Annual Report 2016

Education

Novo Nordisk Foundation Center for Basic Metabolic Research

March, 2017
Education

To fulfill the mission of providing the highest standards in the training of future scientists, the Center’s Director of Education, Professor Torben Hansen, oversees and coordinates the Center’s educational activities together with Deputy Director of Education, Associate Professor Signe Sørensen Torekov. The Center’s educational activities are grouped into four thematic areas: 1) pre-graduate teaching at the Faculty, 2) education of PhD students and organization of PhD courses, 3) postgraduate training and 4) educational outreach to the public.

In 2016, examples of achievements include:

- 40% of researchers affiliated only with the Center performed pre-graduate teaching at the Faculty, the rest performed postgraduate teaching. Nearly 100% of researchers also affiliated to a Department performed pre-graduate teaching. Approximately 40 researchers have been one-to-one matched with pre-graduate teaching at the Faculty facilitated by Signe Torekov and all center scientists interested in teaching got engaged as teachers at pre-graduate courses at the Faculty.
- All researchers are actively encouraged to teach with official mandate from the management committee. The Center (represented by Signe Torekov and Manimozhiyan Arumugam) is collaborating with the other three Novo Nordisk Foundation Centers in organizing the Copenhagen Bioscience PhD program and has had more than 600 applicants for the 2017 program.
- The pre-graduate teaching activities have been linked to the teaching databases at the Department of Biomedical Sciences.
- The Faculty’s PhD Program in Basic Metabolic Research, which is embedded at the Center, continued to enroll students and provided and developed new PhD courses in synergy with other national metabolic research environments.
- Regarding postgraduate educational activities, the Center is heavily involved in national PhD and postdoc educational and networking activities. Professor Torben Hansen is FP-leader for the PhD Graduate Program for Basic Metabolic Research, University of Copenhagen and Head of Education Committee, The Danish Diabetes Academy.
- The Education Committee represents “Forskeruddannelsesprogrammer” from Aalborg University, Aarhus University, University of Southern Denmark, Roskilde University, Danish Technical University and University of Copenhagen. The Education Committee organizes a yearly PhD Summer School and a postdoc Winter School with attendance of both national and international students and faculty members. Furthermore, The Section for Metabolic Genetics has organized a PhD Course with a focus on OMICS technologies in metabolic research.
- The Coursera e-learning team, which is headed by the Center’s Deputy Director of Education Signe Torekov, launched a new Massive Open Online Course (MOOC); “Diabetes – the Essential Facts”. The team’s first Coursera course from 2014; “Diabetes – A Global Challenge” was redesigned into a MOOC format during 2016 and continues to teach thousands of international followers about diabetes, with a strong focus on how physical activity impacts our metabolic health. These activities were partly funded by two grants (~60,000 euros) from the EIT Health Program (Horizon 2020). Their experiences in how to disseminate scientific observations for a global audience using new technologies, including MOOCs, were presented at two international conferences (Coursera Conference and EIT Health Summit) during 2016.
Public engagement and outreach

At the beginning of 2016 the Center hired a full time communication advisor with the main task of strengthening its global visibility and identifying new audiences and platforms for communicating research. This has resulted in an increase in the amount of coverage of center researchers in the media. The Center has worked on nine press releases and stories of which six has received a considerable amount of international press attention including BBC, The Guardian, The Times, The Telegraph, The Washington Post, The Huffington Post, Forbes Magazine and The Australian.

Examples are:

- **Obese people can maintain stable weight loss** by Signe Sørensen Torekov made the front page of The Times and live interviews with ITV news and BBC Today program (7 million listeners).
- **Do probiotics have an effect on healthy adults?** by Oluf Pedersen appeared in many international media including The Guardian, The Washington Post and Forbes Magazine.

More than 75,000 students have now completed the Coursera course “Diabetes – a Global Challenge” and course director Signe Torekov and Nicolai W Albrechtsen continue to update and develop the course. Additionally, the new course “Diabetes – the Essential Facts” targeting the general public was opened on 12 December 2016. The course communicates the latest discoveries and facts regarding diabetes in an easily understandable and digestible format. More than 10,000 have already signed up for the course which has so far been rated with 4.8 out of 5 stars. The team behind the course has expanded and redesigned the Coursera Diabetes Facebook page, which now has more than 42,000 followers and is the biggest with most followers and activity just after the official University of Copenhagen site.

The Center is continuing to pursue its strategy of creating a stronger online presence. The Center’s LinkedIn page now has 870 followers while its Twitter profile has 415 followers. The aim is to present a broad range of the Center’s newest research, using short abstracts and one-liners. This strategy will continue to be implemented in 2017.

In 2016 the Section for Science Communication together with Medical Museion exhibited bio-artwork ‘Heirloom’, which constructs living portraits of artist Gina Czarnecki’s daughters from their own cells. The artist’s scientist collaborator Professor John Hunt has developed new methods for the artwork that are also feeding back into his tissue engineering research. For the Section, this was an experiment in how to engage public audiences with laboratory science through bio-art, and was the first artwork using living human cells to be shown in Denmark. Accompanying the exhibition were hands-on workshops that introduced local artists and members of the public to basic laboratory techniques, and the ethical issues involved.

The Section for Science Communication also continued developing the ‘Mind the Gut’ exhibition, due to open in October 2017. In addition to the Section staff, the exhibition team includes five co-curators; three artists and two scientists, including one postdoc from the Center. The co-curators began working with the team in April 2016, resulting by the end of the year in a final concept and list of objects and artworks to be displayed, and the development of collaborations with four Center research projects to showcase their work within the exhibition. A new Research Assistant was employed to study the innovative exhibition
process, and also worked on a survey for visitors to Medical Museion on Culture Night, in which over 400 people shared their experiences of ‘gut feelings’. The section staff took part in several public talks and events, including Adam Bencard presenting with Professor Oluf Borbye Pedersen on the topic ‘Man as Super organism’ at Medical Museion.