and which grants to award.
- Novo Holdings A/S manages the commercial activities within the overall financial strategy set by the Foundation's Board, which has also laid down the Charter for the Novo Nordisk Foundation Group. Through its ownership of Novo Holdings A/S, the Foundation's Board approves the annual report of Novo Holdings A/S' and the appointment of members to its Board.

The Foundation funds its grants from income that primarily comprises dividends from Novo Holdings A/S. The Foundation's Board ensures reasonable consolidation through suitable appropriation of funds, possibly in Novo Holdings A/S. This is to enable the Foundation to participate as necessary in future capital increases of Novo Nordisk A/S and Novozymes A/S or other companies in which Novo Holdings A/S has a substantial ownership stake.

Read more on: novonordiskfonden.dk/en/publications

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