Danish Diabetes Academy

Annual Report 2015

DANISH DIABETES ACADEMY - ANNUAL REPORT 2015
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Danish Diabetes Academy

Annual Report 2015

Contents

Executive summary	4
About the Danish Diabetes Academy	6
Overall objectives and success criteria for the Academy	8
Educational activities	12
Network and collaboration	20
Recruitment/grant activities	26
Scientific output	44
Outreach and dissemination	48
Organization and structure	50
External funding	56
Self-Evaluation of the Academy	57
Budget and Accounts	58

Executive summary

The main focus of the Academy's activities in 2015 was:

- Education
- Networking
- Recruitment

These activities have centred on the Academy's five primary research areas:

- Type 1 diabetes
- Type 2 diabetes
- Diabetes and complications
- Diabetes and pregnancy
- Diabetes and technology

Education

The Academy arranged 13 educational activities (primarily PhD courses and seminars) with a total of over 900 participants. The scientific quality of the PhD courses and seminars was highly rated as the mean scores for the PhD courses and seminars were 4.3 and 4.7, respectively, on a scale from 1 (lowest) to 5 (highest). In 2015, the Academy succeeded in enabling close collaboration with foreign universities as some of the educational activities were organised with partners such as the Joslin Diabetes Center, Harvard Medical School, United States; Banting & Best Diabetes Centre, Toronto, Canada; and Cambridge University, United Kingdom.

Networking

In 2015, the progress of the Academy's PhD Network of Diabetes and Metabolism continued, and eight out of nine university PhD schools are now affiliated with this network. Moreover, the Academy organised 11 networking activities, including workshops and symposia and an annual day, with participation from more than 500 national and international, basal and clinical researchers. The networking activities were highly rated and the majority of the respondents said that, at the workshops, they had established contacts with other researchers that could lead to new collaborations in the future.

Recruitment

During 2015, the Academy aimed to attract outstanding researchers both nationally and internationally in open and free competition. In total, 42 researchers (30 PhD students, seven postdoctoral fellows, four visiting professors and one full-time professor) were recruited during the year. Of these 42 researchers, almost 38% are from abroad.
Also worthy of note is the Academy's postdoctoral programme, which seems to attract a good number of foreign researchers – nearly 57% of the recruited postdoctoral fellows are from abroad.

Conclusion

The Academy's performance with regard to the success criteria can be seen in Table 1 (A-C).
The accomplishments with regard to the Academy's educational and networking activities confirm that the Academy has succeeded in establishing a competent and high-level international knowledge-sharing environment that has strengthened research training within diabetology at both PhD and postdoctoral level. Moreover, the successful recruitment of over 40 national and international researchers confirms that the Academy, to a great extent, has helped to draw or sustain Danish and international talents into diabetes research.

About the Danish Diabetes Academy

The Academy was established on 1 September 2012 with a five-year grant from the Novo Nordisk Foundation (2012-2017) of DKK 201,880,000 (EUR 27,059,485) with the aim to enhance the quality of Danish diabetes research and ensure that it remains at the highest international level in the future for the benefit of present and future generations of patients with diabetes. The Academy constitutes an original platform for a national diabetes research strategy ensuring both basic and clinical research in diabetes.

The five primary research areas of the Academy are:

- Type 1 diabetes
- Type 2 diabetes
- Diabetes and complications
- Diabetes and pregnancy
- Diabetes and technology.

These research areas form the basis of the Academy's activities that lie in three focus areas: education, networking and recruitment.

To foster enhanced collaboration, all interested and active diabetes researchers, both nationally and internationally, have been able to acquire membership of the Academy since its establishment, and the Academy now has more than 700 researchers as members of which almost 120 are supported financially by the Academy.

The Academy is co-financed by the Danish universities and university hospitals and JDRF.



700

researchers are members of the Academy.

Overall objectives and success criteria for the Academy

The overall vision of the Academy is to ensure the high level of research and treatment of diabetes in Denmark for the benefit of present and future patients with diabetes.

This vision serves as the framework for all current and future strategic efforts of the Academy, including the Academy's defined objectives and missions, as outlined in the grant application:

- To enhance the quality of Danish diabetes research and ensure that it remains at the highest international level in the future
- To strengthen the talent pool and to build up a career direction for young researchers within the field of diabetology
- To attract outstanding researchers both nationally and internationally
- To strengthen research training in the field of diabetology
- To catalyse the establishment of a national, dynamic, creative and internationally oriented research environment in diabetology
- To strengthen networking, knowledge-sharing and collaboration within Danish diabetology

The Academy has within the defined objectives and mission areas identified three success criteria (Appendix 2):

- Education: The Academy aims to be recognised as an institution that provides world-class internationally oriented educational activities.
- Networking: The Academy aims to be identified as a unifying force in Danish diabetes research through national and international networking activities.
- Recruitment: The Academy aims to recruit and nurture the next generation of national and international scientific leaders within basal and clinical diabetes research to obtain a high level of influence on diabetes research in Denmark and abroad.

The Academy's succes criteria and performance

Table 1 (A-C). The Academy's success criteria and performance in 2015 with regard to these criteria

A: The Academy aims to be recognised as an institution that provides world-class internationally oriented educational activities

Criteria	Activities in 2015	Success criteria accomplished
The Academy arranges annually: • ≥ 2 residential PhD courses • 1 Winter School for postdocs • ≥ 4 national and international seminars	• 2 residential PhD courses • 1 Winter School for postdoctoral fellows • 6 national and international seminars	☺
≥ 40% of the invited experts are from abroad	Almost 62% of the invited experts were from abroad	☺
The number of participants in each seminar is ≥ 60	The average number of participants was 112	☺
Rating of the scientific quality of the seminars or PhD courses with a mean score over 3.5 on a scale from 1 (lowest) to 5 (highest)	Mean scores of • PhD courses: 4.3 • Seminars: 4.7 • Winter School: 4.4	☺

B: The Academy aims to be identified as a unifying force in Danish diabetes research through national and international networking activities

Criteria	Activities in 2015	Success criteria accomplished
>80% of all relevant university PhD schools are affiliated with the Academy´s national PhD Network of Diabetes and Metabolism	89% (8 out of 9) university PhD schools are affiliated	☺
The number of networking activities should exceed 12 annually	The Academy organised 11 networking activities	☹
Documented enhanced collaboration among the Academy's grant recipients		Not possible to measure yet
The Academy should collaborate with all relevant professional societies*	The Academy invited 10 professional societies to collaborate	Not possible to measure yet
75% of all Academy PhD students have had a change of research environment, preferentially abroad, with at least one stay >3 weeks	85% of the PhD students mentioned in their application that they expect to have a change of research environment	Not possible to measure yet
Annual increase of at least 10% to: • The number of Academy members • The number of subscribers to newsletters • The number of unique website hits • The number of followers on social media Rating of content to be very high from at least 75% of the website users, subscribers to newsletters and followers on social media	• Number of Academy members: 58% increase • Number of subscribers to newsletters: 39% increase • Number of unique website hits: 23% increase • Number of followers on LinkedIn: 68% increase • Number of followers on Facebook: 67% increase Rating of content: No evaluation has been made	☺

*Danish Endocrine Society, Danish Society of Nephrology, Danish Association for the Study of Obesity, Danish Society of Obstetrics and Gynaecology, Young Endocrinologists' Association, Danish Society of Neurology, Danish Society for Molecular Medicine, Danish Diabetes Nurses' Society, Danish Society of Cardiology, Danish Bone Society, Danish Society for Geriatrics

C: The Academy aims to recruit and nurture the next generation of national and international scientific leaders in basic and clinical diabetes research to obtain a high level of influence on diabetes research in Denmark and abroad

Criteria	Activities in 2015	Success criteria accomplished
At least 50% of the scientific publications must be published in high impact journals	• 67.6% of the articles were published in journals of the first quartile (high impact journals) • 81.1% of the articles were published in the first and second quartile	
Annually, at least one Academy PhD student and postdoctoral fellow receive an award for their scientific skills	• 1 PhD student and 1 postdoctoral fellow received an award for their scientific skills (see Appendix 10)	
Academy PhD students and postdoctoral fellows receive additional external funding for their project	• 100% of the Academy PhD students received the remaining two thirds of their PhD salary from external funds	
95% of all Academy PhD students finish their PhD project	No PhD students have yet finished their PhD project	Not possible to measure yet

Educational activities

Objectives and goals

The Academy's educational objective is to strengthen research training in the field of diabetology by providing world-class and internationally oriented educational activities in order to attract the elite of future PhD students and postdoctoral fellows.

Strategy

Together with the Academy's Managing Director and Education Committee, the Academy's Education Manager is responsible for ensuring that the educational activities are aligned with the Academy's overall educational objective. This is ensured through ongoing evaluations of the activities and strategic positioning with regard to the type of activities that the Academy should support and initiate.

The Academy's strategy to develop educational activities involves suggestions from participants and speakers at our courses and seminars and from the Academy's members. These suggestions are considered by the Education Committee, and the committee prepares an annual scientific curriculum describing the courses, seminars, symposia and other educational activities offered by the Academy. For each activity, a senior researcher is given key responsibility for drawing up suggestions for the scientific programme in collaboration with the Education Committee.

The Academy secretariat is responsible for the advertising, the registration of participants and the evaluation of each activity.

In order to attract established and emerging diabetes researchers, the Academy announces all the educational activities via social forums, websites (including the Academy's website: www.danishdiabetesacademy.dk), newsletters, electronic university bulletins and the websites of relevant professional societies.

In general, the Academy seminars are open to all interested diabetes researchers and the seats are allocated on a first-come, first-served basis. In case of fully booked seminars, members of the Academy are given first priority. At our PhD Summer School, PhD students in their second or third year of study are given first priority.

Performance and accomplishments

Aiming at the highest possible international standards, the Academy, in 2015, held educational activities within:

- **The PhD scholarship programme:** The portfolio of courses of the Academy's PhD scholarship programme includes two mandatory residential courses and a varying number of other elective courses, seminars and symposia. The courses are embedded in the educational activities of the collaborating universities' PhD schools and PhD programmes as the establishment of the network is agreed upon by eight out of nine university PhD schools, and as the members of the Education Committee represent the various PhD schools and are thus able to ensure that the courses offered by the Academy meet the requirements of the universities' PhD schools and PhD programmes.

- **The seminar and symposia programme,** where the Academy initiates several seminars and symposia, some in collaboration with international research institutions. The seminars and symposia are aimed at national and international junior and senior researchers in basal and clinical diabetes in order to create an intellectual framework for knowledge-sharing and professional discussions at the highest international level.

- **The postdoctoral programme,** where the Academy offers educational and networking activities, such as the annual Winter School, workshops and courses in research management, PhD supervision and fundraising.

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- **The professorship programme,** where the Academy professors participate in and give lectures at the Academy's courses, seminars and symposia in order to increase the scientific quality and thus contribute to achieving the Academy's objective of providing world-class educational activities.

The scientific programmes of the Academy's PhD courses, seminars and postdoctoral courses are included in Appendix 3-6.

The Academy's seminars and courses were all well attended and well evaluated, and the educational activities are in line with the Academy's vision and success criteria (see Appendix 2), as described above and as demonstrated in Table 1 (A) (pages 9 and pages 10).

The PhD scholarship programme

The Academy held two major residential courses in 2015 with the participation of both national and international speakers. The courses were approved by the universities' PhD schools and give four ECTS points. The scientific programmes of the two courses can be seen in Appendix 3.

18 - 21 May
PhD course on Basal Metabolism and Molecular Mechanism in the Metabolic Syndrome
Sinatur Hotel Storebælt, Nyborg, Denmark

The course was attended by 72 PhD students (fully booked), as shown in Table 2.

The participants' satisfaction with the scientific programme was 4.1 on a scale from 1 (lowest) to 5 (highest), as shown in Table 2.

8 - 11 September
Summer School on Diabetes and Metabolism
Gl. Avernæs, Denmark

The course was attended by 53 students (fully booked), as shown in Table 2.

The participants' satisfaction with the scientific programme was 4.59 on a scale from 1 (lowest) to 5 (highest) as shown in Table 2.

The seminar and symposia programme

The Academy held six major seminars and symposia in 2015. Nearly 670 researchers attended the activities. The percentage of speakers from abroad varied from 10% to 90%. , and the satisfaction with the scientific programme ranged from 4.6 to 4.8 (Table 3). The scientific programmes of the activities can be seen in Appendix 4.

5 February
Scientific seminar on "Cardiovascular disease in diabetic patients – an endo-cardiological challenge"
Radisson Blu Scandinavia Hotel, Aarhus, Denmark

The Academy postdoc Esben Laugesen and Associate Professor Mette Bjerre, Aarhus University Hospital, were given key responsibility to set up the scientific programme.

A total of 97 audience members and speakers participated in the seminar. The participants' satisfaction with the scientific programme was 4.7 on a scale from 1 (lowest) to 5 (highest), as shown in Table 3.

Table 2. Participants, and participants' satisfaction with the PhD courses

	Number of participants	Participant satisfaction (mean) (scale 1 (lowest) to 5 (highest))
Basal Metabolism and Molecular Mechanisms in the Metabolic Syndrome	72	4.07
Summer School on Diabetes and Metabolism	53	4.59

21 May

Scientific seminar on "Microvascular Complications in Diabetes"

Steno Diabetes Center, Copenhagen, Denmark

Peter Rossing, Steno Diabetes Center, Michael Larsen, Department of Ophthalmology, Copenhagen University Hospital Glostrup, and Clinical Professor Troels Staehelin Jensen, Danish Pain Research Center, Aarhus University, were appointed to set up the scientific programme.

A total of 90 audience members and speakers participated in the seminar. The participants' satisfaction with the scientific programme was 4.7 on a scale from 1 (lowest) to 5 (highest), as shown in Table 3.

27-28 August

Scientific seminar on "Diabetes & Exercise"

Carlsberg Museum, Copenhagen, Denmark

Professor Jørgen Wojtaszewski, University of Copenhagen, Associate Professor Niels Jessen, Aarhus University Hospital, and Visiting Professor Jørgen Jensen, University of Copenhagen, were appointed to set up the scientific programme.

A total of 122 audience members and speakers participated in the seminar. The participants' satisfaction with the scientific programme was 4.8 on a scale from 1 (lowest) to 5 (highest), as shown in Table 3.

8-9 October

Scientific seminar on "Islet Cell Plasticity in Diabetes Therapy"

Carlsberg Museum, Copenhagen, Denmark

Professor Jens Høiriis Nielsen, Professor Thomas Mandrup-Poulsen and Professor Niels Billestrup, University of Copenhagen, were appointed to set up the scientific programme in collaboration with Professor George King, Joslin Diabetes Center, Harvard Medical School, United States, and Professor Gary Lewis, Director, Banting & Best Diabetes Centre, University of Toronto, Canada.

A total of 170 audience members and speakers participated in the seminar. The participants' satisfaction with the scientific programme was 4.8 on a scale from 1 (lowest) to 5 (highest), as shown in Table 3.

12-13 November

Scientific seminar on "MicroRNA in Metabolism"

Novo Nordisk Foundation, Denmark

Associate Professor Louise Torp Dalgaard, Roskilde University, and Associate Professor Sara Vienberg, University of Copenhagen, were appointed to set up the scientific programme.

A total of 103 audience members and speakers participated in the seminar. The participants' satisfaction with the scientific programme was 4.7 on a scale from 1 (lowest) to 5 (highest), as shown in Table 3.

23 November

Scientific seminar on "Update on Metformin: Still the Gold Standard?"

Copenhagen University Hospital Gentofte, Copenhagen, Denmark

Professor Jørgen Rungby and Professor Tina Vilsbøll, Copenhagen University Hospital Gentofte, were appointed to set up the scientific programme.

A total of 90 audience members and speakers participated in the seminar. The participants' satisfaction with the scientific programme was 4.6 on a scale from 1 (lowest) to 5 (highest), as shown in Table 3.

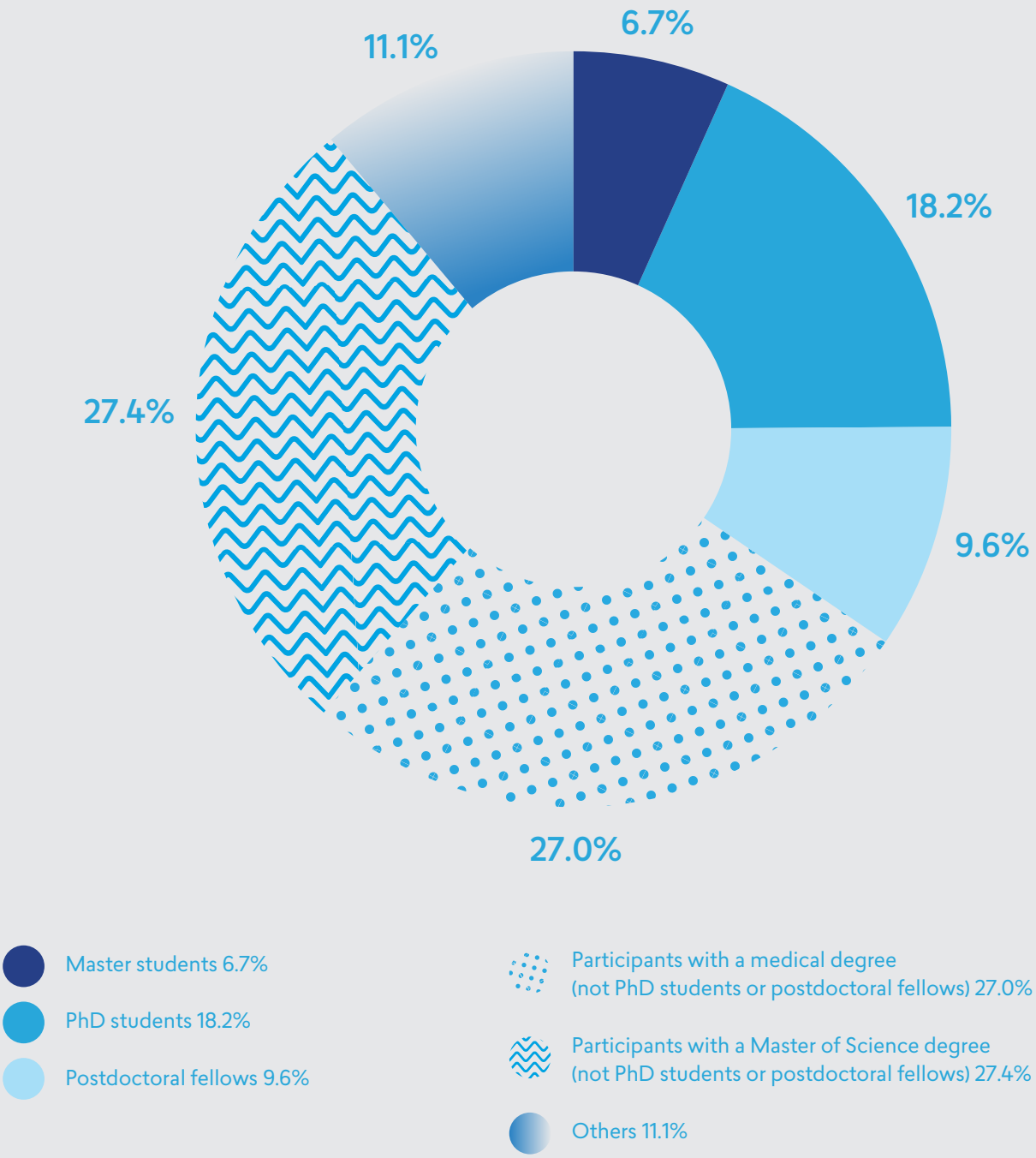
Table 3. Participants, percentage of speakers from abroad and participant satisfaction of the Academy's seminars

	Number of participants at seminars	Percentage of speakers from abroad	Participant satisfaction (mean) (scale 1 (lowest) to 5 (highest))
Cardiovascular disease in diabetic patients	97	62.5%	4.66
Microvascular Complications in Diabetes	90	70.0%	4.66
Diabetes & Exercise	122	75.0%	4.77
Islet Cell Plasticity in Diabetes Therapy	170	70.0%	4.83
MicroRNA in Metabolism	103	86.7%	4.70
Update on Metformin: Still the Gold Standard?	90	10.0%	4.60
Mean	**112**	**62.5%**	**4.70**

The Academy also succeeded in attracting a wide selection of researchers as shown in Figure 1. The seminars were attended by almost 120 PhD students and 60 postdoctoral fellows, and an equal number (180) of participants with a medical degree and a Master of Science degree.

Figure 1 shows that the percentage of young researchers (defined as master students, PhD students and postdoctoral fellows) who attended the Academy seminar was approximately one third of all participants (34.5%). Moreover, the table shows that the number of participants with a medical degree and the number of participants with a Master of Science degree is almost equal. This could reflect that the Academy aims at offering a scientific programme presenting translational research bridging basal and clinical science.

Figure 1. Educational background of the participants of the Academy's seminars



The postdoctoral programme

The Academy held five major activities within the postdoctoral programme in 2015. Nearly 200 researchers attended the activities. The satisfaction with the scientific programme ranged from 4.1 to 4.9 (Table 4). The scientific programmes of the activities can be seen in Appendix 5.

8-13 March
First postdoctoral Winter School
Malaga, Spain

Four Academy postdoctoral fellows: Esben Laugesen and Jakob Appel Østergaard, Aarhus University Hospital, Nanna Johansen, Steno Diabetes Center, and Alexander Rauch, University of Southern Denmark, were responsible for setting up the scientific programme in collaboration with the Academy's Education Committee.

A total of 59 postdoctoral fellows from seven different countries and 23 speakers from Europe and the United States participated in the Winter School.

The participants' satisfaction with the scientific programme was 4.7 on a scale from 1 (lowest) to 5 (highest), as shown in Table 4.

16-17 April and follow-up 6 May
Research Management Course
Radisson Blue, H.C Andersen Hotel, Odense, Denmark

A total of 26 participants, mainly postdoctoral fellows, participated in the Research Management Course. Consultant Søren Barlebo Rasmussen, Copenhagen Business School, was course leader.

The participants' satisfaction with the content of the course was 4.7 on a scale from 1 (lowest) to 5 (highest), as shown in Table 4.

26-27 August and follow up 30 September
Presentation Course
Hotel Storebælt, Nyborg, Denmark

A total of 20 participants, mainly postdoctoral fellows, participated in the course. Training consultant Barry Stainthorp, Partners in Training (PinT), England, was course leader.

The participants' satisfaction with the content of the course was 4.9 on a scale from 1 (lowest) to 5 (highest), as shown in Table 4.

24 September
Fundraising Course – The successful application
Hotel Storebælt, Nyborg, Denmark

Michael W. Rasmussen, the Academy's fundraiser, Sven Olaf Svenningsen, Head of Southern Denmark Research Support, and a colleague at Southern Denmark Research Support were leaders of the course.

A total of 15 participants, mainly postdoctoral fellows, participated in the course.

The participants' satisfaction with the content of the course was 4.1 on a scale from 1 (lowest) to 5 (highest), as shown in Table 4.

The professorship programme

30 June
Webinar on "Type 2 diabetes from an epidemiological perspective"
www.danishdiabetesacademy.dk

The webinar was held by Danish Diabetes Academy Professor Daniel Witte, and a total of 52 participants participated.

The participants' satisfaction with the content of the webinar was 4.3 on a scale from 1 (lowest) to 5 (highest), as shown in Table 4.

Table 4. Participants, percentage of speakers from abroad and participant satisfaction with the Academy's postdoctoral activities

	Number of participants at seminars	Participant satisfaction (mean) (scale 1 (lowest) to 5 (highest))
First postdoctoral Winter School	82	4.70
Research Management Course	25	4.70
Presentation Course	20	4.90
Fundraising Course	15	4.10
Webinar	52	4.30
Mean	**38.8**	**4.54**

The Virtual Laboratory

In 2015, the Academy established collaboration with Biotech Academy in relation to the Virtual Laboratory, which is an e-learning application. The aim of the collaboration between the Academy and Biotech Academy is to further develop the e-learning application with diabetes specific exercises. The Academy's ambition is that this e-learning application will be used by the Academy-funded postdoctoral fellows and PhD students when they teach high-school and master students. Two of the academy funded researchers played an important role in designing the new diabetes specific exercises. Further development of the Virtual Laboratory will happen in the next year.

Conclusion

The above-mentioned accomplishments confirm that the Academy has succeeded in establishing a competent and high-level international knowledge-sharing environment that has strengthened research training within diabetology at both PhD and postdoctoral level. The activities attracted a wide range of research environments and attracted a high level of national and international recognition. Furthermore, the educational activities created a basis for cooperation with nationally and internationally recognised research institutions for the organisation of the activities. Thus, the Academy's objective of strengthening research training in the field of diabetology by providing world-class and internationally oriented educational activities has been achieved.

Network and collaboration

Objectives and goals

The Academy has an objective to establish itself as a unifying force in Danish diabetes research by facilitating national and international networking activities of high professional quality and by strengthening knowledge-sharing and collaboration both among Danish researchers and with international research groups. This should lead to the establishment of a national, dynamic, creative and internationally oriented research environment in diabetology.

Strategy

Together with the Academy's secretariat, the Academy's Education Committee is responsible for ensuring that the established networking activities are aligned with the Academy's overall networking objectives. This is ensured through ongoing evaluations of the activities and strategic positioning of the type of networking activities that the Academy should support and initiate.

The Academy's strategy to develop networking activities involves ad hoc suggestions from participants and speakers at our workshops and seminars and from the Academy's members. These suggestions are considered by the Education Committee, and the final decision on whether or not the proposed activity should be supported is made by the Board.

All networking activities are announced via social media forums, the Academy's website, newsletters, electronic university bulletins and websites of professionally relevant societies.

The Academy communicates with its members and the national and international diabetes community through the Academy's website and social media forums such as Facebook and LinkedIn, as well as newsletters, where new and relevant research is presented and discussed. The Academy's communications activities are described in detail in the section on Scientific output, outreach and dissemination (pages 44-49).

Performance and accomplishments

With the aim of establishing itself as a unifying force in Danish diabetes research, the Academy has established the following networking and collaboration activities:

- **Workshop programme:** In 2015, the Academy organised a series of workshops within the Academy's primary research areas. The activities were organised in collaboration with national and international research institutions and research groups, including Joslin Diabetes Center, Harvard Medical School, United States; Banting & Best Diabetes Center, Canada; and Cambridge University, United Kingdom. These workshops gave young researchers the opportunity to present research ideas and have professional discussions with senior national and international researchers.

- **Networking Meetings programme:** In 2015, the Academy held large and small networking meetings where the objective was to bring together the Academy's young scientists in a more informal setting. The objective of these meetings was to give young researchers the opportunity to exchange and discuss research ideas across disciplines and institutions.

Workshop programme

The Academy held seven workshops in 2015, which were attended by nearly 330 researchers. The satisfaction with the scientific programme ranged from 4.6 to 4.9 (Table 5). The programmes of the workshops can be seen in Appendix 6.

9 January
Workshop on "E-Health in Type 2 Diabetes — timed feedback to obtain a sustained active lifestyle E-Health
De Gamles By, Copenhagen, Denmark

Academy postdoc Mathias Ried Larsen was appointed to set up the scientific programme.

A total of 77 audience members and speakers participated in the workshop.

4 February
Workshop on "Individualized cardiovascular risk stratification and treatment in diabetic patients; current knowledge, challenges and uncertainty"
Radisson Blu Scandinavia Hotel, Aarhus, Denmark

Academy postdoc Esben Laugesen and Associate Professor Mette Bjerre, Aarhus University Hospital, were appointed to set up the scientific programme.

A total of 30 audience members and speakers participated in the workshop.

29 March
Workshop on "Diabetic wound healing"
Roskilde University, Roskilde, Denmark

Associate Professor Louise Torp Dalgaard, Roskilde University, was appointed to set up the scientific programme.

A total of 30 audience members and speakers participated in the workshop.

11-13 May
Workshop on "Psychosocial support to young people with Type 1 Diabetes"
Bernstorff Slot, Copenhagen, Denmark

Research Leader Ingrid Willian, Steno Diabetes Center, was appointed to set up the scientific programme.

A total of 10 national and international researchers participated in the workshop.

7 October
Workshop on "Islet Cell Plasticity in Diabetes Therapy"
Carlsberg Museum, Copenhagen, Denmark

Professor Jens Høiriis Nielsen, Professor Thomas Mandrup-Poulsen and Professor Niels Billestrup, University of Copenhagen, were appointed to set up the scientific programme.

A total of 50 audience members and speakers participated in the workshop.

The participants' satisfaction with the content of the workshop was 4.9 on a scale from 1 (lowest) to 5 (highest), as shown in Table 5.
Nearly 80% of the respondents said that at the workshop they had established contacts with other researchers, which could lead to new collaborations in the future.

11 November
Workshop on "MicroRNAs in Metabolism"
Panum Institute, Copenhagen, Denmark

Associate Professor Louise Torp Dalgaard, Roskilde University, and Associate Professor Sara Vienberg, University of Copenhagen, were appointed to set up the scientific programme.
A total of 35 audience members and speakers participated in the workshop.

The participants' satisfaction with the content of the workshop was 4.7 on a scale from 1 (lowest) to 5 (highest), as shown in Table 5.

Nearly 70% of the respondents said that at the workshop they had established contacts with other researchers, which could lead to new collaborations in the future.

10-11 December
Workshop on "Why is exercise good for us, complementing genetics for better, metabolic regulation"
Cambridge University, Cambridge, United Kingdom

Professor Jørgen Wojtaszewski, University of Copenhagen, Associate Professor Niels Jessen, Aarhus University, and Visiting Professor Jørgen Jensen, University of Copenhagen, set up the scientific programme in collaboration with researchers from Cambridge University.

A total of 90 audience members and speakers participated in the workshop.

The participants' satisfaction with the content of the workshop was 4.8 on a scale from 1 (lowest) to 5 (highest), as shown in Table 5.

Nearly 80% of the respondents said that at the workshop they had established new research relationships that could lead to new collaborations in the future.

Networking meetings programme

The Academy held four networking meetings in 2015, which were attended by nearly 200 researchers. The programmes of the networking meetings can be seen in Appendix 6.

5-9 June
Networking meeting: Young researchers' discussion
The American Diabetes Association's (ADA) 75th Scientific Sessions, Boston, United States

A total of 15 young researchers participated in the networking meeting.

23 June
Networking meeting: Welcome to the seven new Academy postdoctoral fellows
Hotel Storebælt, Nyborg, Denmark

A total of 30 researchers participated in the networking meeting.

15 September
Networking meeting: Young researchers' discussion
European Association for the Study of Diabetes (EASD) Annual Meeting, Stockholm, Sweden

A total of 10 young researchers participated in the networking meeting.

18 November
Networking meeting: Second Annual Day
Hotel Storebælt, Nyborg, Denmark

A total of 151 audience members and speakers participated in the Annual Day.

The participants' satisfaction with the content of the Annual Day was 4.6 on a scale from 1 (lowest) to 5 (highest), as shown in Table 5.

Nearly 84% of the respondents said that at the Academy's Annual Day they had established new research relationships that could lead to new collaborations in the future.

Table 5. Participants and participant satisfaction with the Academy's workshops and networking programme

Activity/Data	Number of participants of the activities	Participant satisfaction (mean) (scale 1 (lowest) to 5 (highest))
E-Health in Type 2 Diabetes	97	Not measured*
Individualized cardiovascular risk stratification and treatment in diabetic patients; current knowledge, challenges and uncertainty	30	Not measured
Workshop in diabetic wound healing	30	Not measured*
Psychosocial support to young people with Type 1 Diabetes	10	Not measured*
Islet Cell Plasticity in Diabetes Therapy	50	4.90
MicroRNA in Metabolism	35	4.70
Why is exercise good for us, complementing genetics for better metabolic regulation	90	4.80
Young researchers' discussion (ADA)	30	Not measured
Presentation of the new Academy postdoctoral fellows	30	Not measured
Young researchers' discussion (EASD)	10	Not measured
Annual Day	151	4.60
Mean	**50.27**	**4.75**

*Qualitative evaluation can be seen in Appendix 6

Conclusion

The above-mentioned accomplishments confirm that the Academy has succeeded in establishing national and international networking activities of high professional quality that have catalysed the establishment of a national, dynamic, creative and internationally oriented research environment in diabetology, as specified in the Academy's objectives for networking and collaboration.

Recruitment/grant activities

Objectives and goals

The Academy's aim is to attract outstanding researchers both nationally and internationally and build up a research career path starting at the pregraduate level with one-year scholarships, followed by PhD fellowships, postdoctoral positions, and finally the Academy aims to introduce new five-year professorships within highly promising research areas.

In addition, a visiting programme including 10 visiting professorships (each of one to six months) is open for international professors who wish to conduct their research in Denmark for a shorter period of time.

Strategy and selection procedure

With input from the International Advisory Board and the Consultative Council, the Board has defined a recruitment strategy and selection procedure for all types of grants (see Appendix 7).

Central to the strategy is the clear intention that recruitment should take place in open and free competition where all candidates have equal access to apply for a grant regardless of nationality, educational background and research area.

The Academy's Research Committee is responsible for recommending the most qualified candidates to the Board based on an evaluation of their scientific skills. All PhD, postdoctoral and visiting professor applications in 2015 were subject to external review, nationally or internationally. Based on these reviews, the Research Committee created a rank list for the Board, which took the final selection decision.

The strategy for recruitment within the International Research Partnership (IRP) for postdoctoral fellowships established with JDRF includes evaluation of the applicants by JDRF's international expert panel and selected Danish assessors.

The Academy announced all grants through websites at Danish universities, university hospitals and professional societies, as well as jobsites. Furthermore, the Academy advertised on international websites, including Nature jobs and Endocrine jobs.

Performance and accomplishments

In 2015, the Academy recruited 30 PhD students, seven postdoctoral fellows, four visiting professors and one full-time professor.

Recruitment of PhD students

The Academy allocated 30 one-third funded PhD scholarships in 2015.

Figure 2 shows the number of PhD applications received (in total 110) and the distribution of the applications with regard to educational background, gender and nationality.

Applications for PhD grants

Figure 2. The total number of applications for PhD grants in 2015 and the number of applications categorised according to educational background, gender and nationality

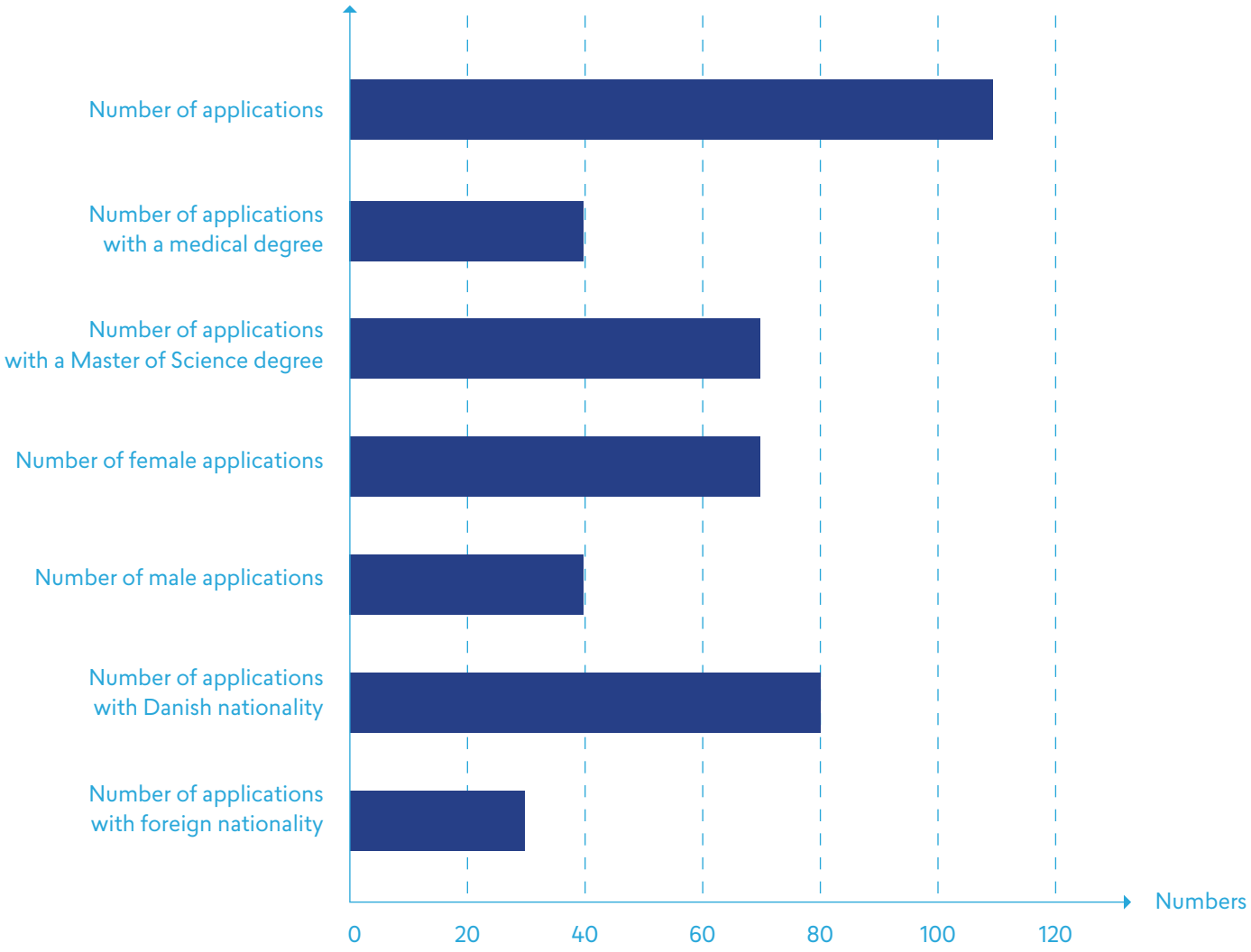


Table 6 shows the total success ratio of the PhD applications and this success ratio categorised according to three parameters: educational background, gender and nationality. The success ratio is calculated as the relationship between the number of grants divided by the number of applications.

As shown in Table 6, the success ratio is slightly higher among applicants with a medical degree compared to applicants with a Master of Science degree, whereas the success ratio among female and male applicants appears to be identical.

The difference in success ratio between applicants with a medical degree and applicants with a Master of Science degree is opposite from the pattern observed in previous years. As the Academy's grant strategy focuses on quality (the combination of the best candidate and the best project) this observed difference could be related to annual fluctuations in the quality of the applications from the two groups.

The relatively high number of PhD grants given to students from abroad (24%) should be interpreted cautiously as most of these students also obtained their Master of Science degree in Denmark. It is our experience that the form of funding, where the Academy only finances one third of the total PhD salary, is a barrier to attracting foreign candidates as they rarely have the opportunity to create real contact with a Danish principal investigator, who has to cover the costs of the other two thirds of the PhD salary and the operating costs.

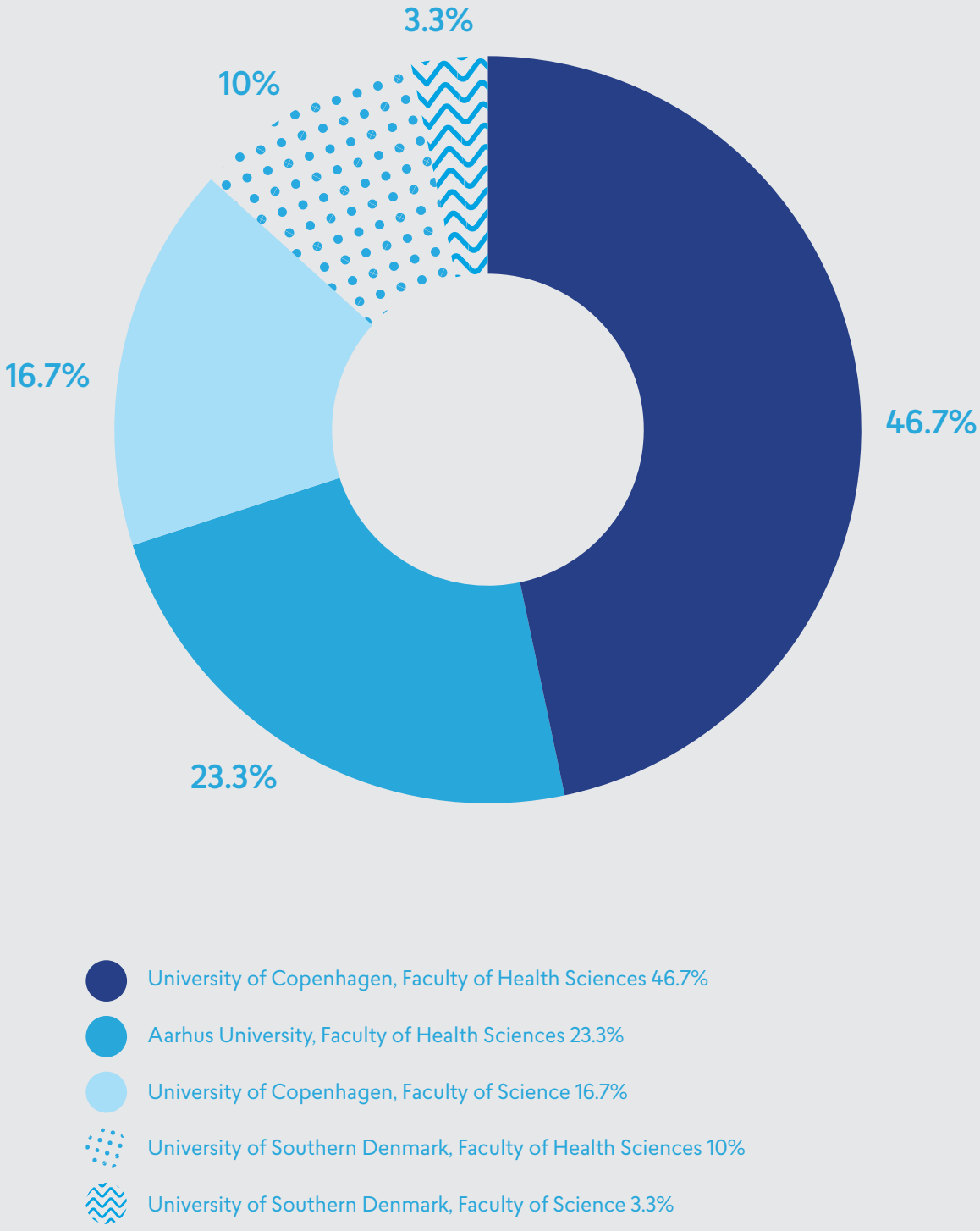
Institutional background and affiliation

Most of the PhD scholarships were allocated to the faculties of health sciences (80%). Almost 70% of the PhD scholarships were allocated to the Faculty of Health Sciences at the Universities of Copenhagen and Aarhus (Figure 3), which is also reflected by the fact that most of the applications are from these institutions.

Table 6. The total success ratio of the PhD applications and the success ratio categorised according to three parameters: educational background, gender and nationality

	Number of applications	Number of grants	Success ratio %
Total number of applications	**110**	**30**	**27.2%**
Applicants with medical degree	41	16	39.0%
Applicants with Master of Science degree	69	14	20.3%
Female applicants	69	18	26.1%
Male applicants	41	12	29.2%
Applicants with Danish nationality	81	23	28.3%
Applicants with foreign nationality	29	7	24%

Figure 3. Institutional affiliation of the PhD scholarships



Grant recipients of PhD scholarships

Table 7. List of grant recipients of PhD scholarships

Agnete LB Madsen
MSc
University of Copenhagen, Faculty of Science

Project
Novel mechanisms in mTORC1-regulated muscle plasticity

Principal Investigator
Thomas Elbenhardt Jensen

Nationality
Denmark

Anders H. Larsen
MD
University of Aarhus, Faculty of Health

Project
Metformin and Heart Failure — Cardiac uptake of metformin and effects of metformin treatment on myocardial efficiency in patients with heart failure

Principal Investigator
Henrik Wiggers

Nationality
Denmark

Anne Gedebjerg
MD
University of Aarhus, Faculty of Health

Project
Mannan-binding lectin and risk of complications in patient with Type 2 diabetes

Principal Investigator
Reimar Wernich Thomsen

Nationality
Denmark

Charlotte Bayer Christiansen
MSc
University of Copenhagen, Faculty of Health

Project
The colon as an endocrine organ

Principal Investigator
Jens Juul Holst

Nationality
Denmark

Charlotte Janus
MSc
University of Copenhagen, Faculty of Health

Project
Combined physical activity and glp-1 receptor agonists -synergistic effects on metabolic health

Principal Investigator
Jens Juul Holst

Nationality
Denmark

Christoffer Krogager
MD
University of Aarhus, Faculty of Health

Project
DiaBOSA: Impact of CPAP treatment on arterial stiffness in patients with Type 2 diabetes and newly diagnosed obstructive sleep apnoea

Principal Investigator
Klaus W. Hansen

Nationality
Denmark

Table 7.
List of grant recipients of PhD scholarships

Christoffer Martinussen
MD
University of Copenhagen, Faculty of Health

Project
Reaching the effects of gastric bypass on diabetes and obesity without surgery: physiological role of intestinal nutrient sensing

Principal Investigator
Sten Madsbad

Nationality
Denmark

Eva Marie Gram-Kampmann
MD
University of Southern Denmark, Faculty of Health

Project
A reduced-carbohydrate diet high in monounsaturated fats in Type 2 Diabetes: a Six-month study of changes in Metabolism and Cardiovascular function (ReDuCtion)

Principal Investigator
Henning Beck-Nielsen

Nationality
Sweden

Florian Hermann
MSc
University of Copenhagen, Faculty of Health

Project
The Role of Epithelial Architecture in Human Pancreatic Endocrine Lineage Allocation

Principal Investigator
Henrik Semb

Nationality
Germany

Isabelle Isa Steineck
MD
University of Copenhagen, Faculty of Health

Project
Dual-hormone treatment in Type 1 diabetes — beyond the artificial pancreas

Principal Investigator
Kirsten Nørgaard

Nationality
Sweden

Jens Frey Halling
MSc
University of Copenhagen, Faculty of Science

Project
Mitochondrial quality control in aging and Type 2 diabetes: Effect of exercise and role of PGC-1

Principal Investigator
Henriette Pilegaard

Nationality
Denmark

Jonas Roland Knudsen
MD
University of Copenhagen, Faculty of Science

Project
Exploring the spatio-temporal orchestration of mTORC and AMPK signalling in skeletal muscle

Principal Investigator
Thomas Elbenhardt Jensen

Nationality
Denmark

Kari Østerli
MSc
University of Southern Denmark, Faculty of Science

Project
Uncovering the molecular basis for nutritional reprogramming of pancreatic cells using novel in situ and genome-wide approaches

Principal Investigator
Susanne Mandrup

Nationality
Norway

Katrine Hygum
MD
University of Aarhus, Faculty of Health

Project
The effect of liraglutide on bone turnover, bone mass and bone cell function

Principal Investigator
Bente Lomholt Langdahl

Nationality
Denmark

Katrine Meyer Jensen
MD
University of Aarhus, Faculty of Health

Project
Effects of a MUFA-rich Mediterranean Diet on Basal Lipid Metabolism and Meal Fat Oxidation Assessed by Combined Fatty Acid Tracer and PET Techniques

Principal Investigator
Niels Møller

Nationality
Denmark

Table 7.
List of grant recipients of PhD scholarships

Lasse Bjerg
MD
University of Aarhus, Faculty of Health

Project
Clustering of microvascular and macrovascular complications in diabetic populations

Principal Investigator
Daniel Rinse Witte

Nationality
Denmark

Lene MR Madsen
MD
University of Aarhus, Faculty of Health

Project
Effect of Gastric Bypass Surgery on diabetic status and microvascular complications in obese Type 2 diabetic patients: Register-based and clinical follow-up studies

Principal Investigator
Bjørn Richelsen

Nationality
Denmark

Lærke Bertholdt
MSc
University of Copenhagen, Faculty of Science

Project
Role of muscle IL-6 in substrate recruitment during exercise and fasting; impact of Type 2 diabetes

Principal Investigator
Henriette Pilegaard

Nationality
Denmark

Marie Louise Johansen
MD
University of Copenhagen, Faculty of Health

Project
Mineralocorticoid Receptor Antagonists in Type 2 Diabetes

Principal Investigator
Caroline Kistorp

Nationality
Denmark

Ole Dollerup
MD
University of Copenhagen, Faculty of Health

Project
Defining the Molecular Networks Responsible for the Insulin Sensitizing Effects of Nicotinamide Riboside in Humans

Principal Investigator
Jonas Thue Treebak

Nationality
Denmark

Pernille Rudebeck Mogensen
MSc
University of Copenhagen, Faculty of Health

Project
Risk of Obesity, Insulin Resistance, T2D, and Associated Complications During and After Treatment for Acute Lymphoblastic Leukaemia in Childhood

Principal Investigator
Allan Vaag

Nationality
Denmark

Piotr Dworzysk
MSc
University of Copenhagen, Faculty of Health

Project
Predicting Type 2 Diabetes Using Genetic Risk Scores and large-scale Phenotypic

Principal Investigator
Tune Pers

Nationality
Poland

Rasmus Wibaek Christensen
MSc
University of Copenhagen, Faculty of Science

Project
Body composition trajectories and metabolic risk in African children

Principal Investigator
Henrik Friis

Nationality
Denmark

Rikke Zahar Langkilde
MD
University of Southern Denmark, Faculty of Health

Project
Contribution of pre-urine protease activity to hypertension, diabetic nephropathy and loss of kidney function

Principal Investigator
Boye L. Jensen

Nationality
Denmark

Table 7.
List of grant recipients of PhD scholarships

Sofie Hædersdal
MS
University of Copenhagen, Faculty of Health

Project
Elucidation of the pathophysiological consequences of hyperglucagonaemia in patients with Type 2 diabetes using a glucagon receptor antagonist

Principal Investigator
Tina Vilsbøll

Nationality
Denmark

Stine Dam Søndergaard
MSc
University of Copenhagen, Faculty of Health

Project
The production of reactive oxygen species in response to glutathione supplementation and acute exercise in patients with Type 2 diabetes

Principal Investigator
Jørn Wulff Helge

Nationality
Denmark

Søren Blindbæk
MD
University of Southern Denmark, Faculty of Health

Project
Aflibercept anD navigateD vErsus coNvensional laser in Diabetic macular edeMa (ADDENDUM)

Principal Investigator
Jakob Grauslund

Nationality
Denmark

Terese Jørgensen
MSc
University of Copenhagen, Faculty of Health

Project
The impact of physical and mental traits in young adulthood on the risk of Type 2 diabetes mellitus and subsequent comorbidity and mortality later in life

Principal Investigator
Merete Osler

Nationality
Denmark

Timo Kern
MSc
University of Copenhagen, Faculty of Health

Project
The role of the oral microbiome in the pathogenesis of pre-diabetes

Principal Investigator
Torben Hansen

Nationality
Germany

Tina Dahlby
MSc
University of Copenhagen, Faculty of Health

Project
The role of CBP and EZH2 as molecular switches of the ER stress response in pancreatic cells

Principal Investigator
Thomas Mandrup Poulsen

Nationality
Norway

Recruitment of postdoctoral fellows
In June, the Academy allocated seven full-time three-year postdoctoral fellowships.

Figure 4 shows the number of postdoctoral applications received and the distribution of the applications with regard to educational background, gender and nationality.

Figure 4. The total number of applications for postdoctoral grants in 2015 and the number of applications categorised according to educational background, gender and nationality

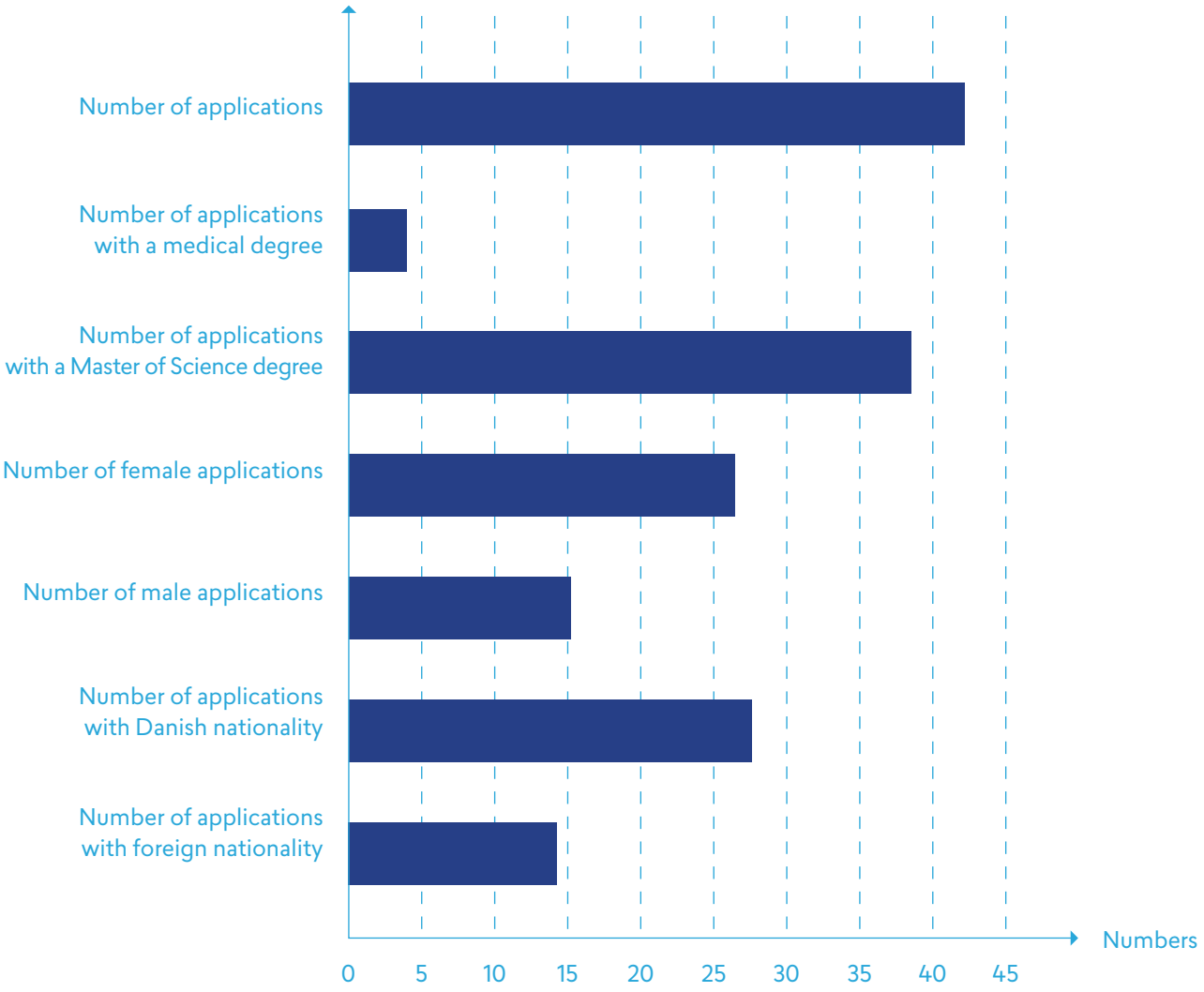


Table 8. The total success ratio of the postdoctoral applications and the success ratio categorised according to three parameters: educational background, gender and nationality

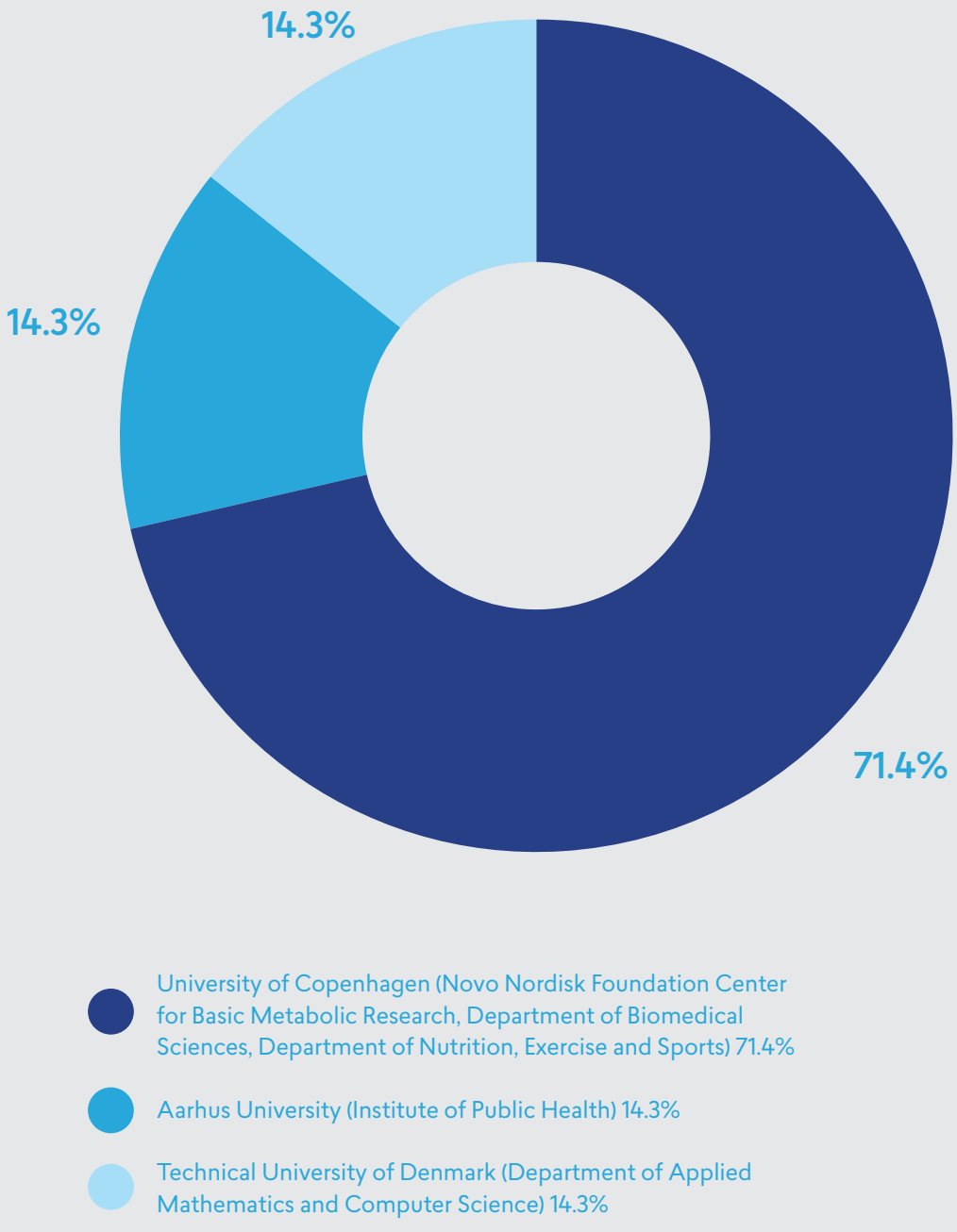
	Number of applications	Number of grants	Success ratio %
Total number of applications	**41**	**7**	**17.1%**
Applicants with medical degree	4	0	0%
Applicants with Master of Science degree	37	7	18.9%
Female applicants	26	3	11.5%
Male applicants	15	4	26.7%
Applicants with Danish nationality	27	3	11.1%
Applicants with foreign nationality	14	4	28.6%

Table 8 shows the total success ratio of the postdoctoral applications and this success ratio categorised according to three parameters: educational background, gender and nationality. The success ratio is calculated as the relationship between the number of grants divided by the number of applications.

As the Academy only granted seven postdoctoral grants in 2015, the success ratio for each of the three parameters should be interpreted cautiously. However, it is noteworthy that the Academy succeeded in attracting almost 57% of the postdoctoral candidates from abroad, which indicates that the Academy's postdoctoral programme is attractive seen from an international perspective.

Figure 5 shows that almost 70% (five out of seven) of the postdoctoral fellowships were allocated to the University of Copenhagen, which is also reflected by the fact that most of the applications are from departments at this university.

Figure 5. Institutional affiliation of the postdoctoral fellowships



70%

of the postdoctoral fellowships were allocated to the University of Copenhagen

Grant recipients of postdoctoral fellowships

Table 9. List of grant recipients of postdoctoral fellowships

Adam Hulmann
MSc, PhD
Aarhus University, Institute of Public Health, Diabetes Epidemiology and Demography

Project
Reaching the effects of gastric bypass on diabetes and obesity without surgery: physiological role of intestinal nutrient sensing

Principal Investigator
Daniel Witte

Nationality
Hungary

Dror Sever
MSc, PhD
University of Copenhagen, Developmental biology, UCPH, Danish Stem Cell Center, The Novo Nordisk Foundation, Section for Basic Stem Cell Biology

Project
Regenerative capacity and cellular plasticity of pancreatic progenitors

Principal Investigator
Anne Graphin Botton

Nationality
Israel

Howard Carter
MSc, PhD
University of Copenhagen, Department of Nutrition, Exercise and Sports

Project
Repeat it to beat it: Health benefits of repeated ischaemic

Principal Investigator
Ylva Hellsten

Nationality
Australia

Mette Korre Andersen
MSc, PhD
University of Copenhagen, Section for Metabolic Genetics, Novo Nordisk Research Foundation Center for Basic Metabolic Research

Project
Phenotypic and genetic characterization of patients with latent autoimmune

Principal Investigator
Torben Hansen

Nationality
Denmark

Michala Prause
MSc, PhD
University of Copenhagen, Department of Biomedical Sciences

Project
Bone Morphogenetic protein induced B-cell dedifferentiation; a possible role of Hes-1 and Hey-1

Principal Investigator
Nils Billestrup

Nationality
Denmark

Morten Lundh
MSc, PhD
University of Copenhagen, Section for Integrative Physiology, Novo Nordisk Foundation Center for Basic Metabolic Research

Project
Afadin; a novel putative regulator of insulin mediated brown mediated adipocyte biology

Principal Investigator
Brice Emanuelli

Nationality
Denmark

Zeinab Mohmoudi
MSc, PhD
Technical University of Denmark, Department of Applied Mathematics and Computer Science

Project
Performance Enhancement of Continuous Glucose Monitoring in a Dual-Hormonal Artificial Pancreas based on Nonlinear Filtering

Principal Investigator
John Bagterp Jørgensen

Nationality
Iran

Match-funding postdoctoral programme with JDRF

The Academy and JDRF have an agreement to co-finance (50% vs. 50%) a number of postdoctoral grants of one to five years by free and open announcement on the Academy's and JDRF's websites and within the Academy's and JDRF's focus areas.

The postdoctoral fellowships are designed to attract qualified, promising scientists entering their professional career in the field of type 1 diabetes research.

It is a requirement that international applicants and potential grant recipients can document collaboration with Danish diabetes researchers.

In May 2015, the Academy and JDRF announced calls for applications with deadline 30 July 2015. The review process was still going on by the end of 2015.

Recruitment of visiting professors

The Academy allocated four visiting professorships in 2015.

Table 10 shows the number of visiting professorship applications received and the distribution of the applications with regard to gender.

Table 10. The total number of applications for visiting professorship grants in 2015

	Number of applications	Number of grants	Success ratio %
Total number of applications	**14**	**4**	**28.6%**
Female applicants	7	2	28.6%
Male applicants	7	2	28.6%

Grant recipients of visiting professorships

Table 11. List of grant recipients of visiting professorships

Bart Roep
MSc, PhD
Copenhagen University Hospital, Department of Pathology

Project
On the pathogenesis and prevention of Type 1 diabetes

Principal Investigator
Karsten Buschard

Nationality
The Netherlands

Rebecca Simmons
MSc, PhD
Aarhus University, Institute of Public Health

Project
Screening and early treatment for Type 2 diabetes

Principal Investigator
Annelli Sandbæk

Nationality
United Kingdom

Cora Weigert
MSc, PhD
The Centre of Inflammation and Metabolism (CIM) and the Centre for Physical Activity Research (CFAS), University of Copenhagen

Project
Identification of exercise-regulated metabolites and lipids derived from liver and muscle with therapeutic potential in Type 2 diabetes

Principal Investigator
Bente K Pedersen

Nationality
Germany

K.M Venkat Narayan
MD, PhD
University of Copenhagen, Faculty of Health Science

Project
Family-based intervention to prevent Type 2 diabetes and its complications in India & A center for cardio-metabolic risk reduction trial &Integrated care model to treat hyperglycemia and TB simultaneously & pathways to Diabetes and its complications in Asian Indians

Principal Investigator
Flemming Konradsen

Nationality
India

4

internationally acclaimed researchers received a visiting professor grant from Danish Diabetes Academy

The visiting professors research projects

- Bart Roep will together with his host Professor Karsten Buschard test the hypothesis that beta cell stress in response to inflammation, hyperglycaemia or environmental factors (notably gluten) increases their immunogenicity, as defined by expression of neoantigens resulting from posttranslational modifications and sulphatide.

- Rebecca Simmons's visiting professorship will focus on extending and developing novel collaborative research projects between Aarhus University, Steno Diabetes Center and the University of Cambridge, United Kingdom, on the topic of screening and early treatment for type 2 diabetes. Rebecca Simmons will use the ADDITION-Denmark study as the basis for three related research projects as well as developing novel research questions using different data sources.

- K. M. Venkat Narayan will be organisationally located at the University of Copenhagen's School of Global Health, but also collaborate with researchers from the University of Southern Denmark and Aarhus University. K. M. Venkat Narayan's knowledge and very strong network will be used to engage researchers from different disciplines, such as basic, clinical, and epidemiological sciences and also anthropology and public health. K. M. Venkat Narayan's research will focus on the prevention of diabetes in 20- and 30–year old subjects in lower and middle income countries.

- Cora Weignert will combine expertise in human exercise studies and the availability of liver vein samples in Copenhagen with the metabolomics/ lipidomics and diabetological expertise in Tübingen, Germany, to identify novel communication paths and target molecules important for the prevention and treatment of type 2 diabetes.

In addition to the four newly recruited visiting professors, Antonio Muños (University of Copenhagen, Department of Biomedical Sciences), Jørgen Jensen (University of Copenhagen, Department of Nutrition, Exercise and Sports), Adam Farmer (Aalborg University Hospital, Department of Gastroenterology and Hepatology), Ari Meerson (University of Copenhagen, Department of Biomedical Sciences) and Gertrude Migrone (Steno Diabetes Center, Department of Diabetes Complications Research) have all continued their visiting professorship stays in Denmark during 2015, as described in their applications.

During 2015 the visiting professors contributed to the Academy activities with the following: Lectures at the Academy´s annual day in November, organisation of the seminar on "Diabetes & Exercise" in August; organisation of the workshop "Why is exercise good for us, complementing genetics for better metabolic regulation" held in Cambridge, United Kingdom, in December; organisation of the Winter School in Malaga, Spain, in March, and external review of PhD and postdoctoral applications.

Professorships

To stimulate the Danish diabetes research environment in one of the Academy's five research areas, the Academy aims to recruit two full-time professorships.

In January 2015, the Academy granted the first professorship to Daniel Witte, who was appointed as professor at the Department of Public Health, Aarhus University.

Daniel Witte trained as a medical doctor at Utrecht University, the Netherlands, and graduated in 2000, became a specialist in clinical epidemiology in 2002 and obtained his PhD in 2003. His field of research has always been diabetes and its complications, also between 2003 and 2008, when he was associated with University College London, United Kingdom.

Besides carrying out his own research, Daniel Witte will contribute to graduate teaching and supervision of bachelor and master students.

Why do so many people get diabetes? Why do far fewer of them die of the disease? How can we find those who are at risk of developing the disease? How do we prevent diabetes? These are some of the questions that the newly appointed Professor Daniel Witte must help to answer in collaboration with his colleagues at the Department of Public Health at Aarhus University.

During 2015, Daniel Witte contributed with lectures and to the "meet-the-professor" session at the Academy Winter School in Malaga, Spain. Moreover, Daniel Witte held a webinar on the Academy website and was involved in the external review of PhD and postdoctoral applications to the Academy.

In 2015, the recruitment of the second Academy professorship "Professorship in Molecular Biology of Diabetes Pathogenesis", which will be hosted at the University of Southern Denmark, was ongoing. It was decided to re-advertise the call for applications as no eligible candidates were found by the first call.

Conclusion

The Academy aims to attract outstanding researchers both nationally and internationally in open and free competition. In 2015, the Academy recruited 42 researchers in total: 30 PhD students, seven postdoctoral fellows, four visiting professors and one full-time professor. Of these 42 researchers, almost 38% are from abroad. In particular, the Academy's postdoctoral programme seems attractive to foreign researchers as almost 57% of the recruited postdoctoral fellows are from abroad.

Scientific output

Publications

In 2015, 19 researchers (eight PhD students, ten postdoctoral fellows and one professor), who received a grant from the Academy, published a total of 37 publications in peer-reviewed journals. This number includes primary research articles, reviews and commentaries. The list of publications can be seen in Appendix 8.

The rate of publications from 2013-2015 is shown in Figure 6.

Bibliometric analysis

A bibliometric analysis was performed on the basis of 35 out of the 37 articles included in the publication list, as only 35 articles were indexed in the 2015 Journal Citation Reports® (Thomson Reuters, 2015) (JCR) into categories according to subject (subject categories[1] , e.g. Endocrinology & Metabolism). The journals in each category can be ranked according to journal impact factor (JIF), and each subject category can be divided into quartiles.

The analysis shows that of the 35 articles published by Academy-funded researchers in peer-reviewed JCR-indexed journals, 25 articles were published in journals placed in quartile 1 (Q1), five articles placed in Q2 and five articles were placed in Q3, as their highest placed category. No articles were published in journals that were placed only in Q4 (Figure 7). Almost 30% of the indexed articles (Appendix 8) were published with an Academy-funded researcher as first author.

The mean JIF score of the 35 indexed publications was 4.49 (range 1.7-8.0).

[1] Each journal in JCR is assigned to at least one subject category, indicating a general area of science or the social sciences. Journals may be included in more than one subject category; therefore, when comparing journals across related categories, the same journal title may occur in different categories. InCitesTM Journal Citation Reports® Help (2015): http://ipscience-help.thomsonreuters.com.proxy1-bib.sdu.dk:2048/incitesLiveJCR/glossaryAZgroup/g12/7744-TRS.html

Figure 6. Total annual number of Academy publications

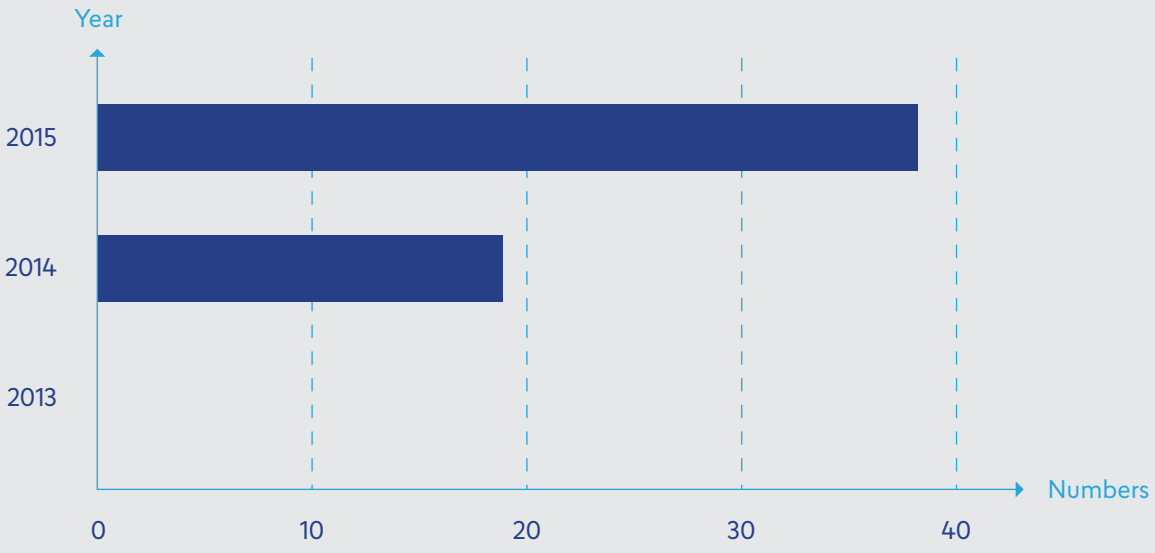
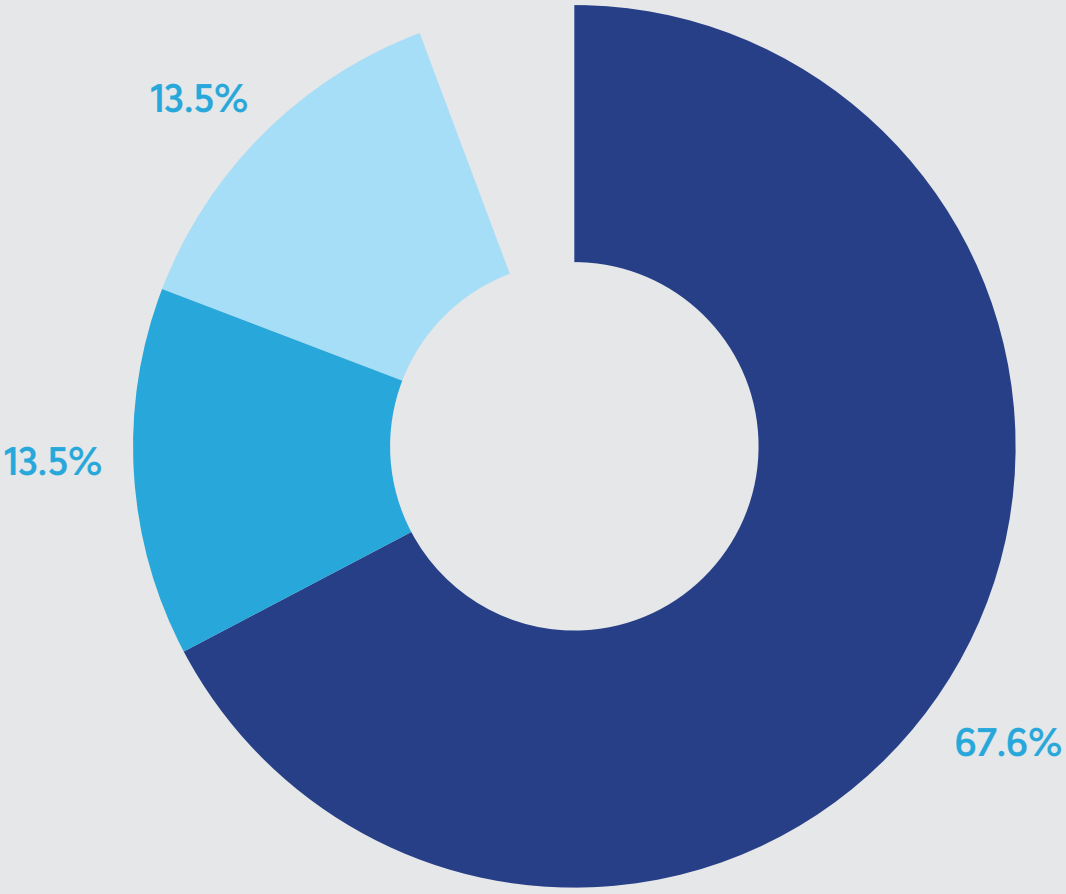


Figure 7. Distribution of total number of publications with respect to Journal Citation Reports® subject category quartiles

Figure 7 shows the distribution of the total number of publications (n = 35) with respect to JCR subject category quartiles (Q).



- Q1 -25 publications (67.6%) in journals placed in the highest quartile according to journal impact factor
- Q2 -5 publications (13.5%) in journals placed in the second quartile according to journal impact factor
- Q3 -5 publications (13.5%) in journals placed in the third quartile according to journal impact factor
- Q4 -0 publications (0%) in journals placed in the lowest quartile according to journal impact factor

Reflections on the Academy's scientific productivity

The Academy's success criterion with regard to scientific publications was achieved in 2015, as 67.6 % (the goal was 50%) were published in journals in the first quartile, and 81.1% (the goal was 75%) were published in journals in the first or the second quartile, as described in the bibliometric analysis.

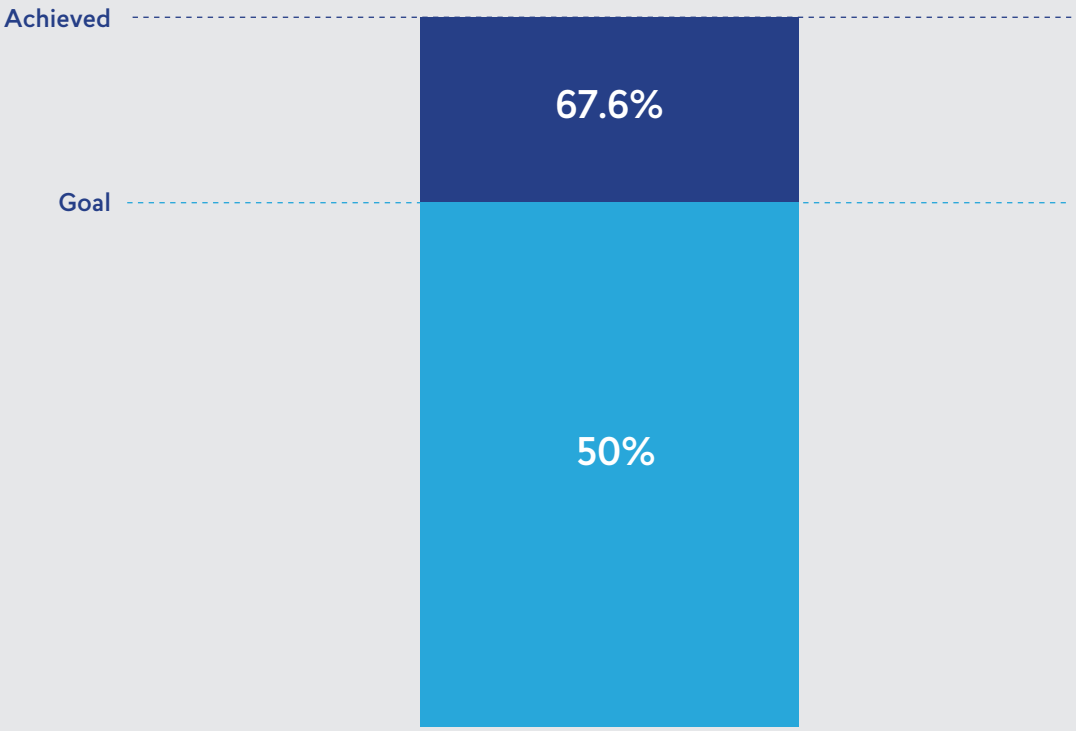
The articles were published mainly by the Academy's postdoctoral fellows (26 publications out of 37) due to the short time of enrolment of the Academy's PhD students. The publication rate is expected to normalise over time with regard to the number of articles published per researcher.

The publications occur in 30 individual journals within both basic science and clinical science (appendix 8), which illustrates that the research carried out by Academy-funded researchers is diverse and covers the whole range of diabetes research from basal to clinical science.

In conclusion, the Academy-funded researchers published a total of 37 publications in peer-reviewed journals. The majority of the publications were published in high impact journals on diabetes and endocrinology.

A table of the Academy's publications ranked according to journal impact factor is shown in Appendix 8.

The Academy's success criterion with regard to scientific publications was achieved in 2015, as 67.6 % (the goal was 50%) were published in journals in the first quartile according to journal impact factor.



Scientific publications, published in journals in the first quartile

Outreach and dissemination

The Academy's outreach activities include the educational and networking activities (presented earlier in this report) and attendance at international and national conferences, but also the use of media and online communication channels for dissemination of both research information and information in general.

The researchers funded by the Academy and the Academy's faculty members participate in national and international conferences to present their research externally, but we have no sufficient data on this. The Academy's researchers' scientific results have in some cases also been published in national newspapers and on national radio. The frequency of dissemination of scientific output in Danish and international media is expected to increase when the researchers' publication rates increase.

The following online channels have been used for communication about the Academy's events, research news and grant proposals: social media, such as Facebook and LinkedIn, and the Academy website (www.danishdiabetesacademy.dk). Finally, the Academy also sends out monthly newsletters by e-mail to all Academy members and other interested researchers.

Until now, the Academy has primarily focused on disseminating information about the Academy and the Academy's research to members of the Academy and other diabetes researchers, both nationally and internationally. Information to and visibility in the general public, the industry and the political environment have been given a low priority, but will naturally be given more attention in the years to come. Also, more attention to creating a strong brand and communication strategy for the Academy will strengthen the Academy's image and the possibility of attracting even more talented researchers from Denmark and abroad.

The Academy's communication in numbers

From 1 January 2015 to 31 December 2015

The number of visitors to the Academy website increased by

23%

The numbers of subscribers to the Academy newsletters increased by

39%

The number of followers on LinkedIn increased by

68%

The number of followers on Facebook increased by

67%

Facebook itself reached the newsfeed of up to 7,500 people on a monthly basis

Organization and structure

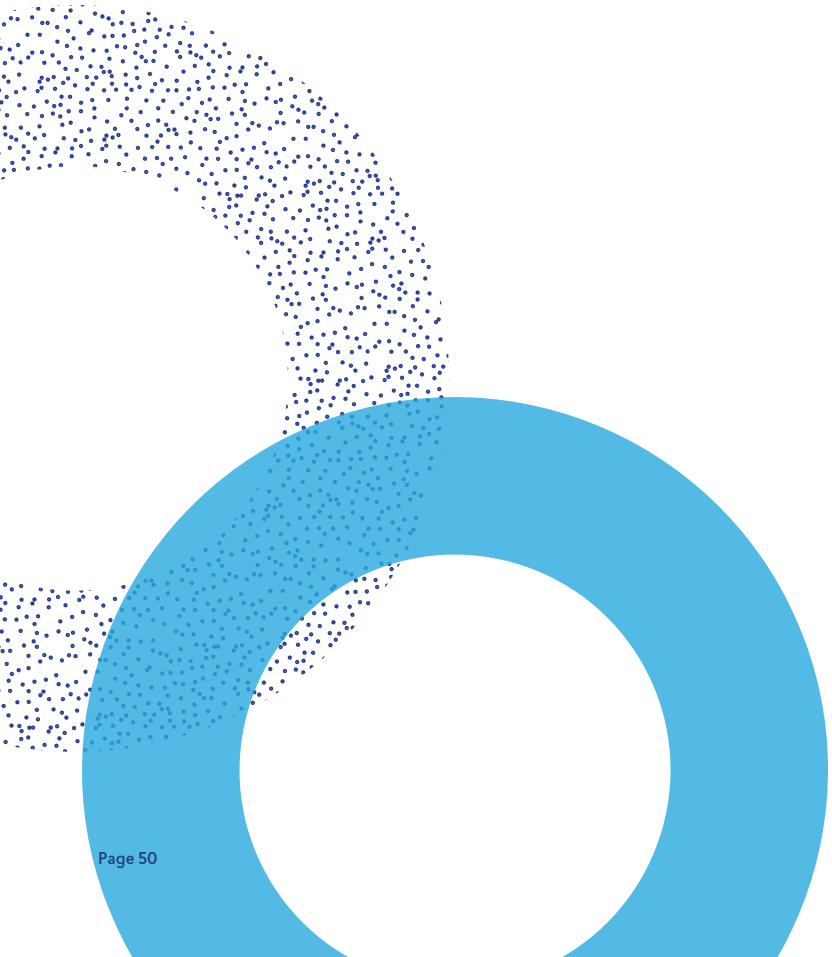
Organisation and management

The organogram below (Figure 8) shows the reporting structure of the Academy's bodies and their sizes.

The organisation consists of the Board, the International Advisory Board, the Research Committee, the Education Committee, the Consultative Council, the Academy secretariat and a faculty with all members of the Academy.

As mentioned in the terms of references (Appendix 9), the time frame for the membership of the Academy's Board and committees is three years with possibility for renewal.

Each body meets three to six times per year. Some of the meetings are organised as teleconferences, except for the International Advisory Board, which meets once every year during the annual meeting of the ADA and ad hoc in connection with seminars and courses organised by the Academy, such as the annual PhD Summer School. The terms of references for all the committees are attached in Appendix 9.



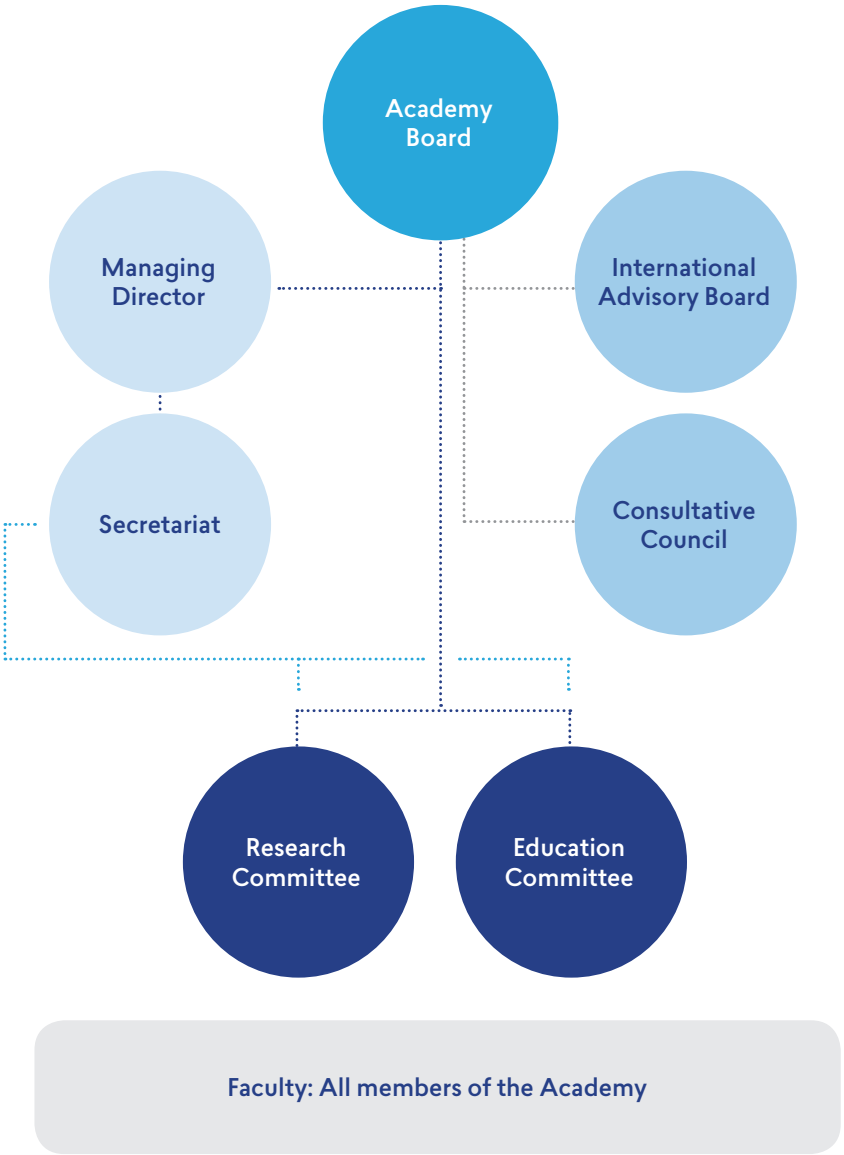


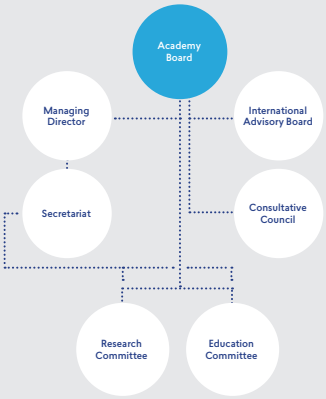
Figure 8. The Academy's organisation

- Management
- Advisory councils
- Day-to-day management (including support, indicated by arrows)
- Executive Committees (Including advice to the board)

The Board

The Board convened three times and held a number of teleconferences during 2015.

Whether Chief Medical Officer Jannik Hilsted will be substituted with a new board member had not yet been decided at the end of 2015.



Members of the Board

Professor
Henning Beck-Nielsen,
Department of Endocrinology, Odense University Hospital (chairman)

Professor
Dean Allan Flyvbjerg,
Department of Medical Endocrinology and Internal Medicine, Aarhus University Hospital, and Department of Clinical Medicine, Aarhus University (representative of the universities involved)

Chief Medical Officer
Jannik Hilsted,
Copenhagen University Hospital (representative of the university hospitals) (until 31.10.2015)

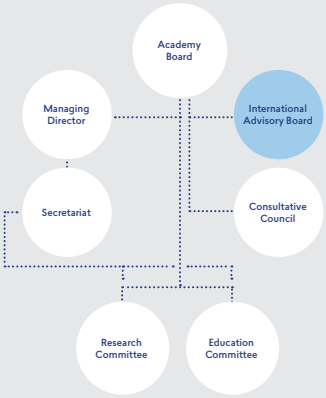
Professor
Oluf Borbye Pedersen,
Novo Nordisk Foundation Center for Basic Metabolic Research (representative of the Novo Nordisk Foundation centres at the Faculty of Health Science, University of Copenhagen)

Professor
Kurt Højlund
Department of Endocrinology, Odense University Hospital (chairman of the Consultative Council)

International Advisory Board

In 2015, the International Advisory Board convened for the annual meeting of the American Diabetes Association. Furthermore, the Academy Secretariat corresponded regularly by email with the International Advisory Board with regards to the Academy's self-assessment in the autumn of 2015.

In 2015, all International Advisory Board members were elected for a renewal of their membership by the board.



Members of the International Advisory Board

Professor
Christopher J. Rhodes,
University of Chicago, United States

Professor
Ulf Smith,
University of Gothenburg, Sweden (former president of the EASD)

Professor
Barbara Corkey,
Boston University School of Medicine, United States

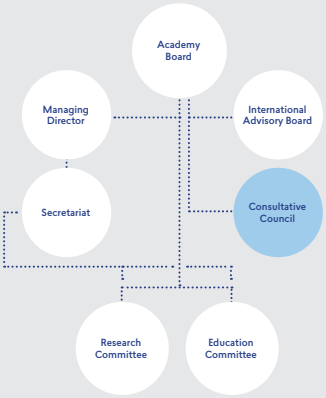
Professor
Ele Ferrannini,
University of Pisa School of Medicine, Italy (former president of the EASD)

Professor
C. Ronald Kahn,
Joslin Diabetes Center, Harvard Medical School, Boston, United States

Consultative Council

The Consultative Council convened three times during 2015.

As the current composition of the Consultative Council has only lasted two years, the Board will make a decision for renewal in the year to come.



Members of the Consultative Council

Associate Professor
Kurt Højlund (Chairman),
Department of Endocrinology, Odense University Hospital

Associate Professor
Niels Jessen (Vice-Chairman),
Department of Molecular Medicine, Aarhus University Hospital

Professor
Allan Vaag,
Institute of Clinical Medicine, Copenhagen University Hospital

Professor
Annelli Sandbæk,
Institute of Public Health, Aarhus University

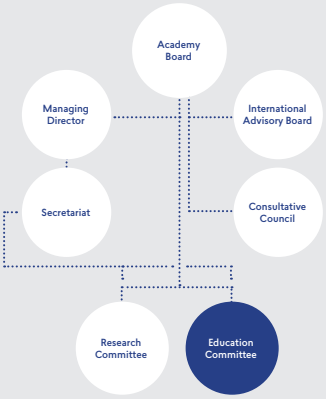
Professor
Susanne Mandrup,
Department of Biochemistry and Molecular Biology, University of Southern Denmark

Professor
Jørgen Wojtaszewski,
August Krogh Institute, University of Copenhagen

The Education Committee

The Education Committee convened four times during 2015. In addition, monthly conference calls were scheduled between the Academy's Managing Director, Education Manager and the chairman of the committee.

In 2015, all Education Committee members were re-elected by the Board.



Members of the Education Committee

Professor
Torben Hansen (Chairman),
Faculty of Health and Medical Sciences, University of Copenhagen

Associate Professor
Dorte Møller Jensen,
Faculty of Health Sciences, University of Southern Denmark

Professor
Jan Frystyk,
Faculty of Health Sciences, Aarhus University

Professor
Jørgen Wojtaszewski,
Faculty of Science, University of Copenhagen

Professor
Louise Torp Dalgaard,
Department of Science, Systems and Models, Roskilde University

Professor
Nils Joakim Færgeman,
Faculty of Science, University of Southern Denmark

Professor
Peter Vestergaard,
Faculty of Medicine, Aalborg University

Professor
Inge Tetens,
National Food Institute, Technical University of Denmark

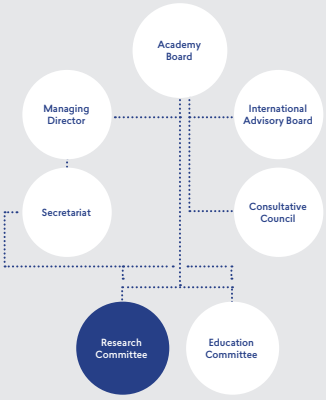
Education Advisory Board

The Education Advisory Board is a subcommittee of the Education Committee. The primary role of the members of the Education Advisory Board is to participate in summer schools and seminars held by the Academy. Each year, members of the Education Advisory Board are invited to the Academy's PhD summer school, where their tasks are to network with the young researchers participating in the summer school and to act as chairmen and/or workshop managers. Prior to the summer school they also contribute with suggestions for topics and speakers for the programme. The members of the Education Advisory Board are listed in Appendix 9.

Research Committee

The Research Committee convened four times during 2015. In addition, the Research Committee held a series of conference calls in connection with allocating research grants for PhD scholarships, postdoctoral fellowships and visiting professorships.

In 2015, Professor Peter Rossing, Professor Susanne Mandrup and Pro-Dean Lise Wogensen Bach were all re-elected as members of the Research Committee by the Board.



Members of the Research Committee

Professor
Peter Rossing (Chairman),
Steno Diabetes Center

Professor
Susanne Mandrup,
University of Southern Denmark

Pro-Dean
Lise Wogensen Bach,
Aarhus University

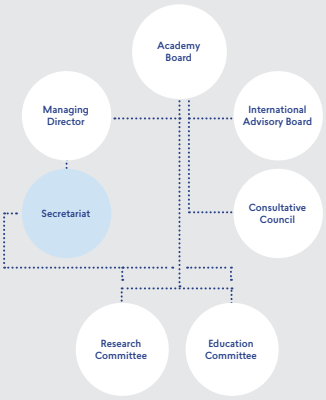
Professor
Tina Vilsbøll,
Gentofte Hospital

Professor
Thomas Mandrup-Poulsen,
University of Copenhagen

Consultant Physician
Reimar Thomsen,
Aarhus University Hospital

Secretariat

The Secretariat assists the management team and the above-mentioned bodies by providing administrative help.



The organogram below (Figure 10) shows the organisation and composition of the Secretariat.

2015 Secretariat employees

Tore Christiansen
Managing Director

Tina Hansen Barbisan
Personal Assistant (PA)
to the Managing Director

Tine Hylle
PA to the Chairman of the Board/
Head of the Academy

Kristine M. Michailidis
Education Manager, (maternity leave 1 January 2015 to 31 August 2015)

Anne Eskesen
Education Manager, (maternity cover 1 January 2015 to 31 August 2015)

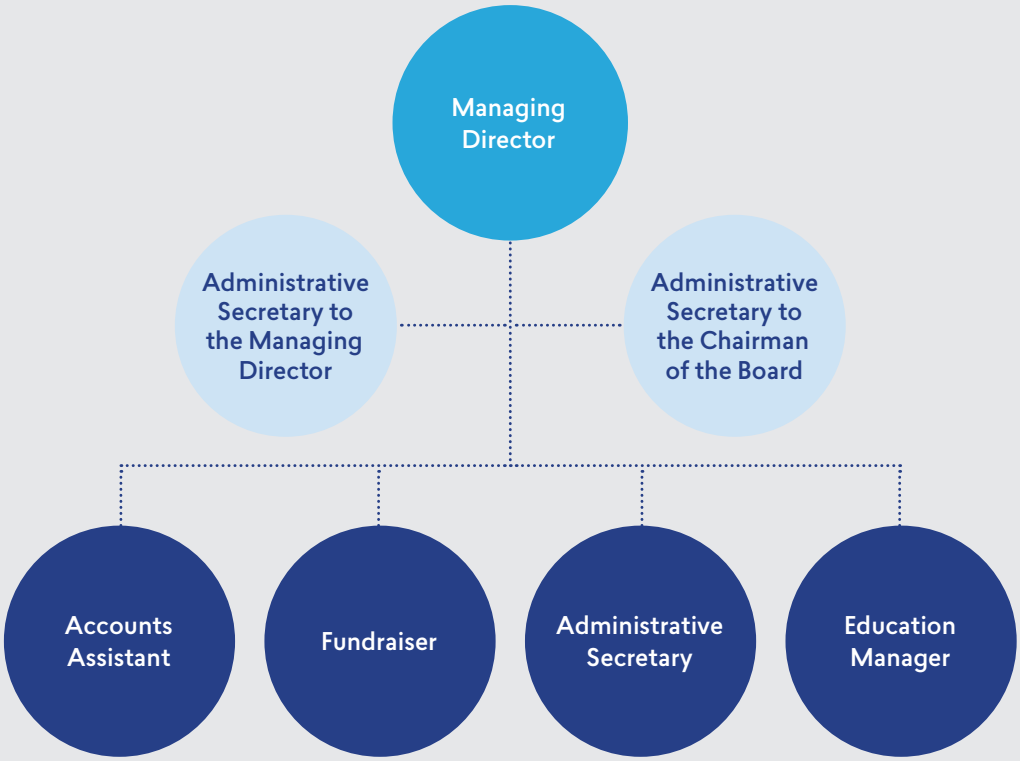
Lene Von Fintel Sostack
Administrative Secretary, (part time) (maternity leave 1 January 2015 to 15 June 2015)

Louise Hansen
Administrative Secretary (part-time) (maternity cover 1 January 2015 to 15 June 2015)

Maria Bønnelykke Robertson
Fundraiser (stopped 31 July 2015)

Michael Rasmussen
Fundraiser
(from 1 September 2015)

Figure 9. The Academy's Secretariat



External funding

The Academy did not succeed in obtaining direct additional external funding in 2015. However, many of the Academy's PhD students and postdoctoral fellows received external funding from private and public funds for their projects covering operating expenses, salaries for technical and administrative staff and travel grants (exact amount for 2015 is unknown). Furthermore, all PhD students have received two thirds of their PhD salary from external funds (both private and public) (exact amount for 2015 is unknown).

Fundraising activities

In 2015, the fundraiser sought out a number of funding opportunities for research activities in collaboration with external partners, namely research funding from the European Union (Horizon 2020), from the private sector and from private foundations (e.g. solicitors' offices).

The fundraiser also sent out a monthly funding overview to all Academy grant recipients, provided individual support for grant proposals and organised a course for PhD students and postdoctoral fellows on how to write successful grant applications.

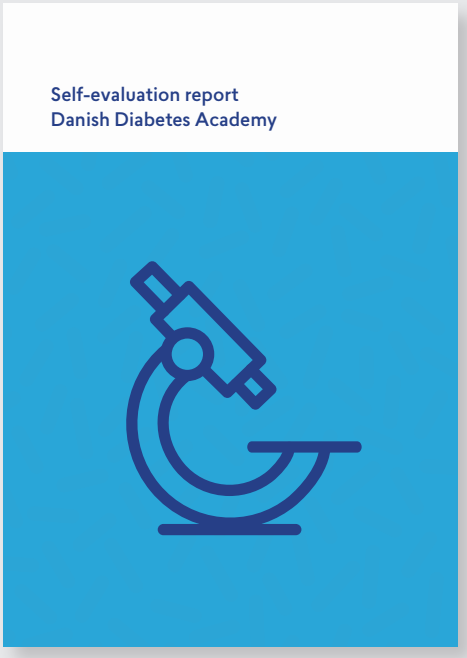
In the latter part of 2015, the fundraiser focused on two things: First, the fundraiser focused on enabling a close collaboration with senior researchers in Denmark with the aim of applying for a grant in the Innovative Training Networks, which lies under the European Union's Marie Sklodowska Curie Programme. This Innovative Training Network programme is of particular interest to the Academy as it brings together universities, research centres and companies from different countries worldwide to train a new generation of researchers; Second, the fundraiser focused on ensuring collaboration between the talented young researchers of the Academy across hospitals and universities so that they become involved in common applications for funding with the Academy as grant administrator. This collaboration has resulted in a relatively large grant application to a public funding institution. The review process in relation to this grant application is ongoing.

In spite of the initiatives taken, the Academy did not succeed in attracting new external funding for the running of the Academy Secretariat and the activities within the Academy.

This may be due to the possibility that other foundations take the large grant from the Novo Nordisk Foundation into consideration. Furthermore, some foundations have been opposed to giving grants to the Academy as the Academy primarily functions as an intermediary, and the foundations prefer giving grants directly to the researchers.

Self-evaluation of the Academy

In the autumn of 2015, the Academy prepared an internal self-evaluation of the Academy's performance in the period from 1 September 2012 to 31 October 2015. Representatives from the Academy's Board, the Academy's International Advisory Board and the Academy's three bodies (the Education Committee, the Research Committee and the Consultative Council) as well as researchers from the Academy's faculty, including members of the Academy and the Academy grant recipients contributed to the preparation of the report. In addition, the Academy obtained contributions to the report from representatives of the university hospitals, the universities, the pharmaceutical industry, interest groups and the political world in Denmark. The final report was prepared by an internal evaluation committee with representatives from the Academy's Secretariat, the Academy's Board and the Academy's three bodies (as mentioned above) and with input from two external consultants.



Budget and Accounts

The accounts in details are provided in an enclosed audit from the Accounts Department of Odense University Hospital including a statement of warranties and representations (Appendix 1).

The Accounts Manager of Odense University Hospital, Lars Weber Strate, functions as financial manager of the Academy and administrates the grant in cooperation with the Managing Director of the Academy.



Niels Nørgaard Pedersen
Managing Hospital Director
Odense University Hospital



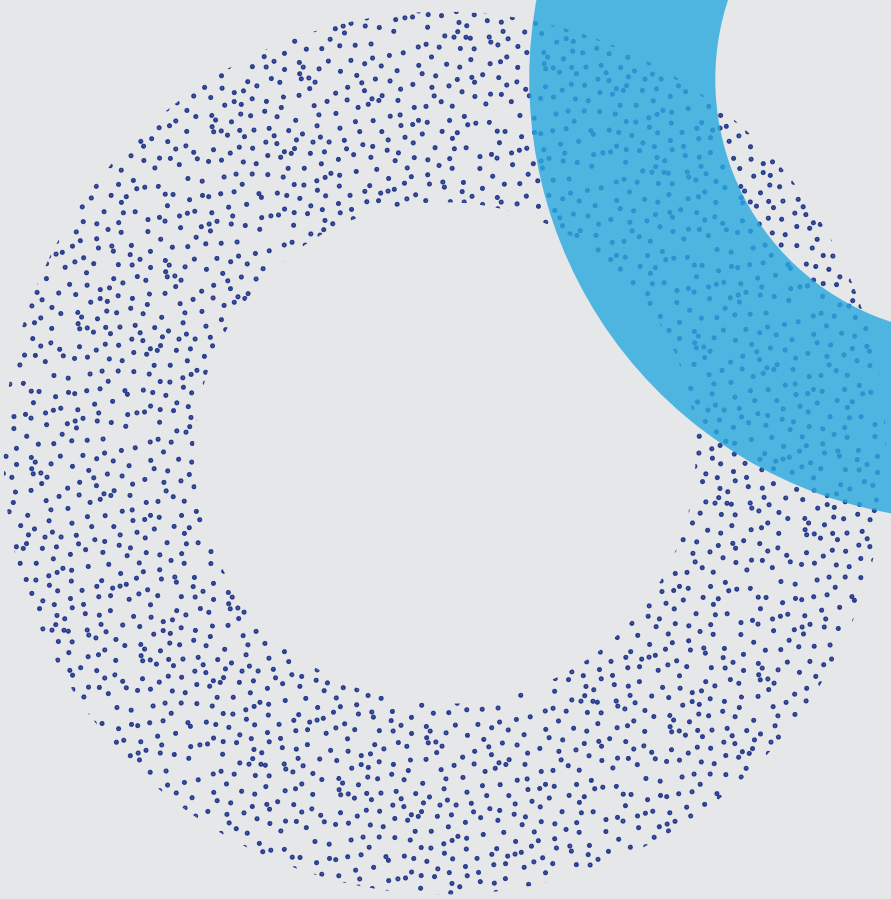
Kim Brixen
Director
Odense University Hospital

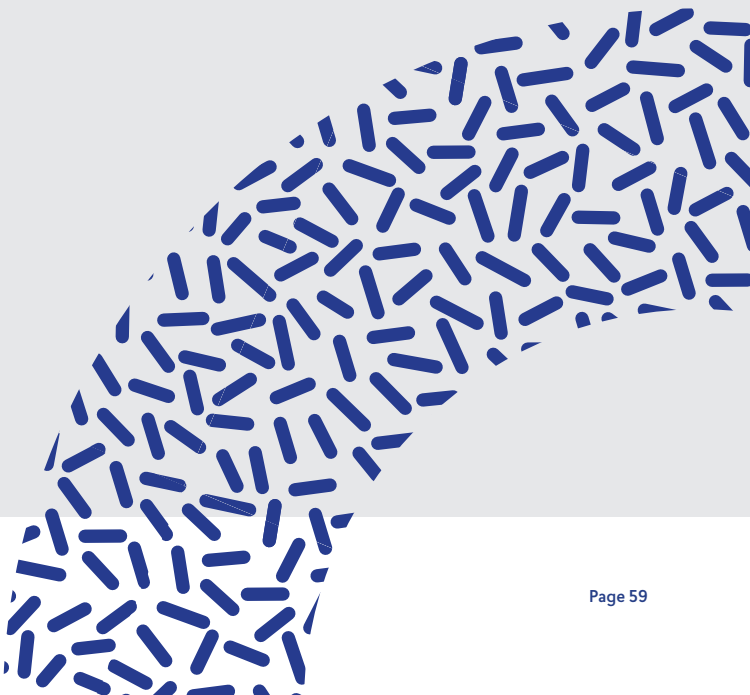


Henning Beck-Nielsen
Professor
Danish Diabetes Academy



Tore Christiansen
Managing Director
Danish Diabetes Academy







Danish Diabetes Academy
Funded by the Novo Nordisk Foundation

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