Danish Diabetes Academy

Application to the Novo Nordisk Foundation

1 September 2017

Executive Summary

Development of type 1 and type 2 diabetes has a substantial negative impact on patients' morbidity and mortality and is responsible for significant individual and societal socioeconomic costs worldwide. Accordingly, there is a critical need to develop new knowledge to promote better prevention and treatment of this debilitating disease.

The **vision** of the Danish Diabetes Academy (DDA) is to enhance the quality of Danish diabetes research education to ensure that it remains at the highest international level.

The **mission** of the DDA is to educate and train the next generation of researchers in the field of diabetes.

The overall **objectives** of the DDA are to:

- Strengthen the research training available to PhD students and postdocs within the field of diabetes, in collaboration with academia, hospitals and the life science industry;
- Serve as a national hub within diabetes, unifying academia, hospitals and the life science industry in Denmark, to strengthen educational activities and talent development within the area;
- Recruit outstanding national and international PhD students, postdocs and visiting professors within the field of diabetes in open and free competition.

We apply for an NNF contribution of **DKK 156,000,000** (total budget **DKK 261,300,000**) over five years, to initiate activities in the DDA directed toward:

- Educational activities and talent development
- Networking and collaboration activities
- Scholarships, fellowships, and visiting professorships.

This application describes a DDA governance model that will ensure a high level of expertise, together with a national/international background and gender balance within the DDA and their related board and committees. We also aim to create an organization that both functions at a high strategic level and facilitates lively bottom-up feedback from DDA members and associates on past, present and future DDA activities. Finally, the selection criteria for DDA scholarships and fellowships will have a strong focus on the importance of internationalization, interdisciplinarity and cooperation across sectors. These criteria will supplement the evaluation of the applicants' own skills, the quality of proposed projects, and the associated research environment.

Table of Contents

1 Background 2

2 Overall Vision, Mission and Objectives 3

3 Organization and Governance 3

3.1.1 BoD 4

3.1.2 Executive Management Team 5

3.1.3 Committee for Talent Development 7

3.1.4 Committee for Education 8

3.1.5 International Advisory Board 8

3.1.6 National Advisory Forum 8

3.1.7 Evaluation and Deliverables 9

4 Strategy 10

4.1 Membership 10

4.2 Educational Activities and Talent Development 11

4.2.1 Strategy 12

4.2.2 Activities 13

4.2.3 Recruitment of Participants 15

4.2.4 Decision-Making Process 16

4.2.5 Communication and Outreach Strategy 16

4.2.6 Milestones 16

4.2.7 Success Criteria 17

4.3 Networking and Collaboration Activities 17

4.3.1 Strategy 18

4.3.2 Activities 18

4.3.3 Recruitment of Participants 19

4.3.4 Decision-Making Process 19

4.3.5 Communication and Outreach Strategy 19

4.3.6 Milestones 20

4.3.7 Success Criteria 20

4.4 Scholarships, Fellowships and Visiting Professorships 21

4.4.1 Strategy 21

4.4.2 Activities 22

4.4.3 Criteria for Recruitment 24

4.4.4 Decision-Making Process for Recruitment 26

4.4.5 Communication and Outreach Strategy 27

4.4.6 Milestones 27

4.4.7 Success Criteria 28

5 Budget 28

6 Letter of Commitment from the Host Institution 30

1 Background

The Danish Diabetes Academy (DDA) was established in September 2012 with a five-year donation from the Novo Nordisk Foundation (NNF) of DKK 201,880,000 (EUR 27,059,485). Danish universities and university hospitals provided co-funding totalling DKK 100,000,000. The DDA was established with the vision of ensuring high-quality research and research-based treatment of diabetes in Denmark. Its missions and objectives were to:

- Strengthen research training in the field of diabetology;
- Catalyse the establishment of a national, dynamic, creative and internationally oriented research environment in diabetology;
- Attract both national and international researchers to strengthen the talent pool and to provide a career path for young researchers within the field of diabetology.

Since its foundation, the DDA has accomplished the following:

- Held two annual residential PhD courses, one annual Winter School for postdocs and more than four national and international seminars annually. Almost 70% of invited speakers at the seminars were recruited internationally. The average number of participants at the seminars has been over 100.
- Established a PhD Network in Diabetes and Metabolism, with eight of the nine university PhD programs in Denmark taking part. The DDA has organized eight networking activities annually, with the participation of Danish professional societies. The DDA also has initiated a flourishing collaboration with international research institutions on PhD courses and postdoctoral training.
- Financially supported 90 PhD fellowships, 35 national and international postdoctoral fellowships, 12 visiting professorships and one full-time professor. These researchers have published 285 papers, predominantly in high-impact journals. In terms of Journal Citation Reports® subject category quartiles, almost two thirds of the publications were published in journals in the first quartile, and 90% were published in journals in the first or second quartile (see **Appendix III** for publication list).

During its relatively short existence, the DDA has made a significant contribution to Danish diabetes research. The combined synergy of the DDA's activities within the focus areas of education, networking and recruitment has enhanced the quality of Danish diabetes research - providing new opportunities for training in research at a high-ranking international level, collaboration between Danish and international research groups, and new career paths for diabetes researchers.

Continued funding would not only allow us to consolidate the present fruitful DDA activities but also to further strengthen our educational activities and talent development by building on existing collaborations with national and international stakeholders, and by establishing activities with new national and international public and private stakeholders.

Moreover, it is our ambition as a national hub to create further synergy between basic, translational and clinical research and public health, and to promote interdisciplinary collaboration, as future challenges within diabetes prevention and treatment are complex and therefore call for solutions generated by an interdisciplinary approach.

Finally, in addition to our existing collaboration with Danish universities and university hospitals, we will strive to establish closer cooperation with the life science industry, creating opportunities for the next generation of diabetes researchers to conduct high-level industrially focused research.

2 Overall Vision, Mission and Objectives

The **vision** of the Danish Diabetes Academy (DDA) is to enhance the quality of Danish diabetes research education to ensure that it remains at the highest international level.

To attain the vision, the DDA's **mission** is to educate and train the next generation of researchers in the field of diabetes.

The overall **objectives** of the DDA are to:

- Strengthen the research training available to PhD students and postdocs within the field of diabetes, in collaboration with academia, hospitals and the life science industry;
- Serve as a national hub within diabetes, unifying academia, hospitals and the life science industry in Denmark, to strengthen educational activities and talent development within the area;
- Recruit outstanding national and international PhD students, postdocs and visiting professors within the field of diabetes in open and free competition.

3 Organization and Governance

The overall purposes of the organization and governance model of the DDA are to:

- Establish a Board of Directors (BoD) that represents the Danish universities, university hospitals and relevant diabetes research disciplines across Denmark;
- Establish a BoD that functions at a high strategic level;
- Provide the Managing Director with a work scope permitting effective execution of the policies and strategies adopted by the BoD;
- Create an organizational structure allowing bottom-up feedback from DDA members and associates on past, present and future DDA activities.

Accordingly, we propose that the governance structure of the DDA will consist of the following six entities over a five-year funding period (**Figure 1** and **Appendix II**):

1. BoD
2. Executive Management Team
3. Committee for Talent Development
4. Committee for Education
5. International Advisory Board
6. National Advisory Forum.

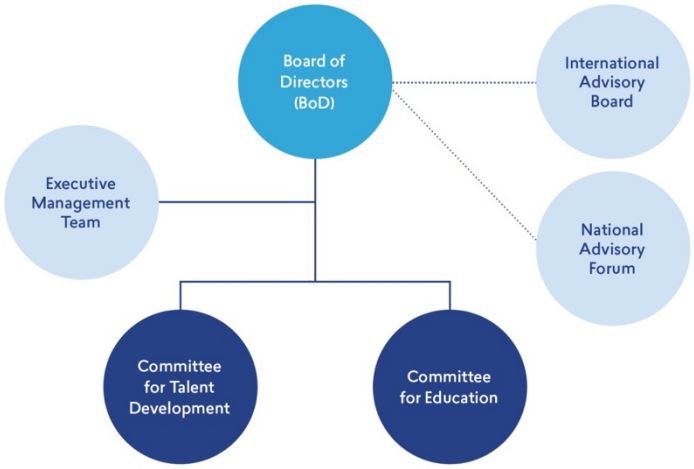


Figure 1. Organizational structure of the DDA.

3.1.1 BoD

The DDA will be managed by a BoD with three internationally renowned experts in education, basic and clinical research, and innovation and talent development within the diabetes field. To ensure that the BoD is representative of universities, university hospitals, and other relevant sectors and disciplines across Denmark, it is proposed that the following persons will sit on the BoD:

Allan Flyvbjerg, CEO, Steno Diabetes Center Copenhagen (SDCC), Capital Region of Denmark and Clinical Professor of Endocrinology, University of Copenhagen (Chair);

Lise Wogensen Bach, MSO and Vice-Dean of Talent Development, Aarhus University;

Kurt Højlund, Chief Physician at Odense University Hospital and Clinical Professor in Endocrinology, University of Southern Denmark.

In line with the terms of reference of the DDA (see **Appendix II**), BoD members are appointed for a period of five years. Members may not be reappointed. If a BoD member resigns before the end of his or her term, a new member will be appointed according to the above-mentioned principles.

The BoD is responsible for the DDA's overall strategy. To execute the strategy, the BoD will establish two committees: the Committee for Talent Development and the Committee for Education. BoD members will decide on the framework for the two committees' work, including their specific activities.

All BoD members will have regular meetings with the two committees to discuss and receive input on their activities. Based on these inputs and the recommendations of the two advisory bodies described below, BoD members will decide on potential changes to the committees' activities, which must fall within the framework outlined in the grant proposal.

In addition to the committees, two advisory bodies will be established: an International Advisory Board and a National Advisory Forum. Their aims are to provide input to the DDA's overall strategy and to provide feedback and recommendations on the DDA's past, present and future activities.

Each year, the BoD will conduct a self-evaluation (further described in **chapter 3.1.7**) and appraise the cooperation between the BoD and the Executive Management Team (see below) in order to identify areas for improvement. The evaluation will be overseen by the Chair, and the report will be submitted to the NNF as part of the annual report. The BoD will decide who will speak on DDA's behalf to the public. The general rule will be that the Chair speaks on behalf of the BoD about the DDA's corporate interests, grant policies

and strategies, while the Managing Director speaks on the DDA's behalf about all operational issues relating to the DDA's activities.

In the event of a disagreement within the BoD, a decision is made based on simple majority.

Finally, the BoD will be responsible for hiring a Managing Director, who will execute the strategy of the DDA at an operational level (see **Appendix II** for further details).

3.1.2 Executive Management Team

The Executive Management Team will consist of the Managing Director and seven employees (**Figure 2**). The composition and size of the Executive Management Team will reflect its role in implementing the activities proposed by the committees and boards and decided upon by the BoD. In addition, the role of the Executive Management Team is to develop and propose, to the BoD and other committees, activities within the DDA's three focus areas. The Executive Management Team will also act as secretariat to meetings between the BoD and the two Committees and two Advisory Boards.

In respect of the DDA's three overarching focus areas - educational activities and talent development, networking and collaboration activities, and scholarships, fellowships and visiting professorships - the Executive Management Team will have the following tasks:

Educational activities and talent development

In collaboration with the Committee for Education, the Executive Management Team will be responsible for devising the DDA scientific programme of PhD courses, postdoc programme and symposia/seminars. The Executive Management Team has executive responsibility for the administration of educational activities, including inviting speakers, publicity, registration, organization on the day, evaluation and follow-up, together with any media coverage. In addition, the Executive Management Team will independently and pro-actively develop proposals for innovative educational initiatives, thereby acting as a resource for BoD and the Committee for Education to connect with. The Executive Management Team members with lead responsibility are the Education Manager and the Education and Networking Coordinator.

Networking and collaboration activities

The Executive Management Team has executive responsibility for the administration of networking activities, including inviting workshop participants, publicity, registration, organization on the day, evaluation and follow-up, together with any media coverage. The Executive Management Team is also responsible for pro-actively maintaining and establishing contact with partners in academia, hospitals and the life science industry, as well as for pro-actively developing new networking activities to strengthen collaboration between the respective national and international partners, thereby acting as a resource for BoD, the Committee for Education and the National Advisory Forum to connect with. The Executive Management Team member with lead responsibility is the Managing Director in collaboration with the Education and Networking Coordinator.

Scholarships, fellowships and visiting professorships

The Executive Management Team has executive responsibility for recruitment of the next generation of researchers. The Executive Management Team is responsible for ensuring that all aspects of grant administration, including announcement of grants, submission and approval of applications, assignment to applications of assessors from the Committee for Talent Development, collection of assessments, recommendations to BoD regarding suitable candidates, and announcement of grant recipients, are carried out efficiently and as transparently as possible. The Executive Management Team is also responsible for the registration and evaluation of recruits' research, and for producing reports on that activity. In addition, the Executive Management Team is responsible for ensuring that two or more applications are submitted

annually to the EU's Horizon 2020 and Horizon 2025 programmes regarding Innovative Training Networks and COFUND ('Marie Skłodowska-Curie actions'). The Executive Management Team members with lead responsibility are the Managing Director, the Project Manager and the Management Assistant.

The Executive Management Team will be based at and employed by Odense University Hospital during the five years of the proposed funding period. Odense University Hospital will provide premises, IT support and human resources (HR) for the Executive Management Team, and accounting services. Each year, the Chair of the BoD will meet with the senior management team of Odense University Hospital to evaluate cooperation between the DDA and the hospital.

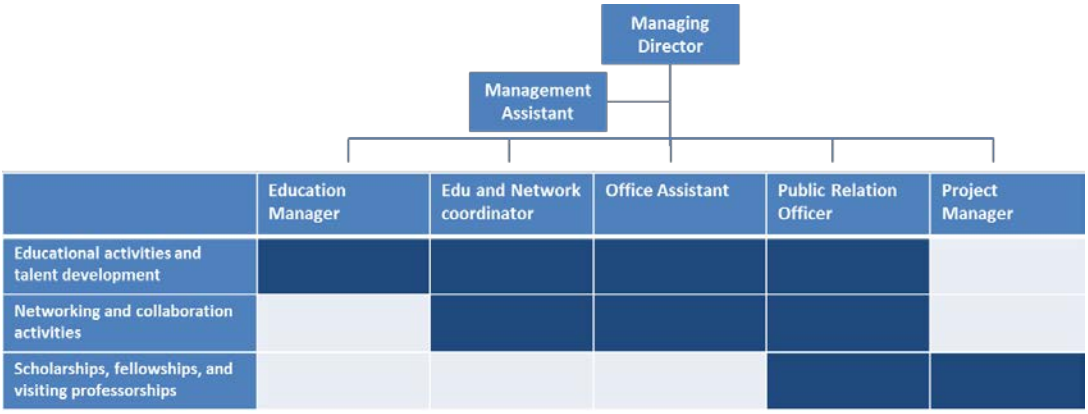


Figure 2. The Executive Management Team. The working areas are shown in dark blue.

The Executive Management Team will consist of seven employees. The professional composition of the executive management team will reflect its various tasks in both execution and development of activities within the three main focus areas.

The Managing Director must have demonstrated skills in project management, personnel management, communication, administration, and research, as well as experience of both national and international collaboration with academia, hospitals, and industry. The Managing Director will be responsible for the day-to-day management of the DDA, operational issues, and the practical implementation of the policies/strategies adopted by the BoD. Moreover, the Managing Director will ensure that the Executive Management Team provides necessary administrative support for the DDA's work, including communications support for outreach and other activities. The Managing Director will also be responsible for building and maintaining collaborations with the life science industry and international research institutions. Further, the Managing Director will function as the BoD's Secretary, liaising on a day-to-day basis on practical matters between Odense University Hospital and the DDA.

The Management Assistant must have a university degree and excellent skills in written communication in English and in administrative tasks including coordination, research, administration and personnel administration (HR). The Management Assistant will support the Managing Director on operational issues and in the practical implementation of the policies/strategies adopted by the BoD (e.g. recruitment of the next generation of researchers). Furthermore, the Management Assistant will be responsible for personnel administration on behalf of the executive management team.

The Education Manager must have a university degree and experience in education, postgraduate curriculum development and course administration. Further, the Education Manager must show evidence of collaboration with both national and international research institutions (academia, hospitals and industry). The Education Manager will be responsible for the implementation and administration of the overall education programmes for PhD students and postdocs, as planned by the Committee for Education.

Further, the Education Manager will be responsible for pro-actively developing new educational initiatives ensuring that the DDA's educational activities within the PhD and postdoc programmes embody the most up-to-date teaching principles. To ensure that the DDA PhD courses are supplemental to, and not redundant to existing university courses, the Education Manager will coordinate with the Danish PhD Network of Diabetes and Metabolism (https://www.danishdiabetesacademy.dk/phd). Moreover, the Education Manager will be responsible for an annual survey of the broader PhD training landscape in Denmark and the Education Manager will make sure that the DDA PhD courses are listed at the national database of the PhD courses offered at the universities in Denmark (https://phdcourses.dk). The Education Manager will function as administrative secretary to the Committee for Education.

The Education and Networking Coordinator must have experience in the administration of courses and networking activities. The Education and Networking Coordinator will support the Education Manager in implementing the PhD and postdoc programmes, and will also be responsible for the administration and execution of the DDA networking programme. In addition, the Education and Networking Coordinator will pro-actively maintain and establish contacts with partners in academia, hospitals and the life science industry, and will be responsible for the pro-active development of new networking activities. Finally, the Education and Networking Coordinator will be responsible for the day-to-day management of the DDA's website, the membership database and its Facebook and LinkedIn presence, while also functioning as administrative secretary to the National Advisory Forum.

The Office Assistant must have experience in research administration. The Office Assistant will be responsible for travel arrangements, meeting administration and reception duties, and for providing administrative support to the Executive Management Team.

The Public Relation Officer (half-time employee) must have a formal educational background as a journalist and documented experience in scientific communication and outreach. The Public Relations Officer will be responsible for raising awareness of the DDA's educational, networking, and recruitment activities using printed and electronic mass media, as well as social media.

The Project Manager (two years) must have successful experience in fund-raising and project management in relation to the Horizon 2020 programme. The Project Manager will be responsible for pro-actively establishing collaboration with both the life science industry and public sector research institutions in order to submit two grant applications annually to the Horizon 2020 programme (specifically regarding the Innovative Training Networks under the Marie Skłodowska-Curie actions). Further, the Project manager will be the administrator of any grants funded by the Horizon 2020 programme.

3.1.3 Committee for Talent Development

The Committee for Talent Development will consist of up to 30 internationally renowned and dedicated scientific experts of the highest international calibre. The composition will ensure diversity within relevant interdisciplinary diabetes areas and within talent development including scientific experts from the life-science industry. The relatively high numbers of scientific experts within different diabetes research areas (basic, clinical, epidemiological and qualitative research) are necessary to match the broad scientific topics of the respective applications. Thus, it is not the intention that all 30 scientific experts perform a peer review at each DDA scholarship call. The aim of the Committee will be to perform a professional peer review evaluation of applications for PhD, postdoc and visiting professorship grants and to provide a motivated recommendation to the BoD on applications to be funded by the DDA.

This process will ensure that every applicant receiving a grant from the DDA has been subjected to an objective, professional and comprehensive peer review, thereby guaranteeing that the application is assessed on its quality, novelty, originality and promise and on the merits of the applicant's qualifications

before the BoD decides on a grant. It will also avoid conflicts of interest in the evaluation process. All members of the Committee for Talent Development must use the DDA web based electronic system when submitting their quantitative and qualitative scores on the respective applications.

The Chair of the Committee for Talent Development will meet with the BoD yearly in order to appraise the function of the body and receive suggestions for potential changes in the work of the committee. Potential changes in the function of this body will be determined by the BoD. The annual meetings will also be a means of giving the BoD inputs regarding calls for applications and evaluation criteria for the following year.

Members of the Committee for Talent Development will be appointed by the BoD for a period of 2½ years. Members may be reappointed once (see **Appendix II** for further details).

3.1.4 Committee for Education

The Committee for Education will consist of ten national experts of the highest international calibre within relevant diabetes areas and within education. The composition will ensure diversity (gender, age, competences). The aim of the Committee will be to plan educational and talent development activities for diabetes researchers affiliated to the DDA. This aim will be achieved through theoretical and practical courses, workshops, seminars, symposia, Summer Schools, Winter Schools and national/international meetings. These activities will be undertaken with practical support from the Executive Management Team. Partners from the life science industry will be invited to contribute to the form and content of these educational activities.

The BoD will meet with the Committee for Education twice yearly in order to evaluate the function of the body and receive suggestions for potential changes to the work of the committee. Potential changes to the function in the body will be determined by the BoD. One meeting will be used to discuss and to give the BoD inputs on the activities to be undertaken the following year. Potential changes to the function of the body and the following years' activities will be decided upon by all members of BoD.

Committee members will be appointed by the BoD for a period of 2½ years. Members may be re-appointed once (see **Appendix II** for further details).

3.1.5 International Advisory Board

The International Advisory Board will consist of ten renowned international experts within diabetes research, education and talent development. The diversity in the composition of the board will be of highest priority.

The principal tasks of the International Advisory Board are to provide feedback and recommendations on activities in the DDA and to provide inputs to the overall strategy of the DDA, including past, present and future DDA activities. Moreover, it is the task of the International Advisory Board to compile - with the BoD - an annual report outlining strengths, weaknesses, opportunities and threats (SWOT) to the DDA in relation to the three overall objectives: educational activities and talent development; networking and collaboration activities; scholarships, fellowships and visiting professorships.

The International Advisory Board will meet with all members of BoD yearly. Members will be appointed by the BoD for a period of 2½ years. Members may be reappointed once (see **Appendix II** for further details).

3.1.6 National Advisory Forum

The National Advisory Forum will consist of ten representative members of the DDA, ranging from PhD students and postdocs to scientists and professors of varying seniority. The idea of this Forum is to have a formal body with the opportunity on both a regular and an *ad hoc* basis to give the BoD and the Committee

for Education feedback on past, present and future DDA activities. The National Advisory Forum will liaise with BoD as described above.

The National Advisory Forum will meet with the BoD twice yearly. Members will be appointed by the BoD for a period of 2½ years. However, one member will be elected by DDA members. Members may be reappointed once (see **Appendix II** for further details).

3.1.7 Evaluation and Deliverables

DDA recognizes the important role of quality assurance in strengthening and maintaining the high quality of Danish Diabetes research education. Although the Ministry lays down the regulations for the PhD education, and direct responsibility for training and quality assessment lies with the Danish universities (enrolment, regular evaluation of progression, time to completion, drop-out rate, supervisor training and thesis defence), it is clearly an issue for the DDA to strengthen and maintain excellent quality and perform quality assessment of the activities offered within education and talent development, networking, and recruitment.

The quality assessment process includes definition of expectations (success criteria), implementation, evaluation and measurements of key indicators and feedback to perform adjustments and enhancements. For the individual DDA-funded PhD student the success criteria are materialized in

1) the thesis and original scientific papers published in high ranking international journals (bibliometric data),
2) the acquisition of a range of academic, technical and generic/transferable skills (documented by solving a task at each course activity and a final self-evaluation), and
3) employment within diabetes research and/or diabetes health care (university, hospital or private enterprise)(employment data).

For the individual postdoc the evidence of success is materialized in

1) original papers in high ranking international journals as 1st or last author (bibliometric data),
2) acquisition of academic skills at a higher level than PhD herein grant writing and leadership (self-evaluation, funding), and
3) employment within diabetes research (employment data).

Further indicators of success are international collaboration (documented by mobility, joint publications, joint and funded applications), interdisciplinary collaboration (documented by joint publications based on affiliation and educational background of authors, joint and funded applications), collaboration with industry (documented by joint publications based on affiliation, patent applications or spin-off companies, joint and funded applications) and employment status .

All PhD students and postdocs funded by the DDA will have to complete an evaluation after thesis defence or change of position covering the above indicators. Furthermore, PhDs and postdocs trained within the DDA will be contacted for a follow-up survey focusing on publications (journal, impact), successful applications, occupancy (public/private enterprise/national/global) and type of tasks (research/teaching/patient care). As tool for monitoring, DDA will use Research Fish@.

The performance of the organization (e.g. courses, workshops, matchmaking events) will be monitored regularly. Thus, the Managing Director will be responsible for submitting quarterly reports and an annual report to the NNF. The reports will include a description and evaluation of the activities held (educational activities and talent development, networking and collaboration activities, and scholarships, fellowships and visiting professorships). The annual report will clearly state which success criteria and milestones have been met during the year and will include an overall report of the individual success indicators.

Each year, the BoD will meet with all DDA bodies to discuss and receive feedback on past, present and future DDA activities. The conclusions of these meetings will form an annual self-evaluation, which will also include an evaluation of the cooperation between the BoD and the Executive Management Team in order to identify areas for improvement. The self-evaluation will be submitted to the NNF as part of the annual report.

Finally, a halfway evaluation of the DDA will be performed by an international independent peer review group, who will evaluate the results obtained within education and talent development, the workshop programme and the recruitment programme. The composition of this review group will be determined by the BoD.

4 Strategy

The strategy of the DDA is to achieve its **vision** and **mission**, i.e. to enhance the quality of Danish Diabetes research education to ensure that it remains at the highest international level and to educate and train the next generation of researchers in the field of diabetes, and overall **objectives,** through the activities described in the following.

4.1 Membership

As it is the objective of the DDA to: *Serve as a national diabetes hub to unify academia, hospitals and the life science industry in Denmark within educational activities and talent development*, the DDA will have the following ambitious plans for DDA memberships. Thus, persons are eligible for membership if they are dedicated, active researchers within diabetes and associated diseases from the public and private sectors whether from Denmark or abroad. This should be documented by either a) evidence (research publication or conference attendance) of research conducted in the field of diabetes and metabolism within the last five years; or b) enrolment at a Danish or international university as a Master's or PhD student focusing on research in diabetes and metabolism, or closely related areas. The Education and Networking Coordinator will approve all incoming membership enquiries on the basis of the applicant's educational background and the outlined criteria. DDA membership is valid as long as the DDA's grant period runs or until a member resigns from his/her membership.

The DDA aims to enhance the value of membership in the future. To this end, the DDA will strive to provide the following membership benefits:

- Invitations to DDA live educational and networking activities such as PhD courses, seminars, symposia, workshops and evening meetings;
- Unique opportunities to participate in online learning (web seminars) organized by DDA;
- The opportunity to stand for election (by vote of the membership) to the National Advisory Board of DDA, and thus provide input to the BoD regarding future activities and strategies;
- The opportunity to submit input online regarding proposed strategies and activities thrown open by the Board of DDA to debate among the membership, as well as to propose any other business topics for BoD meetings (standing item: input from members);
- The ability to use the DDA's list of members to search for possible collaborative partners;
- The ability to have one's own research results shared with DDA members via the website or social media;
- Invitation to respond to surveys about their perception of their influence on the strategies and activities of DDA.

By giving DDA members a seat on the National Advisory Forum and involving them in bottom-up discussions of central DDA activity topics, the DDA aims to foster a stronger feeling of affinity among its

members. By offering the opportunity for members to attend a variety of educational and networking activities, and to have their research results shared with other members, the DDA aims to inspire them with a sense of belonging and/or ownership.

4.2 Educational Activities and Talent Development

In order to achieve the objective of the DDA to: *Strengthen the research training available to PhD students and postdocs within the field of diabetes, in collaboration with academia, hospitals and the life science industry*, the DDA will through its educational activities and talent development focus on:

- Training the next generation of researchers within the field of diabetes and metabolism. It is the ambition to educate these researchers in order to provide them with a holistic and innovative, cross-sectional and inter-disciplinary mindset and approach to their work. The overall aim is to enable these researchers to develop new prophylactic activities and treatment modalities in order to combat the individual and societal challenges of diabetes and its devastating complications.
- Strengthening the Danish PhD Network of Diabetes and Metabolism; this is the existing collaboration between the DDA and PhD research programmes in the field at the major Danish universities and university hospitals. Now five years old, this is Denmark's largest PhD network and includes strong international partners.
- Stimulating applied research by strengthening existing collaborations between researchers at the Danish universities and the Danish university hospitals, and establishing new collaborations with the newly created Steno Diabetes Centers. Through partnerships with university hospitals and the Steno Diabetes Centers, the DDA can strengthen its programme of education in translational biomedical research methodology and health promotion research and, in the longer term, help to streamline the transfer of knowledge from basic research in the laboratory, through physiological studies in man to new clinical treatments that will benefit diabetes patients.
- Establishing close collaboration with the life science industry (medical as well as medico-technical companies) to facilitate knowledge sharing, insight and innovation between independent research in the public sector and research in the private sector. The DDA will facilitate this collaboration, which will take the form of joint research projects between universities, university hospitals and the life science industry, including industrial PhD and – postdoc programmes, giving junior researchers improved talent development and opportunities to start a career in the private sector.
- Intensifying collaboration with internationally recognized research institutions with a view to devising joint programmes of education and talent development. This includes our existing collaboration on PhD courses and postdoc training with the Cambridge Metabolic Network in the United Kingdom, the Deutsche Zentrum für Diabetesforschung in Germany, the Joslin Diabetes Center, Harvard Medical School in the United States, and the Banting & Best Diabetes Centre in Canada. These existing collaborations and novel initiatives will be extended to include joint applications to the Horizon 2020 and 2025 programmes regarding Innovative Training Networks ('Marie Skłodowska-Curie actions'), including universities, research centres, university hospitals and life science industry from different countries. By the establishment of collaborations with foreign institutions and the life science industry e.g. in relation to Innovative Training Networks (Marie Skłodowska-Curie action), the DDA will have a central coordinating role as regards providing and organizing specialized courses for PhD students involved in the Innovative Training Network. In **Appendix III**, a list of the existing national and international collaborations and new potential collaborations is provided.
- Monitoring the impact of the DDA education and talent development programme, the networking activities and the scholarship and fellowship programme. Capturing outcome data (as described in 3.1.7) after thesis defence/end of funding will allow the DDA to evaluate whether success criteria are fulfilled and to follow the fellow's professional career. In addition, the DDA will

establish an Alumni network for DDA-funded researchers to gain important knowledge about career development.

- Intensifying collaboration across disciplines to widen research areas and thereby gain new knowledge within diabetes. This is necessary to solve the complex health challenges society will encounter in the future. This approach will not only bring full-time basic scientists together with clinical researchers. It will also include scientists within engineering, IT/software, psychology, anthropology and health economy. Gaining the full benefit of interdisciplinary collaboration is a long process. The DDA will facilitate this process by organizing interdisciplinary workshops around a specific health challenge within diabetes, inviting high-ranking mono-disciplinary researchers who can contribute to the chosen topic. The goal is to obtain a common understanding and respect across disciplines and to formulate research questions and projects based on input from different disciplines. An additional tool is to seek supervisors presenting different disciplines. DDA will also aim to ensure (and monitor) that participants on PhD courses, workshops etc. represent different scientific backgrounds.
- In collaboration with an external organization, offer professional career development of young researchers locally within an intersectorial and global context. For example, but not limited to, https://www.vitae.ac.uk, an international, not-for-profit registered UK organization dedicated to active career learning and development.

4.2.1 Strategy

The educational and talent development activities are based on the following strategy:

- The DDA's educational activity and talent development are organized in close collaboration with the Danish PhD Network of Diabetes and Metabolism, and with national and international research institutions, university hospitals and the life science industry.
- The DDA's PhD courses, postdoctoral training, seminars and symposia incorporate elements of basic, translational, clinical and interdisciplinary research.
- The DDA PhD courses, postdoctoral training, seminars and symposia support collaborative learning, challenge-based learning, and interdisciplinary collaboration and learning. To ensure that the educational activities and talent development will include new pedagogic approaches and teaching methods, members of the Committee of Education will have documented educational pedagogical skills. Moreover, it is a requirement that the Education Manager has experience in education, post graduate curriculum development and e-learning platforms herein virtual leaning rooms. DDA will include new technologies and communication platforms in the PhD courses to support higher interactivity between the teacher and the participant. With the use of a blended learning methods and an expanded use of virtual learning platforms the DDA will strive to facilitate adaptive learning (individual ways of learning), critical thinking and knowledge application. With an expanded use of new technologies in combination with the traditional lecture-based teaching the DDA will be able to support PhD students who learn better and faster with the help of interactive media that incorporate images, graphics, videos and audio elements. All the DDA PhD courses will have an individual clear a measurable learning outcome (see success criteria). Speakers at DDA activities are nationally and internationally recognized experts. It is intended that current DDA professors and future visiting professors should play a substantial role in the educational activities of the DDA, and that current and future postdocs should also undertake educational duties in respect of PhD students.
- Each educational activity (e.g. course, workshop) must be approved on forehand by the Education Manager herein an approval of content, level, measureable learning outcomes and test of acquired competences. See **Appendix III** for template for course registration.
- Each participants and the course leader evaluate each educational activity (course, workshop etc.) after completion of the activity. The evaluations work as feedback to the Education Manager and

The Committee for Education and used as tool for further planning of activities. See **Appendix III** for templates for course evaluation.

4.2.2 Activities

A tentative list of PhD courses, the postdoc programme and symposia and seminars for 2018 is shown in **Appendix III**.

PhD courses



Figure 3. Timeline for PhD fellowship course programme.

It is the ambition that the DDA's PhD students will gain close familiarity with the principles of an interdisciplinary research approach. This ambition will be reflected in the PhD fellowship programme consisting of at least six courses aimed at PhD students at different stages of their three-year doctoral studies (**Figure 3**):

- In *April*, a technical training course in collaboration with Danish universities, university hospitals and the life science industry. Target group will be second- and third-year PhD students.
- In *May*, a PhD course in Basal Metabolism. Target group is first-year PhD students (see previous course programmes in **Appendix III**).
- In *June*, a PhD course in collaboration with an international partner. In 2017, the partner is Deutsche Zentrum Für Diabetesforschung. The collaboration is recently established, and the theme for the PhD course in 2017 is 'Diabetes and Epidemiology'. Target group will be second- and third-year PhD students associated with DDA and Deutsche Zentrum Für Diabetesforschung.
- In *July*, a PhD course in collaboration with another international partner. In 2017, the partner is the Cambridge Metabolic Network. The collaboration is recently established, and the theme for the PhD course in 2017 is 'Energy storage: From beneficial adaptations to diseases'. The target group will be PhD students in their first to third year associated with the DDA and Cambridge Metabolic Network.
- In *September*, the annual PhD Summer School, which has been the backbone of the PhD network for almost ten years, at which around 50 second- and third-year students hone their research skills with diabetes and metabolism experts of the very highest standing from around the world. Target group will be second- and third-year students.
- In *November*, a newly established PhD course in clinical diabetes research for PhD students in year one to three with an MSc or MD background.

In addition, PhD students will also be able to attend the transferable skill courses and career development courses described under the postdoc programme and in **Appendix III**.

The DDA PhD courses will be listed at the common web portal for PhD courses at universities in Denmark https://phdcourses.dk/. The DDA courses are provided in accordance with the open market for PhD courses agreement among universities in Denmark, and all DDA courses are ECTS-approved by a Danish university, i.e. approved according to the universities' European Credit Transfer System.

Postdoc programme

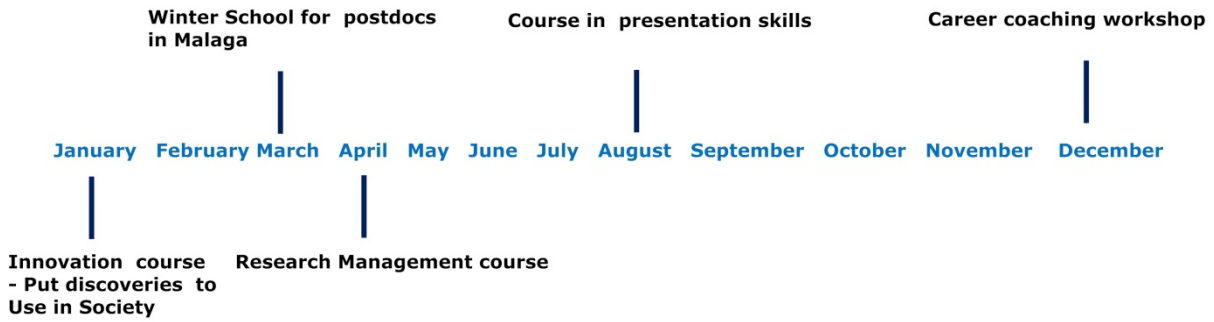


Figure 4: Timeline for postdoc fellowship course programme

The postdoc fellowship programme will consist of at least five courses aimed at preparing postdoc fellows to establish and lead their own research groups and to apply for major funding from the Danish research councils, the European Research Council (ERC), the European Foundation for the Study of Diabetes (EFSD) and Horizon 2020/2025 (**Figure 4**).

- In *January***,** an innovation course where researchers are taught how to be better at identifying and validating the potential impact of their research using lateral professional networks, need analyses and value proposition targets and thereby increasing the chance of project funding and impact on society. This will include collaboration with the life science industry.
- In *March***,** a Winter School for postdocs in Malaga with a mixture of talks by key national and international speakers, workshops, challenges and participation by postdocs from Denmark and abroad.
- In *April*, a research management course with the aim of introducing postdocs to a variety of management tools that will be helpful when supervising PhD students and other students with a focus on management in research environments and on how to form a research group.
- In *August***,** a presentation course with the aim of improving postdocs' presentation skills through interactive workshops and an introduction to a wide variety of communication and presentation techniques.
- In *December*, a career coaching workshop in collaboration with Vitae, https://www.vitae.ac.uk with the aim of helping and empowering young researchers (postdocs and 3-year PhD students) to realize their potential through continuing professional development.

Symposia / seminars

The DDA seminar / symposium programme will consist of at least four one- to two-day seminars throughout the year on different scientific topics as indicated in **Figure 5**.

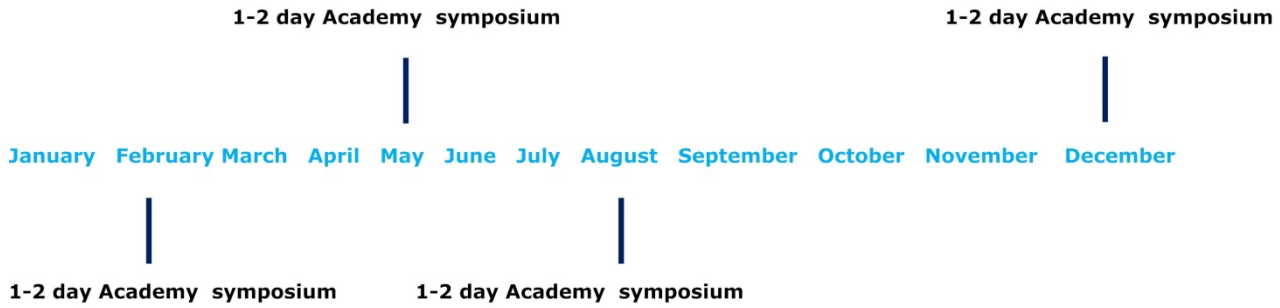


Figure 5: Seminars and Symposia

4.2.3 Recruitment of Participants

Participants in the DDA educational and talent development activities may be divided into three main target groups. Ahead of any activity, the target group should be identified, and advance communications should thereafter be directed at that group. The DDA target groups are:

- PhD students enrolled at Danish universities and exchange PhD students conducting research in the field of diabetes and metabolism.
- Postdoctoral fellows working at universities, in university hospitals or in the life science industry in Denmark, and postdoctoral fellows belonging to international research groups but who collaborate with Danish research groups.
- Other diabetes researchers including senior basic researchers and clinical diabetes researchers from public research institutions and hospitals, as well as researchers in the life science industry.

Researchers in the three above-named target groups should ideally have open and unfettered access to the DDA courses, seminars and symposia. Students from abroad are eligible to sign up for participation in the DDA PhD courses, which are all held in English, but as some of the DDA courses are co-financed by Danish universities, students not enrolled in a Danish University will be charged a course fee. Should there be limited space on, for example, a PhD course, DDA members who have received funding from the DDA will have first priority to join the course. On courses where it is compulsory to submit an abstract, the respective organization's committee for the specific activity (e.g. PhD courses) selects attendees based on the abstracts submitted.

DDA awards

Each year at the DDA annual meeting the following two awards are granted. *The Young Investigator Award,* which is presented to a young researcher, under the age of 40, who is engaged in interdisciplinary translational research in Denmark and has shown promising research and made an important contribution to the understanding and treatment of diabetes. *The DDA-Funded Scientist Award,* which is presented to a young DDA-funded researcher (or previously funded researcher whose grant term has ended within the last year) who has shown great potential to be world-class researcher within his/her field of expertise. For both awards, the nominee must be nominated by a member of the DDA and must him/herself be a member of the DDA.

The award committee will consist of a member of the Committee for Talent Development (chair), a member of the Committee for Education and a member of the National Advisory Forum. The members of the committee will be appointed by the BoD. The chair of the award committee will summarize the evaluations and forward the recommendations for the two awards to the BoD, which will allocate grants to the awardees on that basis.

4.2.4 Decision-Making Process

In order to ensure high quality and a balanced portfolio of activities within the DDA's educational programme and talent development, the BoD will hold regular meetings with the Education and Talent Development Committees to discuss existing approaches and gain new input on educational activities and talent development (see section on organization and governance). In addition, the BoD will, in consultation with the young researchers, the DDA International Advisory Board and National Advisory Forum, receive inputs and recommendations regarding current and proposed activities.

On the basis of inputs and recommendations from the Committee for Education and the Advisory Boards, the BoD will determine the direction and framework for the DDA's education and talent development.

The Managing Director is responsible, in collaboration with the Education Manager, for ensuring that the Executive Management Team carries out and implements activities as determined by the BoD.

4.2.5 Communication and Outreach Strategy

In order to attract the target groups, the DDA announces all activities within the education and talent development programme via relevant social media (DDA Facebook and DDA LinkedIn), relevant websites (including the DDA website: www. danishdiabetesacademy.dk), newsletters, electronic university bulletins and the websites of relevant professional societies. The Public Relations Officer will be responsible through printed & electronic mass media and social media for disseminating and thereby raising awareness of the DDA's educational programme and talent development.

4.2.6 Milestones

The milestones for education and talent development are shown in **Table 1**

Month	Milestone	Milestone
3	3	Constitution of all DDA committees and boards
12	E12.1	6 PhD courses held within last 12 months
12	E12.2	3 postdoc courses held within last 12 months
12	E12.3	3 one- to two-day seminars held within last 12 months
24	E24.1	DDA hosts a symposium in collaboration with international research institutions
24	E24.2	DDA establishes a training program in collaboration with national and international research institutions and life science industry aiming at young PhD students associated with the European Training Network Programme
24	E24.3	6 PhD courses held within last 12 months
24	E24.4	5 postdoc courses held within last 12 months
24	E24.5	4 one- to two-day seminars held within last 12 months
36	36	Re-constitution of DDA committees
36	E36.1	Halfway evaluation of the education and talent development programme and how to proceed
36	E36.2	DDA hosts a two-day conference abroad for young national and international researchers
36	E36.3	6 PhD courses held within last 12 months
36	E36.4	5 postdoc courses held within last 12 months
36	E36.5	4 one- to two-day seminars held within last 12 months
48	E48.1	DDA hosts a national conference for young researchers – in cardiovascular research, cancer research, dementia research and diabetes research – "What can we learn from each other?"
48	E48.2	6 PhD courses held within last 12 months
48	E48.3	5 postdoc courses held within last 12 months
48	E48.4	4 one- to two-day seminars held within last 12 months
60	60	Two-day scientific symposium and workshop – what did we achieve / evaluation of recruited researchers' activities and performance
60	E60.1	6 PhD courses held within last 12 months
60	E60.2	5 postdoc courses held within last 12 months
60	E60.3	4 one- to two-day seminars held within last 12 months

Table 1: Milestones, Educational activities and talent development

4.2.7 Success Criteria

The DDA's educational activities and talent development programme will be monitored annually to document that they meet the personal as well as organizational success criteria. The success criteria are as follows:

- The participant in each course/workshop or other activity attended can demonstrate that he/she is able to make critical reflection of the field and to put the acquired competence to use in a challenge within the specific area. The course leader evaluates this through a written examination. The success rate is 90%.
- The PhD/postdoc trained within the DDA can clearly describe competences gained and the value of these for future positions (for an employer). This description is a mandatory part of the final evaluation taking place after thesis defence and/or end of fellowship.
- The DDA to hold six national and international PhD courses per year, including two organized in collaboration with research institutes outside Denmark.
- The DDA to hold four major seminars/symposia per year in collaboration with national and international research groups.
- The DDA courses to be fully booked, and its symposia and seminars to be attended by at least 60 national and international researchers. Of the attendees, 25% to be from abroad, from the life science industry or from disciplines other than medical doctor or Master of Science.
- Of the teachers and speakers on DDA PhD courses, seminars and symposia, half to be internationally recognized experts from outside Denmark.
- Participant satisfaction with the education scientific programmes to be 4.0 on a scale from 1 (unsatisfactory) to 5 (very satisfactory)
- DDA-funded researchers' satisfaction with the Executive Management Team's performance regarding the organization and information on the PhD courses to be 4.0 on a scale from 1 (unsatisfactory) to 5 (very satisfactory)

4.3 Networking and Collaboration Activities

In order to achieve the objective of the DDA to: *Serve as a national hub within diabetes, unifying academia, hospitals and the life science industry in Denmark, to strengthen educational activities and talent development within the area*, the DDA will through its Networking and Collaboration Activities focus on:

- A further development of the DDA's networking activities, including the facilitation and organization of national and international research workshops; holding formal and informal networking meetings at national and international diabetes conferences, and running the Annual Days for DDA researchers.
- Expanding the collaborations with Danish and international professional societies and building on existing collaborations with national and international stakeholders including the life science industry when arranging annual scientific meetings, workshops and PhD courses. In **Appendix III**, a list of existing and potential national and international collaborators is provided.
- Motivating PhD students and postdocs in receipt of research grants from the DDA to spend an extended period during their studies at a research institution abroad, collaborating with and gaining inspiration from researchers and teams outside Denmark. Internationalization, including a clear plan for a research stay abroad is an important criterion for allocation of PhD and postdoc fellowships (see 4.4.3). It is the responsibility of the institutions and supervisors/mentors of the grant recipients to provide the necessary support and assistance for the planned research stay abroad. DDA will continuously monitor this internationalization as an important success criterion. DDA will create a webpage with helpful knowledge and links, and help to attract funding for such research stays.

- Motivating PhD students and postdocs in receipt of research grants from the DDA to pursue interdisciplinary research opportunities, such as participating in the DDA organized interdisciplinary workshops. Interdisciplinarity is an important criterion for allocation of PhD- and postdoc fellowships (see 4.4.3). Thus, it is required that the application includes a clear argumentation of why a given project is interdisciplinary. In addition, it is required that the supervisors represent different scientific backgrounds. The DDA will continuously offer workshops in which a specific topic is discussed in an interdisciplinary environment.
- Motivating PhD students, postdocs and visiting professors from abroad to spend a short or extended period conducting research at a research institution within the DDA. All PhD and postdoc fellowships will be advertised in free and open national and international competition (see 4.4.2). During the networking and collaboration activities of DDA, the Executive Management Team will pro-actively disseminate the opportunities within DDA such as to become member of DDA, participate in networking activities and to apply for PhD and postdoc fellowships. In addition, DDA will assist international applicants with contacts to Danish principal investigators.
- Collaborating with both the life science industry and public sector research institutions to submit grant applications to the European Framework Programme Horizon 2020, especially as regards the Innovative Training Networks under the Marie Skłodowska-Curie actions and European Research Council Starting Grants. DDA will focus on a closer collaboration with life-science industry to give PhD student and postdocs the opportunity to spend an extended period of their studies within the life-science industry. This includes co-funding of PhD students and postdoc by life science industry and the Innovation Fund Denmark (see 4.4.)

4.3.1 Strategy

The Networking and Collaboration activities are based on the following strategy:

- The DDA will maintain its close collaboration with the Danish PhD Network of Diabetes and Metabolism.
- The DDA workshops shall be based on close collaboration with national and international research institutions, university hospitals and industry, and shall facilitate interdisciplinary collaborations involving national and international research groups. The Executive Management Team of the DDA will pro-actively maintain and establish novel contacts with partners within the life science industry. This will include invitation to actively contribute to the educational as well as networking and collaboration activities within DDA. As outlined above, this will include contributions from the industry to the content and form of PhD courses, the postdoc programme, symposia/seminars and workshops, of which some will be dedicated to increase interaction with industry
- The DDA workshops shall provide an arena and a space for PhD students, postdocs and visiting professors within diabetes to exchange ideas with senior national and international researchers.
- The DDA shall establish collaborations with national and international research groups and private stakeholders in respect of the EU's Horizon 2020 and Horizon 2025 framework programmes, with the emphasis on the COFUND programme and the Innovative Training Networks – joint PhD programmes and educational networks.

4.3.2 Activities

The DDA will throughout the year arrange at least six networking activities, including workshops in collaboration with national and international research institutions and the life science industry. Moreover, the DDA will hold an Annual Day for DDA researchers (**Figure 6**).

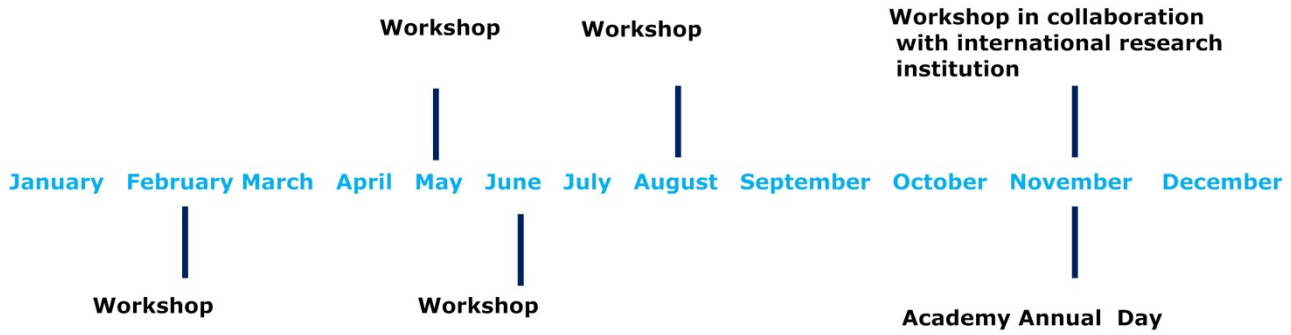


Figure 6: Networking Activities

4.3.3 Recruitment of Participants

Participants in the DDA networking activities may be divided into three main target groups. Ahead of any activity, the target group should be identified, and advance communications should thereafter be directed at that group. The DDA target groups are:

- PhD students enrolled at Danish universities and PhD exchange students conducting research in the field of diabetes and metabolism;
- postdoctoral fellows working at universities, in university hospitals or in the life science industry in Denmark, and postdoctoral fellows belonging to international research groups but who collaborate with Danish research groups;
- diabetes researchers including senior basic researchers and clinical diabetes researchers from national and international public research institutions and hospitals, as well as from industry.

Researchers in the three above-named target groups should ideally have open and unfettered access to the DDA's networking activities. Should there be limited space on a networking activity, DDA members who have received funding from the DDA will have priority.

4.3.4 Decision-Making Process

In order to ensure high quality and a balanced portfolio within the DDA networking activities, the BoD will hold regular meetings with the Committee for Education to discuss existing approaches and gain new input on workshops (see section on organization and governance). In addition, the BoD will, in consultation with the DDA International Advisory Board and National Advisory Forum, receive inputs and recommendations regarding current and proposed activities.

On the basis of inputs and recommendations from the young researchers, the Committee for Education and the Advisory Boards, the BoD will determine the direction and framework for the DDA's networking activities.

The Managing Director is responsible in collaboration with the Education and Networking Coordinator for ensuring that the Executive Management Team carries out and implements activities as determined by the BoD.

4.3.5 Communication and Outreach Strategy

In order to attract the target groups, the DDA announces all networking activities via relevant social media (DDA Facebook, DDA LinkedIn and DDA Twitter), relevant websites (including the DDA website: www. danishdiabetesacademy.dk), newsletters, electronic university bulletins and the websites of relevant professional societies. Further, the DDA will send personal invitations to VIPs who are considered to be valuable assets to the specific networking activity. The Public Relations Officer will be responsible through

printed & electronic mass media and social media for disseminating and thereby raising awareness of the DDA's networking activities.

4.3.6 Milestones

The milestones for networks and collaborations are shown in **Table 2**.

Month	Milestone	Milestone
3	3	Constitution of all DDA committees and boards
12	N12.1	Opening seminar – Introduction to DDA version 2
12	N12.2	Annual Day for DDA researchers and members
12	N12.3	Workshop: "How to move from disciplinary to interdisciplinary research" with national and international research collaborators
12	N12.4	In collaboration with an international research institution, DDA hosts a scientific session aimed specifically at young researchers at an international diabetes conference in Europe
12	N12.5	Workshop: How to obtain the full synergy of interdisciplinary research
12	N12.6	Workshop in collaboration with Danish Diabetes Association – "From research to patient"
12	N12.7	Second workshop for partners (national and international research institutions and life science industry) in the forthcoming Innovative Training Networks application under the Marie Skłodowska-Curie actions (Horizon 2020)
24	N24.1	Annual Day for DDA researchers and members
24	N24.2	Third workshop for partners (national and international research institutions and life science industry) in the forthcoming Innovative Training Networks application under the Marie Skłodowska-Curie actions (Horizon 2020)
24	N24.3	Workshops and webinars covering diabetes and metabolism research abroad (Europe, Asia and US) in collaboration with national and international research institutions and private companies
24	N24.4	DDA hosts in collaboration with an international research institution a scientific session aimed specifically at young researchers at ADA, USA
24	N24.5	An additional workshop, making at least 6 workshops
36	36	Re-constitution of DDA committees
36	N36.1	Halfway evaluation of the networking programme and how to proceed
36	N36.2	Annual Day for DDA researchers and members
36	N36.3	Fourth workshop for partners (national and international research institutions and life science industry) in the forthcoming Innovative Training Networks application under the Marie Skłodowska-Curie actions (Horizon 2020)
36	N36.4	At least 4 additional workshops, making a minimum of 6 workshops
48	N48.1	Annual Day for DDA researchers and members
48	N48.2	Fifth workshop for partners (national and international research institutions and life science industry) in the forthcoming Innovative Training Networks application under the Marie Skłodowska-Curie actions (Horizon 2020)
48	N48.3	At least 4 additional workshops, making a minimum of 6 workshops
60	60	2-day scientific symposium and workshop – what did we achieve / evaluation of the recruited researchers' activities and performance
60	N60.1	Annual Day for DDA researchers and members
60	N60.2	At least 4 additional workshops, making a minimum of 6 workshops

Table 2: Milestones, Networking and collaboration activities

4.3.7 Success Criteria

The DDA's networking and collaboration activities will be regularly monitored to document that they meet the personal and organizational success criteria.

The success criteria are as follows (for monitoring see 3.1.7):

- That 85 % of the DDA funded PhD students and postdocs stay abroad for at least three months or have spent time within life-science industry
- That 85% of the DDA-funded PhD students and postdoc have joint publications and/or funded applications with researchers abroad or within life-science industry.
- A total of 15-20% industrial PhD and 15-20% industrial postdoc fellowships
- That 25% of the DDA-funded PhD students and postdoc have publications and applications that are interdisciplinary.
- That the DDA arrange at least six workshops and other networking activities per year in collaboration with national and international research groups and industry.

- That the DDA organize at least two workshops and other networking activities per year across disciplines including scientists with background in engineering, IT, health-economics, anthropology, and health science.
- That DDA can document that an increasing number of PhD students and postdocs from abroad have spent time in Danish research institutions in collaboration with DDA as a consequence of the networking activities.
- That the DDA take part in at least two annual applications to the EU's Horizon 2020 framework programme focusing on Innovative Training Networks – joint PhD programmes and educational networks.
- That the number of national and international PhD students and postdocs who apply for DDA membership increases by 10% annually.
- That the number of national and international PhD students and postdocs subscribing to DDA social media activity (DDA Facebook, DDA LinkedIn and DDA twitter) increases 10% each annually.

4.4 Scholarships, Fellowships and Visiting Professorships

In order to achieve the DDA's objective to: *Recruit outstanding national and international PhD students, postdocs and visiting professors within the field of diabetes in open and free competition*, the DDA will, through its recruitment activities, focus on:

- Striving to create synergy between basic, translational and clinical research promoting interdisciplinary collaboration. Basic diabetes research is well established in Denmark and provides a solid foundation for bridge-building to the clinical sector. The DDA's ambition to stimulate the interdisciplinary aspect will be evident, *inter alia*, in advertisements for DDA research fellowships and in subsequent decisions on applications received. In addition, the DDA will advertise certain grants as combined clinical research positions, encouraging candidates with a medical background to apply.
- Forging closer cooperation with the life science industry regarding the education of talented researchers, the DDA will strive to give PhD students and postdocs the opportunity to conduct life science industry focused research at a high level. By collaborating with industry, for example through the industrial PhD and postdoc scheme (Innovation Fund Denmark), the DDA will facilitate the development of talented researchers equipped with advanced industry-oriented professional skills, relevant professional networks, and a knowledge and understanding of business development within life science.
- Recruiting visiting professors. The objectives concerning visiting professors are to strengthen the research environment in Denmark within a specific research area, and to strengthen the core activities within DDA (educational activities, talent development, networking and collaboration activities). In addition, affiliation of professors from abroad will strengthen collaboration between international research institutions and Danish research groups and thereby expand the possibilities for study abroad for the PhD students and thus support the DDA´s ambition for an internationalization of the DDA PhD scholarship program. Thus, the awardees will provide new knowledge and research ideas to research groups in Denmark, bridge between national and international research groups and will be a valuable asset at DDA PhD courses, seminars, symposiums and be asked to arrange or participate in workshops. Establishing joint PhD programmes with international research institutes and industry under the Horizon 2020 European framework programme, in particular the Innovative Training Networks under the Marie Skłodowska-Curie actions.

4.4.1 Strategy

The DDA bases its activities within scholarships, fellowships and visiting professors on the following strategy:

1. All DDA grants are to be advertised twice yearly in free and open national and international competition.
2. DDA grants must promote interdisciplinary research collaboration e.g. between basic, translational and clinical diabetes research.
3. The DDA will award grants based on assessments provided by an independent international research panel, i.e. the Committee for Talent Development, which will consider the excellence of the applicant and the project, and mobility - i.e. periods to be spent abroad - exclusively.
4. The DDA's PhD grants must be co-financed by external partners, including the life science industry and under the Marie Skłodowska-Curie Actions (EU Horizon 2020 and Horizon 2025 framework programme).
5. A number of DDA postdoc grants must be co-financed by external partners, including the life science industry and under the Marie Skłodowska-Curie Actions (EU Horizon 2020 and Horizon 2025 framework programme).

4.4.2 Activities

The DDA will provide various types of research position, which are to be advertised twice yearly in free and open national and international competition (**Figure 7**).

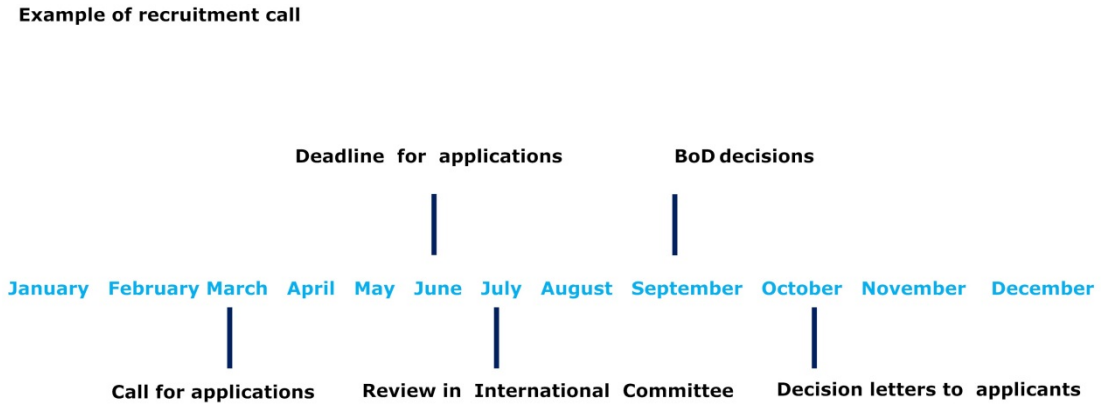


Figure 7: Timeline of a recruitment call - there will be calls twice yearly.

PhD scholarships

With respect to the NNF-financed PhD scholarships, the DDA will continue its current practice of awarding stipends (covering salary and tuition fee) on condition that the host institution covers all other costs including operating costs.

The DDA aims for three types of PhD scholarship, of which two are NNF-financed:

- thirty-six 2/3 NNF-financed PhD scholarships (each DKK 1,100,000);
- ten 1/3 NNF-financed PhD scholarships (each DKK 550,000);
- thirty PhD scholarships fully financed under the Horizon 2020 European framework programme: the Innovative Training Networks under the Marie Skłodowska-Curie actions.

Co-funding of NNF-financed PhD scholarships

The DDA will apply for 'Co-funding of regional, national and international programmes' (COFUND) under the Marie Skłodowska-Curie Actions (Horizon 2020). PhD students supported under this scheme shall comply with the mobility rules of the Marie Skłodowska-Curie actions, which mean that they are not able to

apply for the Scholarship if they have been in Denmark for more than 1 year within the last 3 years prior to commencement of the PhD scholarship. In practice, this will mean that international PhD students will apply for the PhD scholarships and thus the COFUND programme will open up a collaboration between Danish and European research institutions. If the DDA is successful with the COFUND applications, the DDA will be able to convert twelve of the thirty-six 2/3 NNF-financed PhD scholarships into fully financed PhD scholarships. However, if the DDA is unsuccessful in receiving funding from the COFUND programme, this will have no effect on the premises for the allocation of the thirty-six 2/3 NNF-financed PhD scholarships as described below.

The thirty-six 2/3 NNF-financed PhD scholarships (each DKK 1,100,000) are allocated on the premise that the remaining 1/3 (DKK 550,000) PhD scholarship is available (signed commitment by co-funders). The applicant has nine months to guarantee the funding of the remaining 1/3 PhD scholarship. Sources of co-funding for PhD students include grants from national and international foundations. Moreover, the DDA will enter into a dialogue with the Danish universities to clarify whether they wish to continue the current collaboration agreement under which they co-finance the DDA PhD grants.

The ten 1/3 NNF-financed PhD scholarships (each DKK 550,000) are allocated on the premise that the remaining 2/3 (DKK 1,100,000) PhD scholarships are available (signed commitment by co-funders). The applicant has nine months to guarantee the funding of the remaining 2/3 PhD scholarship. Potential sources for the remaining funding are the life science industry, Innovation Fund Denmark (Industrial PhD scholarships) as well as the five Danish Regions, hospitals and other foundations.

As stated above, the NNF-financed scholarships are allocated when the DDA has received documentation of the remaining funding of PhD Scholarships (signed documentation). If, nine months after receiving the grant letter from the DDA, the awardees are unable to guarantee the remaining funding, the DDA will withdraw the grant letters and reserve the opportunity to re-allocate the 1/3 financed PhD Scholarships as 2/3 financed.

Funding of the thirty PhD scholarships under the Horizon 2020 European framework programme.

The DDA will take part in at least two annual applications to the Horizon 2020 European framework programme: the Innovative Training Networks under the Marie Skłodowska-Curie actions. An Innovative Training Network consortium must be composed of at least three beneficiaries located in three different EU member states or Horizon 2020-associated countries and a number of partner organizations (e.g. life science industry, universities, university hospitals). The beneficiaries in the Innovative Training Network consortium contribute directly to the implementation of the research, transfer of knowledge and training activities for the PhD students. If the DDA is successful with two applications, the DDA will be able to grant thirty fully financed PhD scholarships funded under the Horizon 2020 European framework. The PhD students funded by this mechanism will be considered equal to NNF-funded PhD students. The NNF-financed PhD scholarships and the planned activities within the education and development programme and the networking collaboration activities will not be affected if the DDA is unsuccessful in receiving funding from the Horizon 2020 European framework programme.

Postdoc fellowships

The DDA aims for three types of postdoc fellowship:

- Ten two-year postdoc grants (each 1,200,000);
- Eighteen three-year postdoc grants (each 1,800,000);
- Fifteen 1/3 financed postdoc grants (each 600,000).

Funding and co-funding of the postdoc fellowships

- Regarding the ten two-year postdoc grants (each DKK 1,200,000), the DDA will pay salary costs of DKK 600,000 per year for two years. The host institution undertakes to cover operating costs, which are not covered by the DDA.
- Regarding the eighteen three-year postdoc grants (each DKK 1,800,000), the DDA will pay salary costs of DKK 600,000 per year for three years. The host institution covers all other costs including operating costs.
- "To attract young talented researchers with a medical degree, the DDA will aim for a number of these postdoctoral positions are established as 50% research and 50% clinical positions".

The DDA will apply for 'Co-funding of regional, national and international programmes (COFUND)' under the Marie Skłodowska-Curie Actions (Horizon 2020). Postdoc fellows supported under this scheme shall comply with the mobility rules of the Marie Skłodowska-Curie actions, which mean that they are not able to apply for the fellowship if they have been in Denmark for more than 1 year within the last 3 years prior to commencement of the fellowship. In practice, this will mean that international candidates will apply for the fellowships and thus the COFUND programme will open up a collaboration between Danish and European research institutions. If the DDA is successful with the COFUND applications, the DDA will be able to convert 12 of the fifteen 1/3 financed postdoc grants into 2/3 financed postdoc fellowships. However, if the DDA is unsuccessful in receiving funding from the COFUND programme, this will have no effect on the premises for the allocation of the fifteen 1/3 financed postdoc grants as described below.

Regarding the fifteen 1/3 financed postdoc grants (each 600,000), these are allocated on the premise that the remaining 2/3 funding of postdoc salary (DKK 1,200,000) is available (signed commitment by co-funders). The applicant has nine months to guarantee the remaining funding of salary. Potential sources for the remaining funding are the life science industry, Innovation Fund Denmark (Industrial postdoc fellowship) as well as the five Danish Regions, hospitals and other foundations.

As stated above, the 1/3 financed postdoc grant is allocated when the DDA has received documentation of the remaining funding (signed documentation). If, nine months after receiving the grant letter from the DDA, the awardees are unable to guarantee the remaining funding, the DDA will withdraw the grant letters and reserve the opportunity to re-allocate the 1/3 financed postdoc grant as fully financed two-year grants or three-year grants.

Visiting professors

The DDA will pay salary costs, travel and accommodation from 3 to 6 months (up to a maximum of DKK 500,000 in total) for up to twenty grants of from 3 to 6 months each. The host institution will be responsible for the employment of the visiting professor and must place lab and office facilities at their disposal. As some of the visiting professors will not require salary, it is not possible to estimate the exact number of visiting professor grants.

4.4.3 Criteria for Recruitment

All applications for fellowships are assessed according to criteria relating to the project, applicant and research environment as set out below. For PhD fellowships, the PhD plan elements are also considered. It should be noted that applicants for postdoc positions are encouraged to change research environment, and will be weighted by their willingness to do so.

The project

- The project description

- The project's originality and innovative aspects
- The scientific level of the project
- The project's use of appropriate, advanced and novel methodologies and technologies
- The project includes different disciplines, including e.g. basic, translational and clinical research
- The project shows supporting evidence of feasibility, or a description of alternative possible solutions to the scientific question being addressed

The applicant

- Research experience in relation to the length of actual research time
- Publications (accepted and/or published)
- Clinical experience (for clinical projects)
- Extracurricular activities/other qualifications
- Motivation

The research environment

- Activities across disciplines and sectors (incl. supervisors from other sectors and disciplines)
- Dissemination
- Mobility, including statement from host institution

Considerations specifically for PhD stipends

- The project description has sufficient scientific weight and research training for a PhD
- Research experience in relation to the length of actual research time (including participation in journal clubs, research meetings and conferences)
- Grades
- The scientific environment:
    - How the main supervisor and co-supervisors contribute to the completion of the PhD study, their availability and the number of students already supervised by the main supervisor and co-supervisors.
    - How the PhD student is exposed to an international research environment (locally and/or through a research stay abroad).
    - Courses
    - Learning objectives

Considerations for all applicants

In addition to the above criteria, the allocation of DDA resources for fellowships (PhD stipends, postdoc) and visiting professor positions supports the three major strategic areas of the DDA: 1) internationalization 2) interdisciplinarity and 3) enhanced collaboration across sectors.

Applicants will be asked to explain specifically how their project fits into the strategic criteria set in relation to:

Internationalization (outgoing as well as incoming)

- Recruitment from abroad.
- Study abroad (planned by the applicant and accepted by the host). The expenses for the study abroad will not be covered by NNF funding.

- Change of research/work environment for a shorter period of time (<6 months) (planned by the applicant and accepted by the host). The expenses for a change of research/work environment will not be covered by NNF funding.
- Affiliation of co-supervisors from research institutions abroad.

Interdisciplinarity

- How integration of insight from different disciplines is shaping the background of the project
- How scientists from different disciplines make a shared contribution to the fundamental hypothesis and/or research question
- The interdependence of the different disciplines for achieving the research goal
- The interdependence of the selected research methods from the different disciplines for achieving the research goal
- Affiliation of co-supervisor from another discipline is mandatory (PhD fellowships)

Cooperation across sectors

- Formalized cooperative agreements with industry or region
- Change of research/work environment (planned and documented)
- Affiliation of co-supervisor from the life science industry (PhD fellowships)

A high score in at least one of the three major strategic criteria will be weighted heavily in the evaluation of applications.

4.4.4 Decision-Making Process for Recruitment

The wording and layout of all grant advertisements must be drawn up and approved by the BoD. All DDA grants will be advertised twice yearly with known, firm dates and application deadlines for the entire funding period. The BoD is responsible for drawing up and approving appropriate evaluation criteria for individual grants. These criteria will be published on the DDA website. The BoD will appoint an independent international Committee for Talent Development (see **section 3** on organization and governance) with expertise in basic, translational and clinical research, as well as experience within interdisciplinary research. All applications meeting the formal requirements are to be forwarded to the Committee for Talent Development for evaluation as per the relevant criteria. The chair of the Committee for Talent Development will summarize the evaluations and forward the recommendations to the BoD, which will allocate grants to applicants on that basis. Successful applicants will be contacted by the Executive Management Team and asked whether they wish to accept the grant (**Figure 8**). The Managing Director, acting on behalf of the BoD, ensures that the Executive Management Team facilitates, executes and implements the procedure as determined by the BoD.

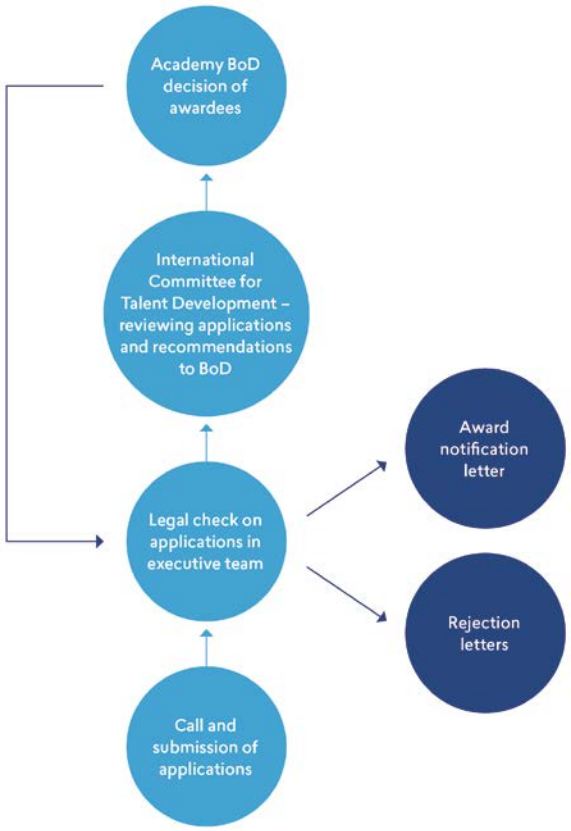


Figure 8: Decision-making process on recruitment

4.4.5 Communication and Outreach Strategy

The DDA will announce all its grants through websites at Danish universities, university hospitals, professional societies and industry, as well as jobsites. Furthermore, the DDA will advertise on international websites, including Nature jobs and Endocrine jobs. The Public Relations Officer will be responsible through printed & electronic mass media and social media for disseminating and thereby raising awareness of the DDA's grant activities.

4.4.6 Milestones

The milestones for scholarships, fellowships and visiting professorships are shown in **Table 3.**

Month	Milestone	Milestone
3	3	Constitution of all DDA committees and boards
12	R12.1	First call of PhD Scholarships (2/3 NNF funded)
12	R12.2	First call of postdoc fellowships (2 and 3 years)
12	R12.3	First call of visiting professors
12	R12.4	First call of industrial PhD Scholarships and postdoc fellowships (1/3 NNF funded)
12	R12.5	First applications of PhD scholarships in relation to the Innovative Training Networks programme under the Marie Skłodowska-Curie actions (Horizon 2020)
12	R12.6	Recruitment of the first PhD students (2/3 NNF-funded)
12	R12.7	Recruitment of the first postdoc fellows (2- and 3-year)
12	R12.8	Recruitment of the first visiting professors
24	R12.9	Recruitment of the first industrial PhD Students and postdoc fellows (1/3 NNF-funded)
24	R24.1	Start of the first PhD students on the Innovative Training Networks programme under the Marie Skłodowska-Curie actions (Horizon 2020).
24	R24.2	Halfway evaluation of recruitment programme and how to proceed
36	36	Re-constitution of DDA committees

36	R36.1	Recruitment of the last PhD students and postdoc fellows
48	R48.1	Recruitment of the last visiting professors
60	60	2-day scientific symposium and workshop – what did we achieve / evaluation of the recruited researchers activities and performances

Table 3: Milestones, Scholarships, Fellowships and Visiting Professorships

4.4.7 Success Criteria

Recruitment and outcomes will be regularly monitored to determine whether they meet the DDA success criteria.

The success criteria are:

- DDA-funded researchers publish in high-impact journals (bibliometric analysis) (10% in top 10 within diabetes and metabolism).
- 1/3 of PhD students and 1/3 of postdocs are recruited from abroad.
- Time to completion is 3 years and 4 months for PhD students.
- DDA-funded PhD students and postdocs are attractive and 90% obtain employment at research institutions or clinical research units within diabetes and metabolism at Danish universities and hospitals, internationally or in the life science industry.
- Recruitment of PhD students through EU's Horizon 2020 framework programme focusing on Innovative Training Networks.
- Recruitment of PhD students and postdocs through co-funding of regional, national and international programmes (COFUND) under the Marie Skłodowska-Curie Actions (Horizon 2020
- External funding secured by DDA-funded PhD students and postdocs.

5 Budget

The budget is presented below in **Table 4** and in **Appendix I**. The budget is calculated on a yearly basis and runs for five years.

The part applied for from the NNF – **DKK 156,000,000** - primarily covers administration and operating costs of the DDA, the educational and networking activities and salaries for 46 PhD scholarships (1/3 or 2/3 financed), 43 postdocs (10 of 2 years duration, 18 of 3 years duration and 15 1/3 financed) and up to 20 visiting professors (1-6 month duration). Administrative costs and services provided by Odense University Hospital will amount to up to 2.3% of the total budget to cover administering the grant, providing offices, the running costs and facilities needed for the Executive Management Team, auditing the accounts and HR services in relation to the Executive Management Team.

The Budget presented in **Appendix I** is divided into two parts: one part states the costs to be financed by the NNF and the other part states the total costs of the overall project, including all funding – a total of **DKK 261,300,000.**

6 Letter of Commitment from the Host Institution

OUH
Odense
Universitetshospital

Dagnia Looms, Head of Strategic Awards
Novo Nordisk Fonden
dklm@novo.dk

Karina Garnier Christensen, Scientific Officer
Novo Nordisk Fonden
krgc@novo.dk

23 May 2017
Page 1/1

Call for application for new funding of the Danish Diabetes Academy during 2017-2022

Dear Dagnia Looms and Karina Garnier Christensen,

I hereby refer to your letter of 22 December 2016 regarding a call for application for new funding of the Danish Diabetes Academy during 2017-2022.

The main applicant, Allan Flyvbjerg, has been asked to revise the application forwarded to the Novo Nordisk Foundation on 13 February 2017 and hand in the revised application by 1 June 2017.

As stated in my letter of 6 January 2017, Odense University Hospital will be pleased to host the Academy in a new potential funding period during 2017-2022. As CEO of Odense University Hospital, I therefore wish to re-express the commitment from Odense University Hospital to ensure physical space and personnel administration for the Academy secretariat and provide the necessary framework including IT facilities and services, audit and accounting functions to support the continuation of the Academy.

Yours sincerely,

Niels Nørgaard Pedersen
CEO

Region Syddanmark

patienten først OUH

J. B. Winsløws Vej 4
5000 Odense C
Tlf. 6611 3333
www.ouh.dk