



SDC

The university partnership
Denmark – China

Annual Report 2019

Sino-Danish Center for Education and Research

A report from the Danish partners



List of Abbreviations

SDC	Sino-Danish Center for Education and Research
CAS	Chinese Academy of Sciences
UCAS	University of Chinese Academy of Sciences

**Sino-Danish Center for Education and Research
Annual Report 2019
Published April 2020**

**Niels Jensens Vej 2, building 1190
DK-8000 Aarhus C, Denmark**

**Editors: Morten Laugesen, Lonnie Høgh,
Michael Bihlet and Joanna Lykke**

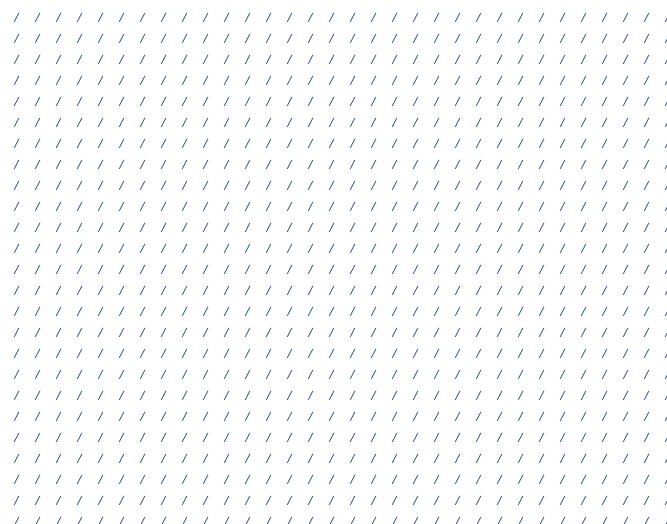
Design and layout: Michael Bihlet and Lonnie Høgh

**www.sdc.university
facebook.com/sinodanishcenter
instagram.com/sinodanishcenter
linkedin.com/school/sinodanishcenter**



Table of Contents

The Director's Report	3
Strategy 2020-2025 - From Project to Institution	5
Highlights 2019	7
Graduation 2019	9
Research and Education.	11
Social Sciences	13
Water and Environment	19
Nanoscience	23
Life Sciences	27
Sustainable Energy	33
Food and Health	37
Facts & Figures	39
Publications	46
The Danish Board of SDC.	58



The Director's Report

In many ways, 2019 was business as usual and busy as usual. Business as usual because of the repeating cycles of ordinary semester activities related to our seven Master's programmes, the welcoming of new Master's and PhD students and bidding farewell to graduates, and the ongoing exchange of researchers between our many partner institutes. Busy as usual because SDC continues to develop and engage in active collaboration with new external partners.



The mission for SDC is to add value to the Danish and Chinese societies through collaboration on research, innovation and education. In December, the Danish board of SDC approved a strategy for the Danish side of SDC for the coming five years. The strategy will help guide SDC in the right direction and achieve the strategic goals. It is the first time SDC has a planning horizon of several years which clearly indicates that the Sino-Danish partnership has entered a new phase and is ready to take on the future.

SDC is well-positioned to meet the challenges of tomorrow! We have well-established partnerships between leading Danish and Chinese research environments; we co-fund a significant number of PhD students annually; we enrol more than 150 students every year; our graduates are in demand and find employment; and our collaboration with private companies and government institutions is on the rise.

The future will bring great opportunities for SDC. In 2019, we strengthened our ties with nearby Huairou Science City – one of the most ambitious projects in the long history of our partner, the Chinese Academy of Sciences. Planned to cover an area in excess of 100 square kilometres, Huairou Science City is expected to be home to more than 50,000 faculty members, postgraduates, postdoctoral researchers and PhD students when fully constructed, and also home to some of the most advanced equipment and research infrastructures in the world. SDC and Huairou Science City are already discussing how to make the best of being future next-door neighbours.

This annual report is the report of the Danish SDC office, and it therefore predominantly focuses on the accomplishments and contributions on the Danish side of the partnership. We are proud of our results, and I am happy to present some of our many achievements in 2019 in this report.

Morten Laugesen
Executive Director of SDC



STRATEGY 2020-2025

- From Project to Institution

In June 2019, a five-year strategy for the Danish side was approved by the Danish Board of SDC.

SDC's mission is to add value to the Danish and the Chinese societies through collaboration on research, innovation and education.

- We educate graduates that have strong professional, innovative and intercultural competences.
- Our research collaboration creates knowledge that enriches the Chinese and the Danish societies and contributes to solving future challenges.
- We participate in innovative interaction with the surrounding society, disseminate the latest research-based knowledge and strengthen the cultural understanding between Denmark and China.



VISION

SDC wants to be an institution that, by virtue of its achievements, is a beacon for strategic university partnerships. During the strategy period, we will focus on three areas that form the foundation for SDC's development from project to institution:

Impact

We will increase our impact with the aim of making SDC a beacon for knowledge collaboration between China and Denmark. We do this by strengthening the recruitment of graduate students; developing the quality of our degree programmes; strengthening the research collaboration and the dissemination of our results, thereby increasing our visibility.

Commitment and Ownership

We will strengthen the partners' commitment and ownership of SDC with the aim of realising our potential. We do this by ensuring an attractive and value-adding collaboration, involving all eight Danish universities.

Outreach

We will strengthen our outreach with the aim of establishing an attractive platform for innovative interaction between SDC and the surrounding society. We do this by building mutually enriching collaborations based on our exclusive facilities, a strong international and cross-institutional faculty, hundreds of students and a wide network of companies.

Highlights



March

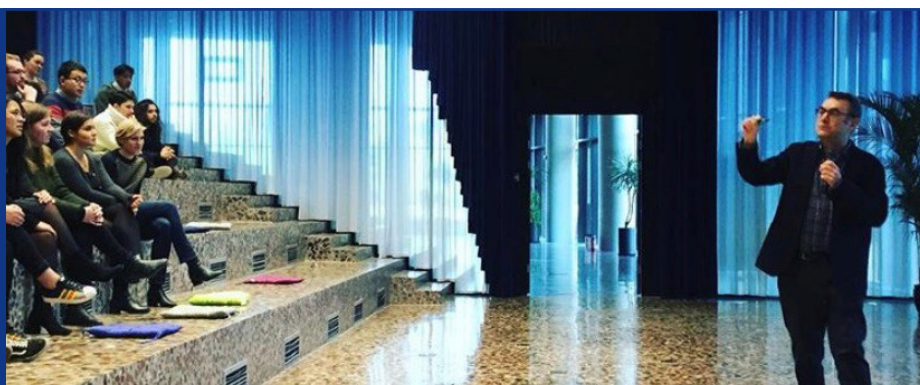
Mads & Monopolet Live

More than 100 guests, including Danish expats from different parts of China, SDC students, teachers and staff made up the audience, when SDC hosted a special edition of the award-winning radio show, Mads & Monopolet Live. The event was jointly organised by SDC and the Danish Chamber of Commerce in China, Beijing.

April

Get Smart With...

The TEDx inspired talks 'Get Smart With...' continued in 2019. In April, Professor Edward Ashbee from the Copenhagen Business School and lecturer at the Public Management and Social Development programme talked about Donald Trump and his politics.



May

Beijing Impact Investing Days

Graduates from the 2015 and 2016 cohorts were celebrated at the annual graduation ceremony. Attendants included the Danish Ambassador to China, A. Carsten Damsgaard, and the President of the University of Chinese Academy of Sciences, Li Shushen. It was the fifth time SDC graduates were celebrated at a formal ceremony.



June

Graduation

Graduates were celebrated by families and friends at the annual graduation ceremony. Duncan Wigan, Head of Educational Programme for Public Management and Social Development and this year's speaker on behalf of the faculty, praised the graduates for their bold and daring decision to study at SDC.



2019

August

The 2019 Cohort

Tons of questions regarding living and studying at SDC were answered when more than 40 students joined the annual 24-hour seminar in Middelfart from 6-7 August, just two weeks before leaving for China to begin their studies. Current students, alumni and Associate Professor from Aalborg University, Ane Bislev, prepared them for the coming experience.



October

The Tech Ambassador of Denmark Visits SDC

As the first country in the world, Denmark has appointed a tech ambassador to create interrelations between the world of technology with diplomacy, so-called 'TechPlomacy'. Tech Ambassador, Casper Klynge stopped by SDC to meet faculty and students and introduce the initiative and to launch a student competition to win the honour of being tech ambassador for one day.

The First Forum on Aquatic Ecosystem Restoration and Health

200 participants took the opportunity to expand their knowledge within lake restoration, including professionals from Chinese companies, local government representatives, scientists and students within the academic field. The forum was organised by Danish and Chinese researchers from Water and Environment.

Svend Brinkmann Talked at SDC

The popular Danish psychologist and lecturer Svend Brinkmann visited SDC to talk about 'The Joy of Missing Out' to an audience of SDC students and the Danish expat community in Beijing.



November

PhD Seminar in Denmark

In order to prepare Danish and International PhD students for their stays in China and to provide them with a solid foundation for networking across academic borders, the Danish SDC office organised the first annual PhD seminar in Copenhagen. In the future, the seminar will be held annually.



December

Traditional Christmas Party

In keeping with tradition, 2019 was wrapped up with traditional Danish food, glögg and parcel dice games at the annual Christmas party for all students, faculty and administrative staff members.

Graduation



Reflection and Celebration at Commencement

Graduates and their families and friends filled the building, when the Annual SDC Graduation Ceremony took place in June.

The Danish Ambassador to China, A. Carsten Damsgaard, Vice President of UCAS, Wang Yanfen, members of SDC's Joint Managerial Committee and the Danish Board of SDC were also among the guests who celebrated the graduates and their achievements.

Head of Educational Programme for Public

Management and Social Development, Duncan Wigan, took the stage to praise the graduates for their decision to take on the challenge of studying at SDC:

'The most impressive thing about you, our esteemed graduates, is not that you are natural and scientific whizz kids, although of course that is impressive. The most impressive thing about you and your most important attribute is the way you are ready to meet the grand challenges of the 21st century', he said.



2019

'In the future, we will be scientists, professors, entrepreneurs and business owners. I believe we are ready to conquer the challenges to come, because we are equipped with the most critical skills to succeed in the future'.

Commencement speech by Jiayan Lang, graduate with a Master's degree in Nanoscience and Technology.

'Science has already proven that diversity is important for gene pools, but it extends to so much more. The diversity of knowledge, skills, background and experiences that each of us brought to our classes and social activities, means more than we can possibly comprehend. However, only when diversity is combined with mutual respect and an effort to find common grounds, something that unites us, will it be a true strength'.

Commencement speech by Anne Eriksson Agger, graduate with a Master's degree in Life Science Engineering and Informatics.

Anne Eriksson Agger was also joined by her proud parents, who flew to China for the celebration.

大学
ny of Sciences

Technical University
of Denmark DTU

IT UNIVERSITY OF CPH



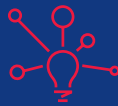
Research / Education

Within the framework of SDC there are six research themes. Each theme has one or two affiliated Master's degree programmes.

Research themes

Master's degree programmes

Social Sciences



Innovation Management



Public Management and Social Development

Water and Environment



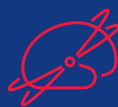
Water and Environment

Nanoscience

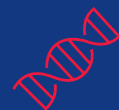


Nanoscience and Technology

Life Sciences



Neuroscience and Neuroimaging



Life Science Engineering and Informatics

Sustainable Energy



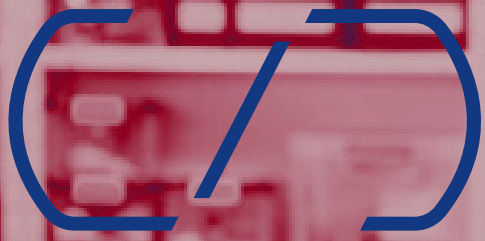
Chemical and Biochemical Engineering

Food and Health



International Food Quality and Health

The International Food Quality and Health programme has been approved and will be launched in 2020.





Principal Coordinator's Report

This year, we have established a partnership with Huairou Science City and launched new initiatives on the topic of large science infrastructure projects across Denmark, Sweden and Huairou Science City. One postdoc grant has been allocated to this initiative.

The first two double degree PhD students graduated in 2019, one from the Danish side and one from the Chinese side. The latter has taken up a postdoc position at the Copenhagen Business School. We have a strongly committed faculty. Many research projects have been consolidated, and especially projects on sustainability issues are of great interest within the climate change debate, e.g. sustainable

housing, clean energy and new technologies. Researchers from Social Sciences have arranged a wide range of workshops, including one on Leadership Development, organised in collaboration with the Danish Cultural Center in Beijing. This is a pilot for further developing executive training opportunities within SDC. Researchers were also behind the 2019 CICALICS workshop and an industry-university workshop about machine learning and artificial intelligence in corporate decision-making.

Stine Haakonsson
Principal Coordinator

SDC Researchers Behind Special Issue of the Oxford Journal

Which role is China's breakthrough within renewable energy – from production to innovation – playing in the global technology markets?

This is the topic of a special issue of the Oxford Journal Industrial and Corporate Change. Rasmus Lema, Associate Professor at Aalborg University, is leading the research together with Roberta Rabbellotti, Aalborg University, and Fu Xiaolan, the University of Oxford, with contributions from professors and PhD students from UCAS, Tsinghua University, Aalborg University, the Copenhagen Business School and the Technical University of Denmark.

'The publication shows exactly what SDC can do. It brings researchers together through joint fieldwork, analysis and authoring. The bulk of the contributions are co-authored by Chinese and Danish researchers', says Rasmus Lema.

that emerge when disruptions in an industry create favourable opportunities for 'newcomers'.

'Green windows of opportunities emerge in sectors dealing with climate change and create new demands for sustainable energy and technological solutions. This gives companies in countries like China a chance to enter new markets', Rasmus Lema explains. According to Rasmus Lema, China has successfully exploited the new conditions that have emerged with the climate change agenda:

'We have looked into several outcomes from this. For example, China has reduced the price of solar panels over the last 10 years. It has affected the competitiveness of European companies, but at the same time it has meant that countries in Sub-Saharan Africa have had the opportunity to deploy solar energy.'

The special issue of Industrial and Corporate Change will be published July 2020.

Green Windows of Opportunities

The research examines the 'windows of opportunities'

2019 PhDs

Wang Cancan

PhD student Wang Cancan from the Department of Digitalization, Copenhagen Business School, successfully defended her PhD thesis titled 'Becoming Adaptive through Social Media: Transforming Governance and Organizational Form in Collaborative E-government'.

David Schulzmann

PhD student David Schulzmann from the Department of Business and Management, Aalborg University, successfully defended his PhD thesis titled 'R&D Subsidiary of Western MNEs in China: Internal Knowledge Sharing Impacts on the Subsidiary Mandate Evolution'. David Schulzmann did his PhD in cooperation with the School of Economics and Management, UCAS.

Birte Malene Tangeraas Hansen

PhD student Birte Malene Tangeraas Hansen from the Department of Social Sciences and Business, Roskilde University, successfully defended her PhD thesis titled 'Digital Entrepreneurship: Transforming and Creating Enterprises in Digital China'. Birte Malene Tangeraas Hansen did her PhD in cooperation with the School of Economics and Management, UCAS.

The Triple Helix

The Royal Danish Embassy in Beijing, the Danish Chamber of Commerce in China (DCCC) and SDC joined forces to conduct a wide-ranging survey for the purpose of mapping the activities and challenges of Danish companies operating in China.

'This survey represents the most comprehensive and ambitious mapping of Danish companies' activities and challenges in China to date', says the Danish Ambassador to China, A. Carsten Damsgaard.

In 2019, the Ambassador's China Business Advisory Group, a panel of top executives representing the Danish business community and main sectors in China, decided to initiate a survey among Danish businesses with activities in China. A task group from the Embassy, DCCC and SDC was established to jointly carry out the survey.

'Having this triple helix of organisations work together, we have not only produced a very well-thought-out survey, but when you combine the strengths of our organisations, for instance political gravity, with direct contact to the businesses and academic methodology, it puts us in a strong position when we reach out to the businesses', says A. Carsten Damsgaard.

In November, the survey was distributed to 86 Danish companies, and the results will yield factual data on the businesses, an idea of how important China

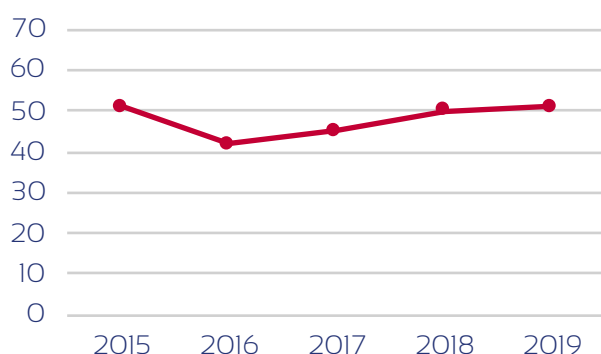
is to their operation and an understanding of the challenges they face.

'I am proud of the collaboration across the Danish organisations in China. The commitment and effort have resulted in an excellent and useful survey that will benefit us all, but mostly the Danish companies with activities in China, for whom we hope to improve the market access and their ability to operate here'.

The results of the survey will be analysed and transformed into action during the spring of 2020.



Academic staff who have been in China to conduct research or teach on SDC Master's degree programmes



7

scientific articles were published in 2019 by faculty in the Social Sciences theme.



Head of Educational Programme's Report

This year, many of our activities have focused on how to consolidate and expand the programme network. The students have shown a high degree of initiative, also outside the classroom, organising a range of activities, including Startup Grind University and talks with speakers from Beijing, for SDC and other UCAS colleges.

In December, we wrapped up the year with Corporate Innovation Days. During this two-day event, around 90 company representatives, researchers and students discussed how the interplay between sustainability and digitalisation will develop in the future. This year, the Danish Chamber of Commerce in China and Innovation Centre Denmark in Shanghai helped us to attract even more Danish companies. and in that way increase awareness of the event.

In order to further increase visibility and intensify collaboration with the industry, SDC will launch Forward Lab. This design and innovation lab will be a physical space which students can use for prototyping exercises, early-stage product innovation and experiments with cross-disciplinary project ideas. The lab will allow us to display student projects on the path to becoming commercial, practically applicable products.

Dmitrij Slepnirov
Head of Educational Programme

In November, Professor Lv Ping from the School of Economics and Management, UCAS, was appointed Head of Educational Programme for Innovation Management. She replaced Professor Liu Xieli.

Entrepreneurial Dream Accelerates

A Master's degree and a start-up business. For four friends this turned out to be the perfect combination. Malte Nørgaard, an SDC Innovation Management graduate, and three students from Aalborg University co-founded Hexastate CBM Solutions in 2018 alongside their studies.

Since then, they have worked with condition-based maintenance. Their product is a combination of IoT sensors that register vibrations in production equipment and AI-powered software, enabling companies to predict breakdowns in production and act before

they occur, meaning they can reduce downtime and potentially save a lot of money.

Start-Up Funding

The start-up company has received the Novi Newtech grant of DKK 300,000, a DKK 65,000 grant from the Confederation of Danish Industry and is one of 15 start-ups selected for the InnoFounder – Graduate programme hosted by Innovation Fund Denmark. The programme offers DKK 645,000 in total as well as co-working space, a dedicated mentor and participation in various workshops.



'The grants and support have made it possible for us to reach our current position. We are confident that we can make a difference for many companies that want to reduce downtime in their production, and we had a good start in the Danish market', says Malte Nørgaard.

The product is on the market, there are five full-time employees and three interns, and 2020 is dedicated to making the product suitable for scaling.

Follow the start-up adventure at:
www.hexastate.com.

Five Days to Tackle the World's Most Pressing Problems

Five different skillsets and five working days to find a solution that meets the UN Sustainable Development Goals under the theme 'Industry, Innovation and Infrastructure'.

Innovation Management student Benedicte Ravn Rahbek got the chance of a lifetime when she was selected to take part in the global competition UNLEASH 2019 in Shenzhen.

'I have always been interested in sustainability and am very enthusiastic about the whole concept, so when I was told that SDC would give me one of the applicant recommendations at their disposal, I had no doubts', says Benedicte Ravn Rahbek.

From Finance to Space Science

Her group members studied business, space science, finance and international business. However, at UNLEASH, they addressed the issue on traffic congestion and its social and economic impact in Manila. Together, they came up with the idea BuildIn. The concept is repurposing unutilised buildings on the outskirts of Manila for creative use, to avoid costly demolition and rebuilding, thereby reducing traffic in the city's central business districts.

The process of recognising the roots of the problem



and finding creativity-enhancing methods to identify a solution usually takes months. However, the groups in the competition had only a few days.

'The experience has given me personal connections across the world. I have also kept in mind how my internship can benefit from my participation in UNLEASH. I bring home valuable experience with design thinking as a way of starting up projects. Also, I got insight into the existing opportunities for Danish companies in China', says Benedicte Ravn Rahbek, who is now an intern at DI-Asia Base Business Services in Shanghai.



New Initiative: Study Tour to Shanghai

Innovation trends in China. This was the focal point when the Master's degree students did a 'best paper' competition as an integral part of one of the programme courses. The two winning groups earned a study tour to Shanghai. Here, they visited DI-Asia Base, the largest Danish incubator in Asia, and Innovation Centre Denmark, where they met with senior SDC students in internships and attended an event focusing on blockchain and digital technology in China.



Intake of Master's Degree Students Innovation Management

The programme has 30 seats.





Head of Educational Programme's Report

In a global context where questions concerning public management have been driven to the forefront by environmental, health and inequality crises, the Public Management and Social Development programme is ideally positioned to offer means of redress.

Our students in internships and alumni in professional roles contribute to the work of the United Nations, the Danish foreign service and the Danish Industry as well as a host of international companies. Several of our graduates now pursue doctoral studies at the SDC. We constantly upgrade the programme content to ensure that our graduates are best equipped to meet future

challenges. This includes a new course in the coming year addressing science policy.

With large-scale science infrastructure projects being a key strategy area for both the Danish and Chinese governments, the programme is positioning itself to enable students to understand and intervene in how the public and private sectors collaborate to meet the grand challenges of the unfolding century.

Duncan Wigan
Head of Educational Programme

In November, Associate Professor Hu Naijun from the School of Public Policy and Management, UCAS, was appointed Head of Educational Programme for Public Management and Social Development. He replaced Associate Professor Lv Chen.

Master's Thesis Led to Scientific Collaboration

A thesis on environmental information disclosure started the collaboration between Public Management and Social Development student Huang Ting, Professor Anders Ryom Villadsen from the Department of Management at Aarhus University and Chinese supervisor Professor Lv Chen from UCAS.

'I supervised Huang Ting during her thesis, and now we are writing an article for a scientific journal based on her findings. Huang Ting is the driving force, and I learn a lot from her, even though we are in different places in many ways', Anders Ryom Villadsen tells.

Huang Ting finished her Master's degree at SDC in the spring of 2019. Her thesis deals with Chinese cities' release of information about their pollution level, a national initiative that is part of improving the environment. However, the extent to which they release information varies from city to city. To study the subject, Huang Ting collected data on pollution emissions from more than 100 Chinese cities over the last nine years. Now Huang Ting and Anders Ryom Villadsen use the data to determine the impact on the information level when new mayors are appointed in Chinese cities:

'I have worked a lot with changes in leadership positions in Danish contexts, but not in a different cultural context like the Chinese. It is exiting to use another set of data to explain the dynamics in organisations when there is a change of management', Anders Ryom Villadsen explains.



Anders Ryom Villadsen feels inspired by the collaboration with Huang Ting, and he has encouraged her to apply for a PhD position at Aarhus University. Besides building a solid foundation for her future research career, Huang Ting also has ambitions to bring her knowledge about China into the theoretic field:

'It would be interesting to test boundary conditions for existing management theories and develop new theories by using distinctive characteristics in China's political system', she says.

Huang Ting is now pursuing a PhD position at Aarhus University.

'Give Yourself a Kick in Your Rear End'

Seizing the opportunities available to him in China gave Mads Vesterager Nielsen the skills and confidence to take on the job as General Manager of the Danish Chamber of Commerce in China (DCCC), even before he graduated from Public Management and Social Development.

'Working for DCCC is incredibly exciting because all of the efforts you put into the job go towards helping Danish organisations and companies to operate in China. The job has given me excellent insight into the Danish engagement in China and contacts among some major players'.

Mads Vesterager Nielsen got the job at DCCC in January 2018 after a six-month internship at the Royal Danish Embassy in Beijing. He believes that the internship position and his proactive approach were crucial in landing the job in the first place.

Challenge Yourself to Experience

When Mads Vesterager Nielsen arrived in China in August 2016, he decided to challenge himself to experience as much as he possibly could. Therefore, he joined extracurricular activities at SDC, he travelled in China during holidays and took part in numerous events in Beijing.

'It is very important to challenge yourself to engage with your surroundings and have your own experiences. You have to give yourself a kick in the rear end and join some of the many exciting events that are held in Beijing every day, because it will give you an understanding of Chinese people and society which is invaluable going forward', says Mads Vesterager Nielsen.

Wherever his career takes him, he is determined to stay curious and to relentlessly pursue knowledge about everything Chinese – and how Danish organisations and companies can operate successfully in China.



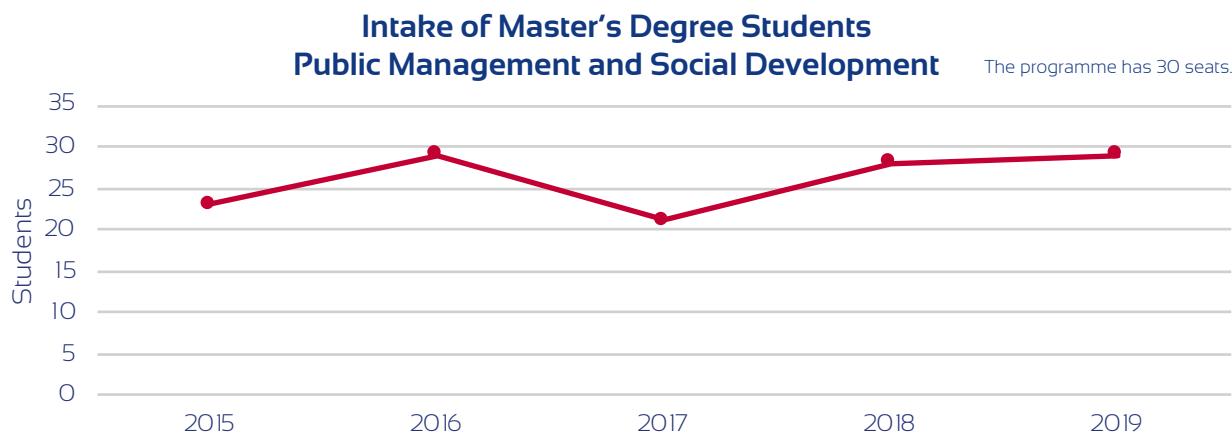
In October 2019, Mads Vesterager Nielsen drove his motorcycle across the Mongolian Steppes.



Chinese Language Lessons on the Side

Taking a Master's degree and learning Chinese language on the side can be quite a challenge. All SDC students follow mandatory courses in Chinese language and culture, but some students take it even further. Luisa Gonzalez Boa teamed up with three Chinese students as language partners.

'I am completely in love with the Chinese culture, but to really understand the culture you need to understand the language. They always go hand-in-hand. The mandatory language courses are useful as a basic introduction, but with a language partner, you can decide the focus, level and speed all by yourself', says Luisa Gonzalez Boa, who now plans to take HSK tests, China's only standardised test for Chinese language proficiency.





Principal Coordinator's Report

The Water and Environment theme remains exceptionally relevant, and we continue to harvest the fruit of well-established research collaborations between the Danish universities and CAS.

In 2019, a high number of PhD theses were completed with a considerable research output. Among them was Jing Mu, the first Chinese PhD student from the Water and Environment theme to obtain a double degree. Her PhD thesis focuses on the formation of a silicon-iron product from mine tailings and its effect on heavy metal immobilisation.

SDC hosted a number of successful events in 2019, including the Combined Sewer Overflows workshop in June and the International Lakes symposium in

October. Also, throughout the year, SDC researchers have participated in several events in China, including the International Nitrogen Management Systems workshop held at the Center of Agricultural Resources Research, CAS, in Shijiazhuang.

In 2019, SDC Water and Environment researchers received funding from Innovation Fund Denmark for the bilateral Sino-Danish project ChinaWaterSense, focusing on the use of remote sensing of water surface elevation and land surface elevation. The project will lead to improved decision support for water resources management in China.

Peter Engelund Holm
Principal Coordinator

Educating Chinese Companies in Lake Restoration

China has made considerable efforts and investments to improve the degraded ecological state of lakes, for example by reducing nutrient input from cities and farmland. Also, various in-lake measures have been taken, such as chemical treatment of sediments and interventions in the biological system. But how successful are the restoration efforts of China's lakes?

According to Professor Liu Zhengwen from the Nanjing Institute of Geography and Limnology, there is room for major improvement. This is the reason why he and Professor Erik Jeppesen from Aarhus University organised the first Forum on Aquatic Ecosystem Restoration and Health at SDC.

'To restore lakes successfully you need to understand the ecosystem, and many of the companies offering restoring solutions, need to be aware of this. When you do not understand the entire system, you cannot develop a holistic solution and risk making it even worse', says Liu Zhengwen.

Symptom Treatment Only Works for a Short Time

Many companies take an engineering approach, and they offer solutions where they e.g. flush a lake or remove algae. But you cannot flush a lake and clean it as if it was a toilet. When you remove the existing algae, new algae will just appear.



'It is not sufficient to just treat symptoms. That will only have an effect for a short time. You need the broad view to succeed, and our aim is to make companies and governments aware that this forum is the place to go to hear about different methods that actually work', says Erik Jeppesen.

The topic for the first forum was how to control algae and how to prevent nutrient release from the bottom of the lake. 200 participants attended the forum, including professionals from Chinese companies, local government representatives, scientists and students within the academic field.

2019 PhDs

Majken Deichmann

PhD student Majken Deichmann from the Department of Agroecology, Aarhus University, successfully defended her PhD thesis titled 'The Influence of Waterlogging on Wheat Productivity, Physiology and Nutrient Status'. Majken Deichmann did her PhD in cooperation with the Institute of Genetics and Developmental Biology, CAS.

Grith Martinsen

PhD student Grith Martinsen from the Department of Environmental Engineering, the Technical University of Denmark, successfully defended her PhD thesis titled 'Hydroeconomic Evaluation of Projects and Policies in the Water-scarce and Polluted Haihe River Basin, China'. Grith Martinsen did her PhD in cooperation with the Institute of Geographic Sciences and Natural Resources Research, CAS.

Tariqul Islam Shajib

PhD student Tariqul Islam Shajib from the Department of Plant and Environmental Sciences, the University of Copenhagen, successfully defended his PhD thesis titled 'Pollutants in Runoff from Urban Surfaces'. Tariqul Islam Shajib did his PhD in cooperation with the Institute of Geographic Sciences and Natural Resources Research, CAS.

How Does Climate Change Affect Plants and Animals in Lakes Around the World?

That is the topic for Tobias Kuhlmann Andersen's PhD project where he is studying how fish and underwater plants react to rising temperatures. He aims at improving a special lake model, which describes the most important parts of a lake ecosystem, e.g. algae, crustaceans and oxygen.

'In Denmark, we are lucky because we have had a lake monitoring programme for the last 30 years and the data collected make it possible for me to predict the future health of Danish lakes', Tobias Kuhlmann Andersen explains.



To predict the consequences of climate change in Danish lakes, it is necessary to compare with lakes in warmer

climates. In this case, it is obvious to collect data from Chinese lakes.

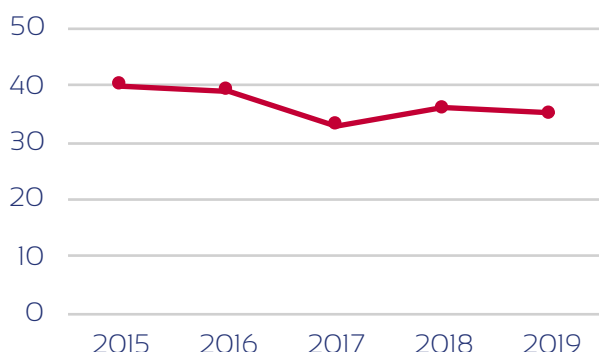
'Being a foreign researcher, it can be complicated to collect data. It is necessary to have Chinese collaborators to access data in China the right way', Tobias Kuhlmann Andersen says.

He received invaluable feedback when he gave his opening speech in connection with the First Forum on Aquatic Ecosystem Restoration and Health at SDC:

'To be honest I was quite surprised about the amount of feedback I got. The forum made it possible for me to get feedback from researchers that otherwise would not have been able to attend my opening speech. It was especially in relation to the Chinese data collection that I got useful advice on how to best continue'.

Tobias Kuhlmann Andersen expects to obtain his double PhD degree from Aarhus University and the University of Chinese Academy of Sciences in 2021.

Academic staff who have been in China to conduct research or teach on SDC Master's degree programme



65

scientific articles were published in 2019 by faculty in the Water and Environment theme.



Head of Educational Programme's Report

Environment and climate are higher on the political agenda than ever before, and global challenges will provide professional opportunities for our students for decades to come.

2019 was a time of change as new Heads of the Educational Programme were appointed on both the Danish and Chinese side. Work was initiated to further improve the programme with the aim to strengthen progression and communication and harmonise digital learning tools across modules and sub-modules.

The programme continues to benefit from the committed involvement by Aarhus University, the

Technical University of Denmark, the University of Copenhagen and UCAS as well as a range of CAS institutes. This diversity of teachers exposes the students to diverse input and gives them the possibility to find a supervisor that matches their particular interests.

In October, the students joined researchers and company representatives at the Forum on Aquatic Ecosystems workshop at SDC which focused on lake restoration.

Kristian Kofoed Brandt
Head of Educational Programme

In July, Associate Professor Kristian Kofoed Brandt from the University of Copenhagen was appointed Danish Head of Educational Programme. He replaced Fulai Liu from the University of Copenhagen.

At the same time, Professor Liang Tao from the Institute of Geographic Sciences and Natural Resources Research, CAS, was appointed Chinese Head of the Educational Programme. He replaced Professor Song Xianfang.

Teaching Outside the Classroom

Owing to the educational benefits, field trips are an integrated element of the teaching at Water and Environment. The students get to experience this just two weeks after arrival, when they jump on a bus and go to a nearby lake to learn about water quality.

The field trip makes it literally possible for students to see how things are integrated. The pollutants in a water reservoir may originate from upstream sources of pollution. On the field trip, the students follow the stream all the way from the top and down to the reservoir and examine pollutants along the way.

Reservoirs are Part of a Water Supply Chain

'I think it has been quite interesting both academically and experience-wise. I got a lot of new knowledge about fresh water systems and how they work here in China. How drinking water resources are preserved and how you can treat them in a good or bad way', says one of the students, Jens-Peter R. Paulsen.

For instance, the pollution problems may be caused by fishponds, agriculture or households that discharge



sewage or untreated waste water. The students have to identify the key problems for the reservoir and get an understanding of how things are connected.

'We learn how the water is undergoing changes from upstream to downstream, and we are aware that human activities can have a very negative effect on the environment', says Zhang Jiejie who emphasises that an excursion at this early stage also helps create a sense of community between the students and researchers.

Fieldwork among Brown Bears and Siberian Tigers

Together with PhD student Ditte Arp, collaborators from the Northeast Forestry University in Harbin and locals from a small Chinese village near Heping, Heilongjiang province, Master student Mette Grøn carried out three weeks of fieldwork close to the North Korean and Russian boarder in the Muling Nature Reserve.

'On an area that spanned 25 hectares, we investigated factors that influenced the spread of the endangered tree species, northeast Asian yew. Our Chinese collaborators investigated all tree species in the area. This helped us to determine the combination of species in areas where we found yew. I got a huge data set in relatively short time, thanks to our Chinese collaborators', Mette Grøn says.

Mette Grøn did not doubt that she had to include fieldwork in China:

'I could do the same type of fieldwork in a forest in Denmark, but I wanted to work with data from China, and it was an obvious opportunity to get a unique nature experience. The reserve is beautiful, but also a crazy area with Siberian tigers and Asian brown bears. The host worked as a forest ranger and monitored the animals. He found tracks of a Siberian tiger that was headed towards our forest plot, and a video of a brown bear, scratching its back on one of the trees we studied'.

Considering the Future

Mette Grøn considered her future career when she chose the topic for her thesis:

'I used the software Geographic Information System (GIS), which combines geographical types of data.



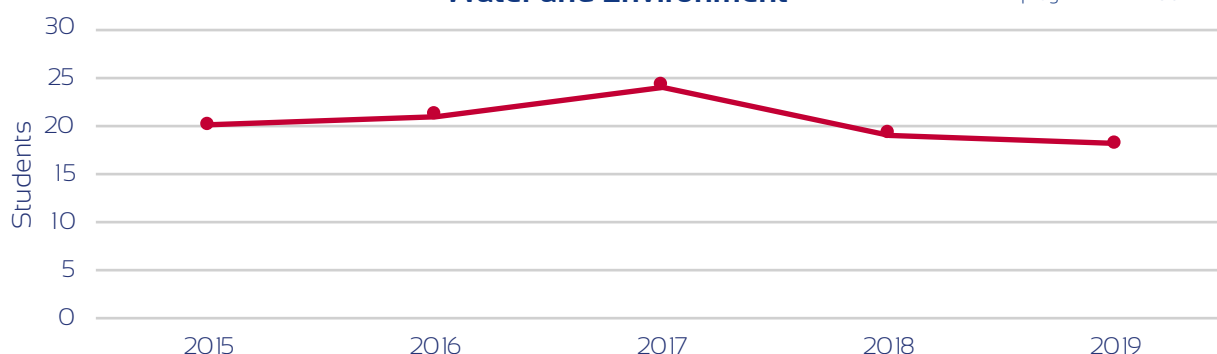
For example, you can cover the amount of rainfall in an area and see how it floats and where it gathers to determine how wet the soil is in different areas. GIS is used in municipalities in Denmark, so it is a great skill to add to my resume'.

Mette Grøn graduated in December 2019. She is working towards publishing a scientific article with PhD student Ditte Arp.



Intake of Master's Degree Students Water and Environment

The programme has 30 seats.





Principal Coordinator's Report

We have focused on strengthening the already existing relations between Danish and Chinese researchers as well as exploring the potential for bringing in fresh talent and initiating new collaborations. One initiative was the Nano symposium hosted at SDC in September.

Nanomedicine is an emerging technology which has the potential to combat some of the existing global health challenges.

We have strengthened the Nanomedicine sub-theme within the framework of SDC in 2019 by initiating several new PhD projects and by nurturing the existing

ones. Also, within the field of this sub-theme, we have researchers in Denmark and China that are highly accomplished, and we have access to state-of-the-art equipment.

The newly initiated PhD projects will further support the research activities and the continued building of relations between research groups in Denmark and China.

Morten Foss
Principal Coordinator

Nano Symposium: New Knowledge, Inspiration and Networking

A two-day nanoscience symposium at SDC attracted around 70 researchers, PhDs and Master's degree students.

The symposium was arranged for the purpose of sharing knowledge and inspiration as well as exploring opportunities for new collaborations. In addition, the symposium gave the Master's degree students a unique possibility to get insight into the many research directions within the nanoscience area.

'For the professors here, it has been great to meet and find out first-hand what kind of work the other participants are doing. I have identified good research matches with some of my Danish colleagues who are not yet actively involved in the SDC programme and, personally, I have met several new potential collaborators at the National Nanoscience Center in the field of bio-nanointerfaces and nanomedicine', says Morten Foss, Principal Coordinator for Nanoscience and main organiser of the event.

such a diverse set of presentations. While the first day focused on physics, the second day was more focused on biology. One presentation that caught Dane's interest was Associate Professor Tue Hassenkam's presentation on 'Origin of Life from a Nanoperspective'.

'I think it is exciting when you use the tools that are available within nanoscience, such as the atomic force microscopy, to characterise the surfaces of objects', says Dane Alexander Shennan who will commence his thesis project in 2020.



Using the Tools of Nanoscience

For Master's degree student, Dane Alexander Shennan, it was the first time he attended a symposium with

2019 PhDs

Jens Broe Rix

PhD student Jens Broe Rix from the Niels Bohr Institute, University of Copenhagen, successfully defended his PhD thesis titled 'Nonequilibrium Quantum Effects in Nanoscale Systems: Thermoelectrically Driven Ring Currents Coupled Spins out of Equilibrium'. Jens Broe Rix did his PhD in cooperation with the National Center for Nanoscience and Technology, CAS.

Elisabeth Downey

PhD student Elisabeth Downey from the Department of Chemistry, the University of Copenhagen, successfully defended her PhD thesis titled 'Molecular Monolayer Junctions: Chemistry, Conductance and Configuration'. Elisabeth Downey did her PhD in cooperation with the Institute of Semiconductors, CAS.

Christina Moeslund Zeuthen

PhD student Christina Moeslund Zeuthen from the Interdisciplinary Nanoscience Center, Aarhus University, successfully defended her PhD thesis titled 'Nanoparticle-protein Interactions: Technique Development and Interaction Studies'. Christina Moeslund Zeuthen did her PhD in cooperation with the National Center for Nanoscience and Technology, CAS.

Nina Katharina Gravesen Salinas

PhD student Nina Katharina Gravesen Salinas from the Department of Chemistry, University of Copenhagen, successfully defended her PhD thesis titled 'Planar and Helical Carbenium Systems for Applications in Molecular Electronics and as Fluorescent Probes'. Nina Katharina Gravesen Salinas did her PhD in cooperation with the Institute of Semiconductors, CAS.

'You Need to be Exposed to Different Research Environments'

This is the opinion of PhD graduate Steffan Sønderskov. He explains:

'During my time at the Institute of Biophysics in Beijing I learned to work in labs together with people who have a different cultural background than me, and I met some very competent people with whom I have started research projects'.

During his PhD studies in China, Steffan Sønderskov also achieved competencies with exceptional equipment.

'I got to use special equipment that just recently became available in Denmark, but only for molecular biologists. Actually, I am supposed to use the same equipment during a research stay in USA related to my postdoc, and it is a huge advantage for me that I already have experience with it', Steffan Sønderskov says.

Captures the Fine Details

The result from Steffan Sønderskov's PhD research is a microscopy method to analyse the cell membrane.

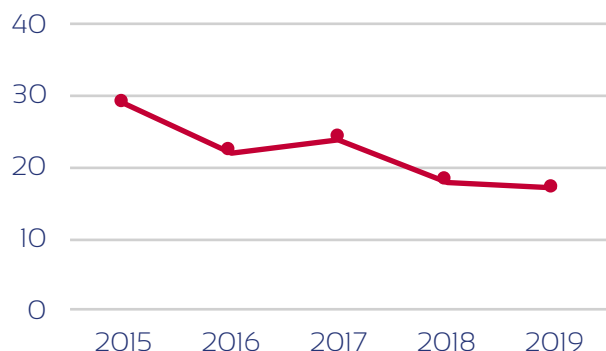
A cell membrane is the partition between a cell and its surroundings and consists of different electrically charged materials like proteins and phospholipids.

'With the analysis methods we have developed, we can look into the electrical charge of the materials on a nanoscale. This makes it possible to decide how certain materials collaborate and affect each other. We are especially curious about the phospholipids, because their electrical charge influences how cells communicate', Steffan Sønderskov explains. His PhD serves as the scientific contribution to further studies:

'It is basic research. It can be developed within both the nanoscience and the biological field. We have published some high-impact scientific articles on the subject, and other scientist within the field have done the same. So, the analysis method is currently a hot topic and is experiencing great progress', Steffan Sønderskov says.

On 1 March 2020, Steffan Sønderskov will take up a postdoc position at iNANO, Aarhus University.

Academic staff who have been in China to conduct research or teach on SDC Master's degree programmes



21

scientific articles were published in 2019 by faculty in the Nanoscience theme.



Head of Educational Programme's Report

The students in the Nanoscience and Technology programme are equipped with different tools to explore nanoscience, and they are continuously influenced by teachers who conduct state-of-the-art research within the field in collaborations between Denmark and China.

In April, the second-year students spent a month in Denmark, where they visited Danish companies and universities and had time to work with their Danish supervisors. The students also took part in the annual Nano seminar for master's thesis students, where they presented their projects. This trip remains an integral part of the learning experience for all students, both academically and culturally.

In October 2019, a weeklong visit to SDC was arranged for a group of Danish bachelor students, giving them first-hand experience of China and SDC. In the fall of 2018, a similar trip was arranged. Out of the group, four full-time and one semester student enrolled in 2019.

In September, the first-year students took part in the Nano symposium at SDC, which introduced them to some of the inspiring research that is being conducted within nanoscience and provided inspiration for their own future studies and careers.

Per Hedegård
Head of Educational Programme

Jon Chose a Global Perspective on His Science Education

After Jon Hindsgaul finished his Master's degree in Nanoscience and Technology in Beijing during spring 2019, he signed a contract with the international company Hempel where he now holds a graduate position at the corporate headquarter in Copenhagen.

Jon Hindsgaul joined the SDC Master's degree programme in Beijing because he believes an international profile is important, no matter your profession:

'An international profile is always an advantage. During my studies abroad I have gained valuable global experience and a unique skill set which I can apply in my graduate position at Hempel that involves collaborating with colleagues from different countries', Jon Hindsgaul says.

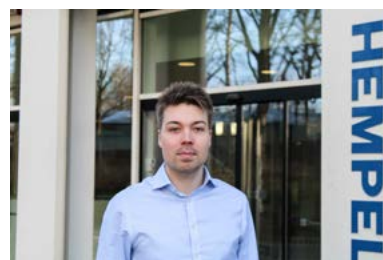
It Takes More Than Technical Skills

Even if you are applying for positions at more local companies, Jon Hindsgaul believes an international profile will make you attractive:

'Spending time abroad and having an international network broadens your perspective and improves your problem-solving skills'.

Hempel is a global supplier of coating products. Jon Hindsgaul works with product development and applies the technical skills he acquired during his education. However, there are also new aspects in his job where his personal competences from China and other places in the world come in handy:

'Currently, I am managing a project. Besides considering legal, financial and commercial aspects, I make sure the team members work toward a common goal despite being located in different parts of the world. So even though I work at an office in Denmark, I still have to navigate in an international environment'.



SDC sinodanishcenter • Follow

sinodanishcenter

Last Friday the Zhong-Dan team had made an event for making Christmas decorations so our classrooms could have a christmassy vibe to them. I would say it was a huge success! Everyone were involved and the end result was amazing! 🥰🥰🥰 The Zhong-Dan team tries to make events for exchange of cultures and this was one of them. I hope more events like this will happen 🙌🙌🙌
#Klippeklistre #Clippingandsticking #Phrasesaredifficult

SDC Instagram post from 3 December 2019. Students regularly share their experiences on the SDC profile.

'It Gave Me an Enormous Freedom'

Because of the broad involvement by the Danish universities in SDC, Nanoscience and Technology graduate Jens Røberg Frandsen was able to widen his focus on material surfaces.

'The fact that the lecturers came from different universities in Denmark meant that I was able to work with the exact topic I wanted, because I had resources available from all the Danish universities. That gave me an enormous freedom'.

Between China and Denmark

The focus of Jens Røberg Frandsen's thesis was to make nanomaterial graphene oxide, mix it with plastic polymer in order to change the mechanical properties and thus increase the breaking strength. Among other things, such material can potentially be used to make wind turbine blades or lighter parts for airplanes, which can ultimately reduce airplane fuel consumption.

Initially, Jens Røberg Frandsen did his synthesis work in Denmark. Subsequently, he brought his samples to China, where he did the characterisation and analysis.

'It made sense for me to do my project in China, because there is a strong collaboration between the



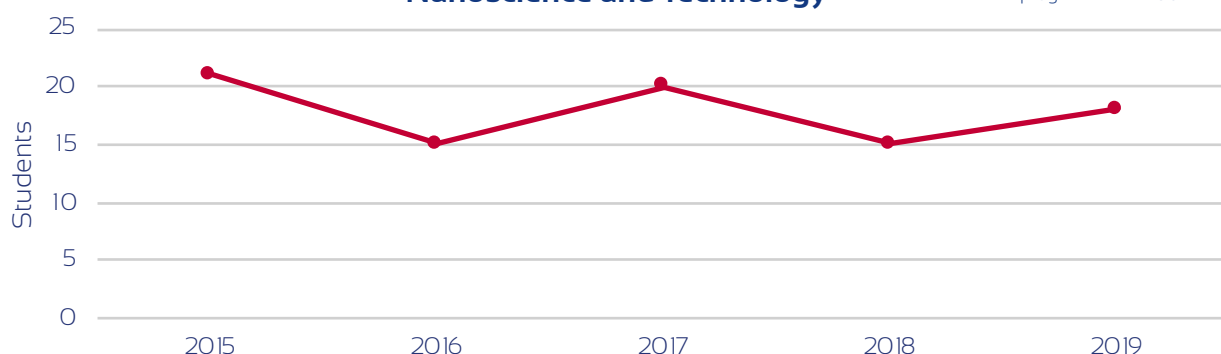
Danish and Chinese universities. In China, I had access to a lot of equipment that I would not have been able to work with in Denmark, and I was able to communicate with some of the professors out there who knew a lot about the subject', Jens Røberg Frandsen explains.

Within three months of graduating, Jens Røberg Frandsen got a job as a consultant in the Coatings and Polymer Technology Team at the Danish Technological Institute.



Intake of Master's Degree Students Nanoscience and Technology

The programme has 30 seats.





Principal Coordinator's Report

This year, in an effort to bring the SDC Life Sciences researchers and students closer together regardless of sub-theme, we organised the first annual SDC Life Sciences symposium, which included opening speeches for MSc and PhD students from the Neuroscience and Neuroimaging and the Life Science Engineering and Informatics programmes. Also, key scientists from both Denmark and China gave several lectures during the three-day symposium.

We crossed other international borders beyond China and Denmark as we arranged the 2nd SDC Neuroscience and Neuroimaging PhD course and symposium with talks by high-profile scientists from all over the world. This intimate PhD course and

symposium format brings renowned scientists close to the PhD students, allowing them to expand their network and to take the first step to get in contact, if they have ambitions about postdoc or research collaboration.

Further, PhD student start-up meetings in Aarhus and Beijing were held to facilitate networking between SDC Life Sciences PhD students where they learn from each other's experiences while they navigate between the Danish and Chinese research environments.

Kim Ryun Drasbek
Principal Coordinator

First PhD Double Degrees Awarded

In June, the first two SDC PhDs from UCAS obtained Danish double degrees. Sha Sun and Zhou Hao both took their Master's degree at SDC and afterwards pursued a PhD degree at the Institute of Biophysics, CAS. While Sha Sun cooperated with the Center of Functionally Integrative Neuroscience (CFIN), Zhou Hao cooperated with the Department of Clinical Medicine, both Aarhus University.

Sha Sun later took up a postdoc position at Soochow University, and she believes the double degree from UCAS and Aarhus University improves her competitiveness.

'I like the educational pattern at SDC so I applied for the PhD double degree to expand my knowledge and experience different research environments and perspectives', Sha Sun says.

Zhou Hao pursues an international career, and he will

take up a position at NeuroSpin, a French research centre for the innovation of brain imaging.

The research project focuses on consciousness, and Zhou Hao was attracted to the project due to the extensive collaboration with institutions such as Yale, Harvard, Peking, Birmingham, a Max Planck Institute, Donders Center etc. As a researcher in the early stage of his career, Zhou Hao finds it important with a broad perspective and indicates that his PhD studies opened his eyes to international collaboration.

'I have co-published a paper with my Danish supervisor. Moreover, my Chinese supervisor recommended me to contact researchers at NeuroSpin. I am sure it will be a great advantage for me in my career that I know international, frontier researchers within the field of consciousness', says Zhou Hao.

Neuroscience Symposium Fosters Novel Ideas

In November, SDC housed 28 PhD students from China and Denmark and several international speakers within the field of neural functions, brain information processing and behaviour.

They gathered for the *Neuro PhD Symposium – Neuroscience Challenge 2019* for the purpose of fostering novel ideas, generating technical developments and creating a platform for future collaborations.

The event was organised by both Chinese and Danish professors.



What Happens When We Sleep?

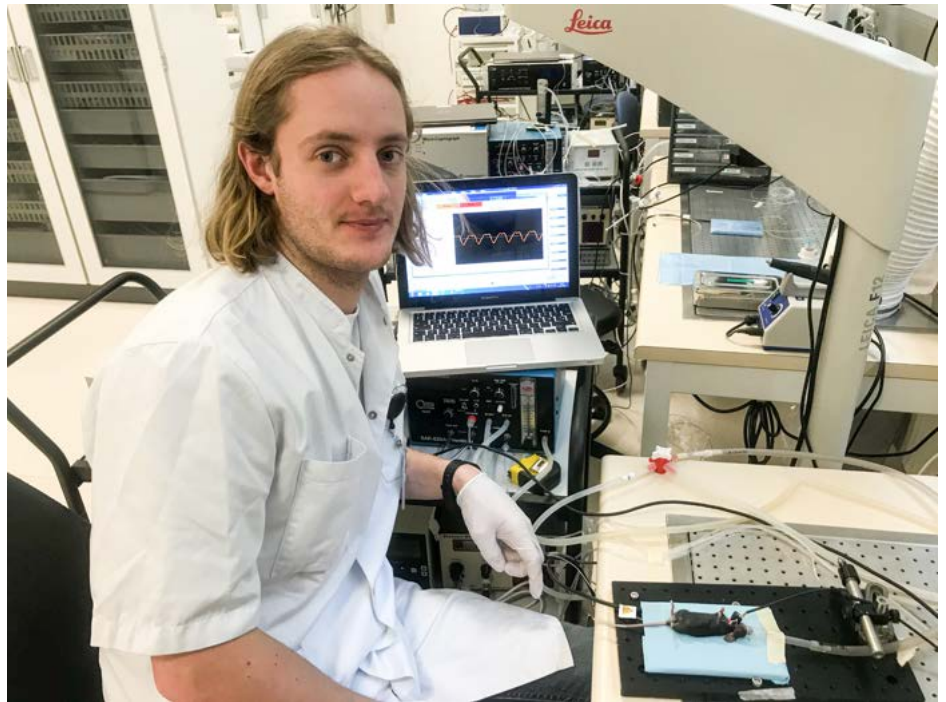
Imagine that you wake up and your house has been cleaned while you were asleep. All by itself. This is actually happening in our brain when we sleep – thanks to a liquid system.

PhD student Thomas Lindhardt from the Center of Functionally Integrative Neuroscience, Aarhus University, is investigating the fluids in the lymphatic system that were recently discovered in the brain:

'In the brain, the lymphatic system is referred to as the glymphatic system. Its functions are similar to the lymphatic system in the body. It consists of tubs with liquids that collect and clear damaging proteins secreted by the cellular tissue while we sleep. And we know that some of these proteins are related to Alzheimer's disease', Thomas Lindhardt explains.

It is also known that people who do not sleep enough have a higher risk of developing Alzheimer's disease. Therefore, Thomas Lindhardt is working based on the hypothesis that the glymphatic system is more effective in cleansing the brain of damaging proteins during sleep.

'By scanning mouse brains, we can investigate the liquids and compare these across a sleeping and a waking state. I use MR scanning techniques to study the dynamics on the entire brain level, and we hope



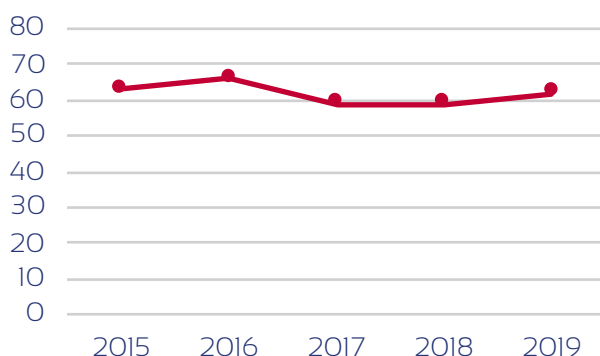
our data might contribute to elucidating some of the mechanisms of this system that are still unknown', Thomas Lindhardt says.

Thomas Lindhardt collaborates with the Institute of Neuroscience, CAS, in Shanghai, and from there he brought 3D components that they now print at Aarhus University Hospital. The components make it possible to scan mice while they are awake, which is only possible very few places in the world.

'I have brought a lot of experience and methods to Denmark from China. The amount of hands-on experience I got in Shanghai during the year of my Master's thesis is incredible', Thomas Lindhardt says.



Academic staff who have been in China to conduct research or teach on SDC Master's degree programmes



23

scientific articles
were published in 2019
by faculty in the Life
Sciences theme.



Head of Educational Programme's Report

This year, we have seen an increase in the admission as a class of 24 students joined the Master's degree programme in Neuroscience and Neuroimaging in September 2019.

The Master's degree programme is characterised by advanced imaging techniques and basic and clinical neuroscience. To bridge to the Life Science Engineering and Informatics Master's degree programme, the students from both programmes followed a joint introduction to scientific computing, which is the first week of the course Fundamental Biomedical Signal Processing. This introduction provides the students with basic knowledge about programming, which is essential for both Master's degree programmes.

The relationship between the students and teachers was further strengthened at the first annual SDC Life Sciences symposium, where first-year students were invited to attend second-year students' opening speeches. This prepares new students for their own consideration of relevant and possible subjects when it is time for their Master's thesis. In addition, a symposium session was dedicated to presentation of projects for the purpose of bridging technological expertise taught in the Life Science Engineering and Informatics programme to neuroscience and neuroimaging.

Kim Ryun Drasbek
Head of Educational Programme

From the Brain to the Spine

The subject for Lasse Knudsen's master's thesis is to investigate a method to scan the area in the brain that transmits the motoric output, i.e. the activity from the brain to the spine. As a second-year student at the Master's degree programme in Neuroscience and Neuroimaging, Lasse Knudsen began to work on his thesis in September 2019 at the Institute of Biophysics, CAS in Beijing, where he is investigating if a specific MR scanner, a so-called 7 Tesla MRI scanner, can be used to measure the motoric output from the brain.

'Currently, there are no valid methods to investigate the motoric output without surgery, where you open the cranium. If we can validate the scanning method, we can use the MR scanner to e.g. diagnose ALS patients and monitor different treatments because the area in the brain that transmits the motoric output, is the

area where ALS patients' brain cells die, thus causing mobility problems', Lasse Knudsen explains.

The special thing about the 7 Tesla MRI scanner is that it has an extra strong magnet for exceptional images. *'It is a very expensive machine to use. There is only one of its kind in all of Denmark and as a graduate student I would probably not be able to work with it. So, it is a huge opportunity for me to be able to work with it in China and gather valuable experience', Lasse Knudsen says.*

Alongside his thesis, Lasse Knudsen is working on PhD applications, because he hopes to be able to continue studying the MR scanning method after he graduates from SDC.



SDC sinodanishcenter • Follow

sinodanishcenter

Hey guys, my name is @signeholm and I am studying Neuroscience and Neuroimaging at SDC. The past two days a group of us went to Beijing to see the festivities - Chinese national holiday/Golden week. ATM we are sitting on the bus to Inner Mongolia 🚌, and i'm taking over this Instagram to show you a bit of the upcoming week. 🙌 Hope you will follow our trip and enjoy 🌄

SDC Instagram post from 1 October 2019. Students regularly share their experiences on the SDC profile.

How We Perceive Music

Neuroscience and Neuroimaging student, Mathias Klarlund, combines his interest in the workings of the human brain with his passion for music in his thesis, which aims to examine how people from different cultures perceive music differently.

Through one of his professors, Mathias Klarlund was made aware of an opportunity to cooperate with the Danish National Research Foundation's Center for Music in the Brain (MIB) and ended up with his thesis project titled Perceived Culture Difference in Music: A Behavior-MEG study.

'My thesis examines how the brain works and how we perceive the world through our senses, and this is eternally exciting to me. I have wanted to work with perception and music all along so working with Music in the Brain is perfect'.

The Project

During the first six months of his project, he exposed 101 Chinese test subjects recruited by his colleagues at the Institute of Psychology in Beijing to a number of tests designed to identify bias towards Western or Chinese music, while his partners in Denmark performed the same tests on Danish subjects in Denmark.

During the second part, which will start in early 2020, those same subjects will undergo similar tests while in an MEG scanner, and the outcome will make up the data set which Mathias Klarlund will later analyse.



'It is central to my thesis that I am able to recruit Chinese test subjects, and I have a good relationship with my Chinese supervisor, who is incredibly competent. Besides, I love living here'. Mathias Klarlund says.

MIB is an interdisciplinary research centre at Aarhus University and the Royal Academy of Music, Aarhus/Aalborg, which aims to address questions of how music is processed in the brain and how this can provide an understanding of fundamental principles behind the functions of the brain.



Intake of Master's Degree Students Neuroscience and Neuroimaging

The programme has 30 seats.





Head of Educational Programme's Report

The Life Science Engineering and Informatics (LEI) programme combines a deep understanding of molecular and cellular biology with experimental techniques to generate biological data at large as well as computational tools to analyse such data sets. We continuously evaluate the programme to make it more relevant for the industry and the society.

In February 2019, we held a workshop in Denmark involving all of our teachers, where we had invited Sofie Singbrant Söderberg from the Novo Nordisk Foundation to join us. We discussed the Novo Nordisk Foundation's report on the status of bioinformatics and big data in Denmark and used it as an inspiration for the future direction for our curriculum.

In 2019, we increased the computational aspects of the curriculum by adding a new course, 'Python and Unix for Data Science'.

We have five Danish universities involved in teaching on the programme and this year, new professors have joined us, teaching state-of-the-art technologies such as single cell sequencing and deep learning.

In November, we held a joint workshop with Neuroscience and Neuroimaging for two complete days of presentations by SDC students and professors as well as specially invited speakers.

Paolo Marcatili
Head of Educational Programme

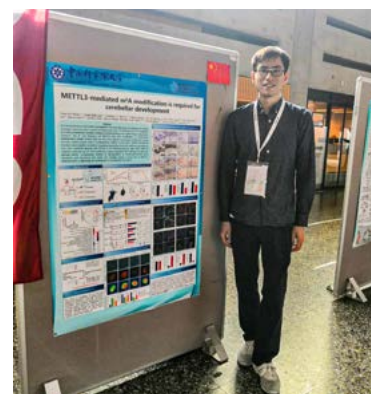
Alumni Showcase their Research

Wang Yujing and Cui Guanshen, both graduates from the Master's degree programme in Life Science Engineering and Informatics, participated in the 2019 International Students Research Forum in Denmark.

They are now doing their PhDs, and they agree that the most valuable lesson learned at the forum was in the \$IO Challenge competition. Here, the participants were divided into cross-cultural groups to compete against each other by identifying feasible, innovative, high-impact and low-cost solutions to health challenges.

Wang Yujing and Cui Guanshen were both in groups with participants from China, Denmark, Canada, Australia and the USA.

'The competition encapsulates the future scenario for researchers. If I want to be a scientist and make an impact with my work, I must be able to work with different people with different backgrounds. If not, I will not be able to put my ideas into practice', says Cui Guanshen.



Cui Guanshen presenting his scientific poster at the International Students Research Forum in Denmark.



Wang Yujing and Cui Guanshen were part of the delegation from the University of the Chinese Academy of Sciences.

The research forum covered several topics within neuroscience, cancer and clinical research, public health as well as basic and cellular research. It took place at the University of Southern Denmark, and more than 60 PhD students and other researchers from all over the world shared their research progress.

'The forum is a unique opportunity to go abroad and experience how researchers from different nationalities see things from different perspectives', says Wang Yujing.

'Screaming for Competences within Data Science'

In February, Sofie Singbrant Söderberg, Senior Programme Lead at the Novo Nordisk Foundation, shared the conclusions from the Foundation's recent summit on bioinformatics and data science at a workshop for teachers and researchers of the Life Science Engineering and Informatics programme.

'When we plan the programme, it is very important that we look ahead. We want to teach the students things that will be relevant when they start their careers, so we asked Sofie Singbrant Söderberg to share the needs of the industries in terms of the competences their future employees should have', says Paolo Marcatili, Head of Educational Programme.

In November 2018, the Novo Nordisk Foundation held a summit for the purpose of mapping opportunities and challenges within the field of data science and bioinformatics. The conclusions were clear, Sofie Singbrant Söderberg explains:

'More people with the right skills are needed. This is a trend that we have seen within academia, the industry as well as the healthcare sector. So many sectors are screaming for competences within data science and providing graduates with the skills that the companies and the healthcare sector are currently lacking would be a good thing', Sofie Singbrant Söderberg says.

The insights that were provided by Sofie Singbrant Söderberg formed the basis of productive discussions for the remainder of the workshop, says Paolo Marcatili, adding:

'In Denmark, we do not educate enough computational biologists, bioinformaticians and statisticians. Taking steps in this direction was discussed with the teachers, and they agreed that this is most definitely the right direction to move in. We can see that things are going as expected', Paolo Marcatili says.



SDC sinodanishcenter • Follow

sinodanishcenter

My take home message on my last day of this Instagram take-over would be this "packing list" for China 🇨🇳: ✋ Bring an open mind. Expect that things are not only different, they are completely opposite from home. ✋ Understand exactly why it is you want to go and what you are seeking from the experience. It will help you through culture shocks and keep you motivated through hard times when you are far far from home. ✋ Pack Danish snacks! Not only are they worth their weight in gold, it is also a great way to make Chinese friends. Making friends here is key to figuring out daily life, and when you care for people around you it will motivate you to learn the language and make you feel less like a stranger. Summing up: If you seek challenges and a place that feels like another dimension, China is your best choice 🙌🌍 Thank you for listening. You are welcome to follow me on my account @klostermust or connect on LinkedIn: Line Kloster Pedersen. See you! 😊

SDC Instagram post from 5 January 2020. Students regularly share their experiences on the SDC profile.

Intake of Master's Degree Students Life Science Engineering and Informatics

The programme has 30 seats.





Principal Coordinator's Report

In 2019, we launched a new research theme on integrated energy systems with a kick-off seminar, a co-organised international conference and the start-up of two new PhD projects.

As our research collaboration consolidates, 2019 saw more Danish universities involved, and we now have researchers from four Danish universities engaged in research and teaching.

This year three alumni from the 2013 Chemical and Biochemical Engineering cohort successfully defended their PhD theses at the Technical University of Denmark. Furthermore, one of this year's Danish PhDs within sustainable combustion of biomass took up a

position as SDC postdoc at DTU Chemical Engineering. The research project ComBioTES about compact bio-based thermal energy storage for buildings has received a grant for DKK 4.9 million by the EU Research and Innovation programme 'Horizon 2020'. Partners from the Technical University of Denmark and the Chinese Academy of Sciences participate in the project.

Finally, the first Chinese PhD within Sustainable Energy obtained a double degree, when Ming Liu was awarded a degree from the University of Chinese Academy of Sciences and Aalborg University.

Birte Holst Jørgensen
Principal Coordinator

In spring, Professor and Executive Dean of College of Materials Science and Opto-Electronic Technology Chen Guangchao, UCAS, was appointed Principal Coordinator for SDC's Sustainable Energy research theme. He replaced Professor Zhang Hongxun.

Kicking off Sustainable Energy Systems Collaboration

Researchers from Denmark and China met at a kick-off seminar in Beijing to discuss opportunities for collaboration under the framework of the SDC Sustainable Energy research theme. Around 40 researchers and industry representatives joined the programme.

Accelerating Opportunities

Professor Jacob Østergaard, Head of the Center for Electric Power and Energy at the Technical University of Denmark, has collaborated with Chinese researchers for almost a decade and sees great potential in pushing the renewable energy research agenda via SDC:

'We have had great relations with Chinese researchers for a long time and wish to collaborate further. Through SDC's framework and funding, we can accelerate the collaboration by, for instance, exchanging PhD students. With this kick-off, we are not only able to attract valuable knowledge to Denmark, we can also open doors for Danish industry and Danish-Chinese partnerships in China'.

Trust and Mutual Understanding is Essential

Doctor Wang Yibo, Director of the Renewable Energy System Technologies Department at the Institute of Electrical Engineering, CAS, also joined the seminar:

'From a Chinese perspective, the collaboration is very important. In China, we have a high demand for smart and hybrid energy and have established research facilities and demonstrations for verifying technology and equipment. The Danish universities have excellent researchers, world-leading research facilities and rich experiences with smart energy. The collaboration on smart energy will benefit both countries', Wang Yibo says.



The kick-off of the new research theme included a seminar at the Institute of Electrical Engineering, CAS, a practitioner-researcher seminar at SDC and a visit to Huairou Science City.

2019 PhDs

Gerald Englmaier

PhD student Gerald Englmaier from the Department of Civil Engineering, the Technical University of Denmark, successfully defended his PhD thesis titled 'Combined Short- and Long-Term Heat Storage with Sodium Acetate Trihydrate for Solar Combi-Systems'. Gerald Englmaier did his PhD in cooperation with the Institute of Electrical Engineering, CAS.

Burak Ulusoy

PhD student Burak Ulusoy from the Department of Chemical Engineering, the Technical University of Denmark, successfully defended his PhD thesis titled 'NOx Formation and Reduction in Fluidized Bed Combustion of Biomass'. Burak Ulusoy did his PhD in cooperation with the Institute of Process Engineering, CAS.

Paving the Way for Sustainable District Heating

Clean and renewable energy for heating and power. This was in focus when more than 100 professionals from companies, researchers and local government representatives joined forces at the first international solar conference in Lhasa, Tibet. They met to present and exchange views on recent technology developments, markets and policies related to clean heating and power.

SDC researchers from Aalborg University, the University of Southern Denmark and the Technical University of Denmark were among the presenters.

Valuable Inputs from Danish Experience

District heating has been a major topic of Chinese energy policy for decades. Denmark is at the forefront within renewable technologies for clean heating and power generation and can deliver valuable input in the Chinese efforts to develop sustainable, emission-free energy solutions.

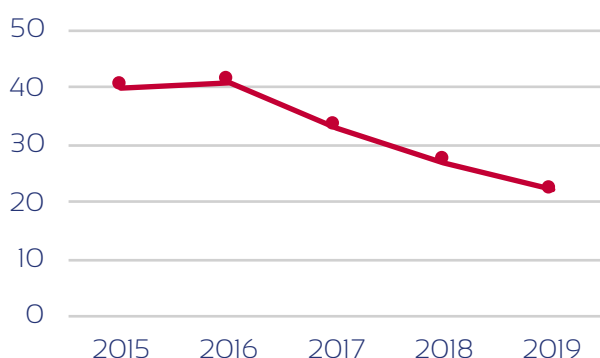
'Denmark has the largest solar district heating system in the world and the largest market share worldwide. In other words, solar district heating in Denmark is world leading and the Chinese government, companies etc. are determined to develop solutions that reduce the pollution in China. Naturally, they want to learn from the Danish experience', says Associate Professor, Fan Jianhua from DTU Civil Engineering.



Fan Jianhua has organised the conference together with the Chinese Clean Heating Association, and he emphasises that the conference also served as an obvious opportunity for Danish companies to get to know the market and help to target the solutions.

'In China, each region has different characteristics, and therefore they need different technologies or combinations of different technologies', says Fan Jianhua who hopes it will be possible to arrange a follow-up conference.

Academic staff who have been in China to conduct research or teach on SDC Master's degree programmes



26 scientific articles were published in 2019 by faculty in the Sustainable Energy theme.



Head of Educational Programme's Report

We have seen a growing number of our alumni stay affiliated with SDC, and this year, three graduates from the 2013 cohort successfully defended their PhD theses at the Technical University of Denmark.

In the summer, the partners from the Institute of Process Engineering, CAS and DTU Chemical Engineering gathered at an annual seminar to further consolidate the collaboration. The main objective of the seminar was to facilitate more synergetic cooperative projects. In addition, master's theses, PhD projects and external research funding were on the agenda.

The 2018 cohort participated in this year's annual Summer University at Technical University of Denmark. Here, they spent about a month working at the pilot plant facility where they gained valuable insights into actual industrial challenges. During their stay in Denmark, the students also participated in the Green Challenge student conference at DTU and visited a number of Danish companies, including Hempel, Haldor Topsøe and Novozymes.

Kim Dam-Johansen
Head of Educational Programme

'It Feels Fantastic to Work with Sustainable Energy'

After graduating from SDC, Mia Bodenhoff was headhunted by start-up company MASH Energy, and she now works with carbon negative energy production in her position as project manager.

The company began as a spin-out from the Technical University of Denmark, and its primary product is a mobile reactor that turns biowaste into energy through gasification and pyrolysis. Until now, the company has primarily been active in India where Mia Bodenhoff looks forward to using her experience from China.

'When it comes to working in India, my time in China will be an advantage, both in terms of understanding that things simply work differently, but also appreciating that the English that is spoken is different'.

An Opportunity to Take on Responsibility

Mia Bodenhoff's job includes a range of tasks. She

looks into potential business opportunities that require the technical understanding which she gained through her education. For instance, she is looking into the company's potential in working with methanol, which was the topic of her thesis where she cooperated with catalysis company Haldor Topsøe. Besides, she helps with some administrative work.

'Being part of a small setup is in stark contrast to working for a big enterprise. I have to handle many different kinds of tasks, but I also have a great opportunity to take on responsibility and influence how we do things. It feels like we are at a tipping point, and the next couple of years could be an exciting time for us'.

Mia Bodenhoff graduated from the Chemical and Biochemical Engineering programme in the summer of 2019.



SDC sinodanishcenter • Follow

sinodanishcenter

The last two weeks have been so crazy! I've been sitting in the classroom from 9-22, working on assignments and trying to get Matlab to be my friend 🤖 So today (and yesterday) I finally had some free time, which I decided to spend with some of my roomies 🍷 Today we visited a Brazilian restaurant just a few minutes from campus 🇧🇷

SDC Instagram post from 17 September 2019. Students regularly share their experiences on the SDC profile.

Li Ziyou Seizes Every Opportunity to Globalise his Education

'We need to exchange ideas with people from all over the world. That is my driving force', says Li Ziyou who is studying Chemical and Biochemical Engineering.

Li Ziyou seizes every opportunity to add a global perspective to his education, and this year he successfully applied for participation in two academic competitions.

The global competition Present Around the World is for young professionals and students within engineering, and it is arranged by the Institution of Engineering and Technology. Li Ziyou displayed his presentation skills, won the competition at the local level and made it to the national level. He presented different methods for utilising used batteries from electric vehicles.

'As a student, there is a risk that you end up spending most of your time attending lectures, working on assignments and living in a narrow world with people like yourself, for instance chemical engineers. The competitions gave me the opportunity to meet different people from all over the world', says Li Ziyou.

He has also participated in UNLEASH, a global innovation lab which gathers 1,000 talents to collaborate on solutions to meet the United Nations' Sustainable Development Goals.

Li Ziyou joined a group of five people of different nationalities and academic backgrounds. They focused on how to reduce food waste at universities, and Li Ziyou believes that his cross-cultural studies at SDC mean a lot for his academic and personal capability to join the competitions.



To add a global perspective to his Master's thesis, Li Ziyou is now living in Denmark, where he is doing his thesis at the Technical University of Denmark.



Intake of Master's Degree Students Chemical and Biochemical Engineering

The programme has 30 seats.





Principal Coordinator's Report

The research theme is growing exponentially and expanding in connection and integration between the Danish and the Chinese side. During the year, another four PhD students started on the Danish side which means that all areas within the research theme now have associated PhDs or postdocs, all key persons in building research relationships with UCAS institutions.

For the first time, an annual conference within food, health and safety took place at SDC in China in November. To ensure exchange of scientific knowledge, the conference had special focus on PhD students who presented their work within areas such as microbiology, nutrition, environment, business, economics and food quality. One of the key conclusions from the conference was the necessity to continue to span

the various areas across the food chain and work on common projects within these areas. To share the knowledge with the broader scientific community, the international, peer-reviewed scientific open access journal 'FOODS' will launch a special issue focusing on cross-cultural research.

In 2019, the Danish Accreditation Council's approval of the Master's degree in International Food Quality and Health was followed by an approval by the Chinese Ministry of Education, and the programme will thus be launched in the autumn of 2020.

Derek V. Byrne
Principal Coordinator

'Food, Health and Safety in Cross Cultural Contexts'

In November, researchers from Aalborg University, Aarhus University, the University of Copenhagen and CAS institutes attended the SDC conference 'Food, Health and Safety in Cross Cultural Contexts'. One of the participants was Kristian Key Milan Thamsborg from the Department of Veterinary and Animal Sciences, the University of Copenhagen, who began his PhD studies in 2019.

'As a new PhD student, the conference was a great opportunity to meet the Chinese and Danish researchers within the field. Especially the network among the PhD students is valuable. We all presented scientific posters in order to share our latest research development', says Kristian Key Milan Thamsborg.

At the conference, he met with his Chinese supervisor from the Institute of Microbiology, CAS. Kristian Key Milan Thamsborg will spend one year in China during his PhD project.



PHOTO: SDC PhD students gathered at the conference.





A Neuro Perspective on Food Science

It made perfect sense to Danni Peng-Li to combine neuroscience with food science, when he finished his Master's degree in Neuroscience and Neuroimaging.

Therefore, he took up a position as SDC PhD student at Department of Food Science at Aarhus University in January 2019. By investigating the brain and consumer behavior, Danni Peng-Li looks into how sound affects our sensory and cognitive drivers of what we choose to eat, for example at a restaurant or at the supermarket.

From the beginning of his academic life, Danni Peng-Li directed his attention to food science and nutrition. He applied for Neuroscience and Neuroimaging at SDC, after he finished his bachelor focusing on how fish oil affects the biochemistry in the brain and children's cognitive functions.

"I chose a Master from Neuroscience and Neuroimaging to add a technical perspective for further research in food science," Danni Peng-Li explains.

When time came for choosing a subject for his Master's thesis, Danni Peng-Li seized the opportunity to move in the interdisciplinary field again. This time he looked into food addiction, which is both a mental and nutritional problem:

"In general, I think it is important we do more interdisciplinary research because different disciplines often study the same concepts. We might miss the potential of utilizing our different methods for a more optimal study design," Danni Peng-Li says.



Close to people and the industry

According to Danni Peng-Li, his research is easy to translate into praxis on a commercial and political level. In a marketing context, food science and neuroscience is useful to investigate consumer behavior. On a political level, Danni Peng-Li's research can be used in context of a health aspect on how to nudge people to make healthier choices.

"My experience is that much basic research is needed in neuroscience because of its clinical relevance. Moreover, in relation to the applicability of the research, it generally goes a bit faster with research from food and sensory science. However, consumer psychology and our senses are related to the brain so it is very valuable to have the biometric and neuroscientific methods to compliment results from conventional consumer research," Danni Peng-Li explains.

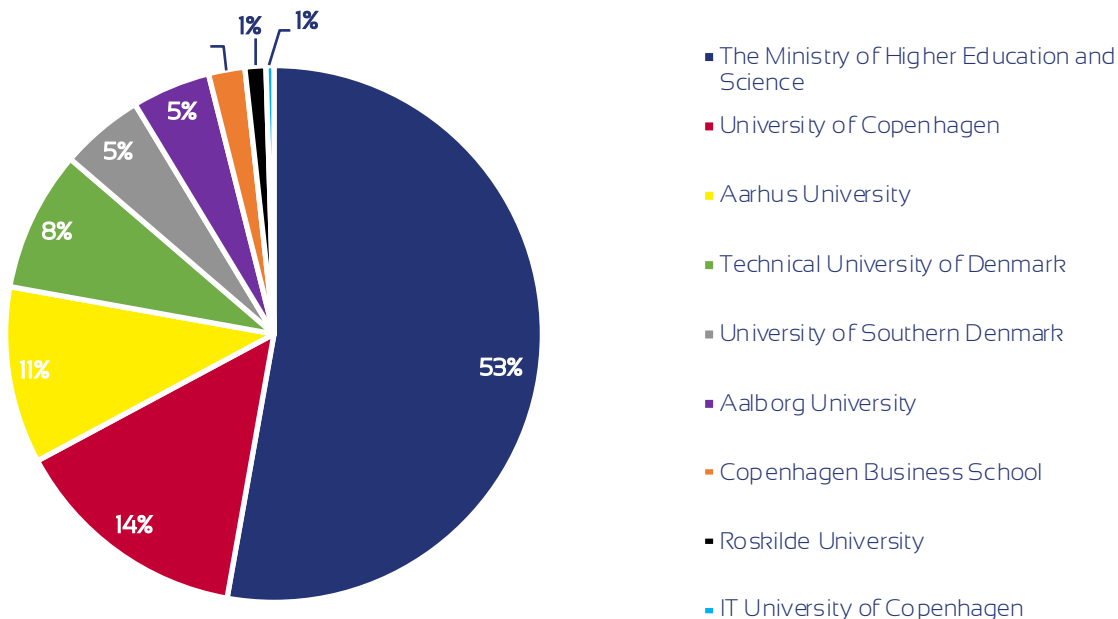
Danni Peng-Li expects to finish his PhD study December 2021 and he plans to spend 12 months in China during his research period.



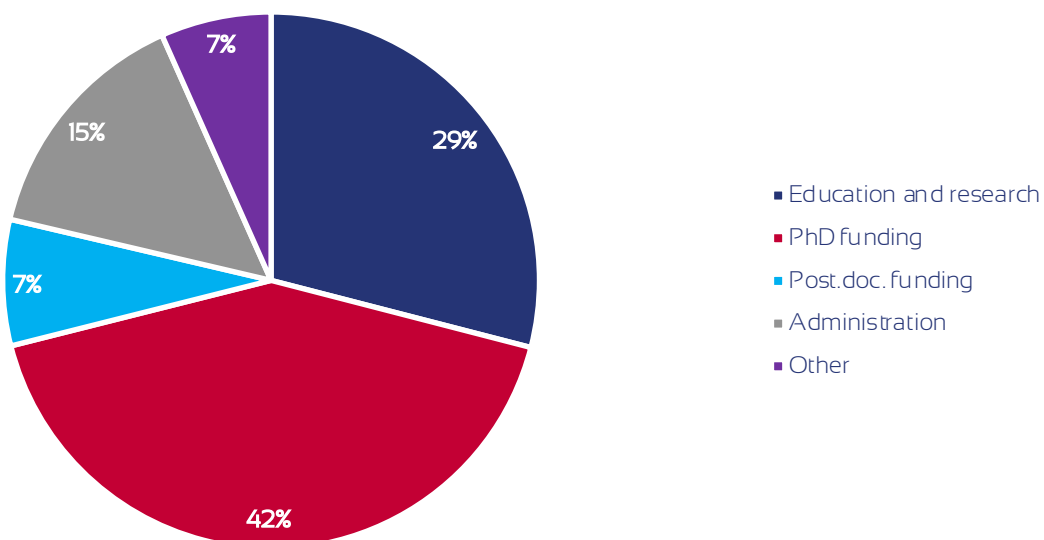
Finances

The Danish part of SDC is funded by the Ministry of Higher Education and Science and the Danish universities. The eight universities contribute financially to SDC based on their annual turnover.

Income 2019 - 64 DKK million



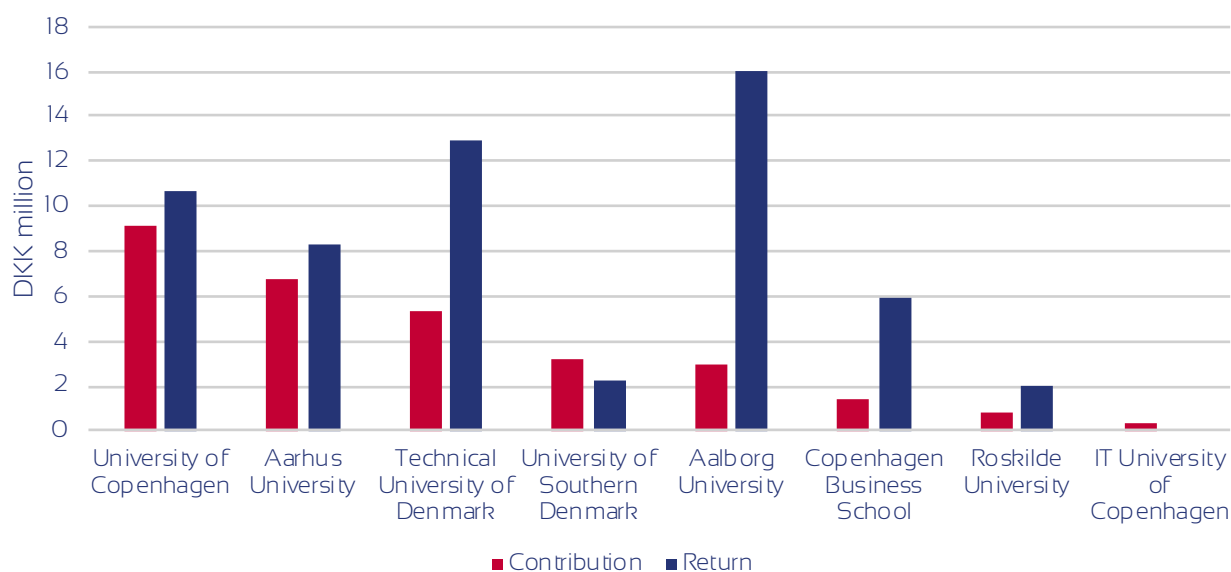
Expenses 2019 - 69 DKK million



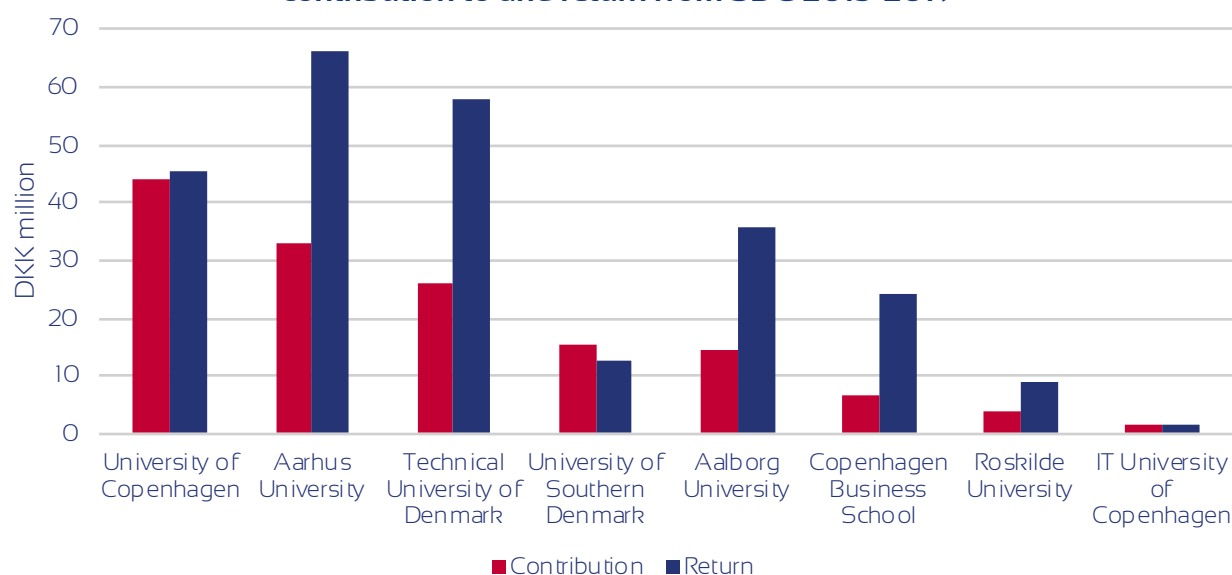
Financial Flow

The Danish side of SDC compensates the universities for research and educational activities carried out in China and co-finance PhD projects and postdoc positions at the Danish universities.

The Danish universities' financial contribution to and return from SDC 2019



The Danish universities' financial contribution to and return from SDC 2015-2019

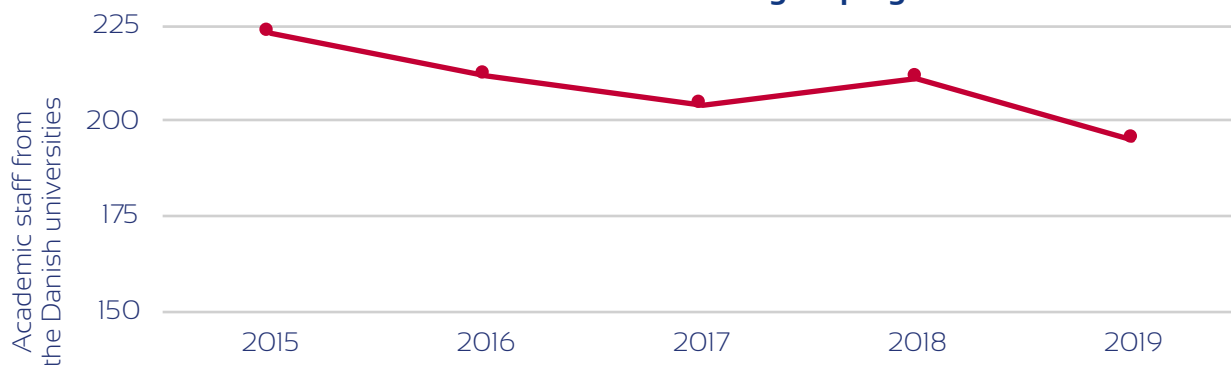


Faculty

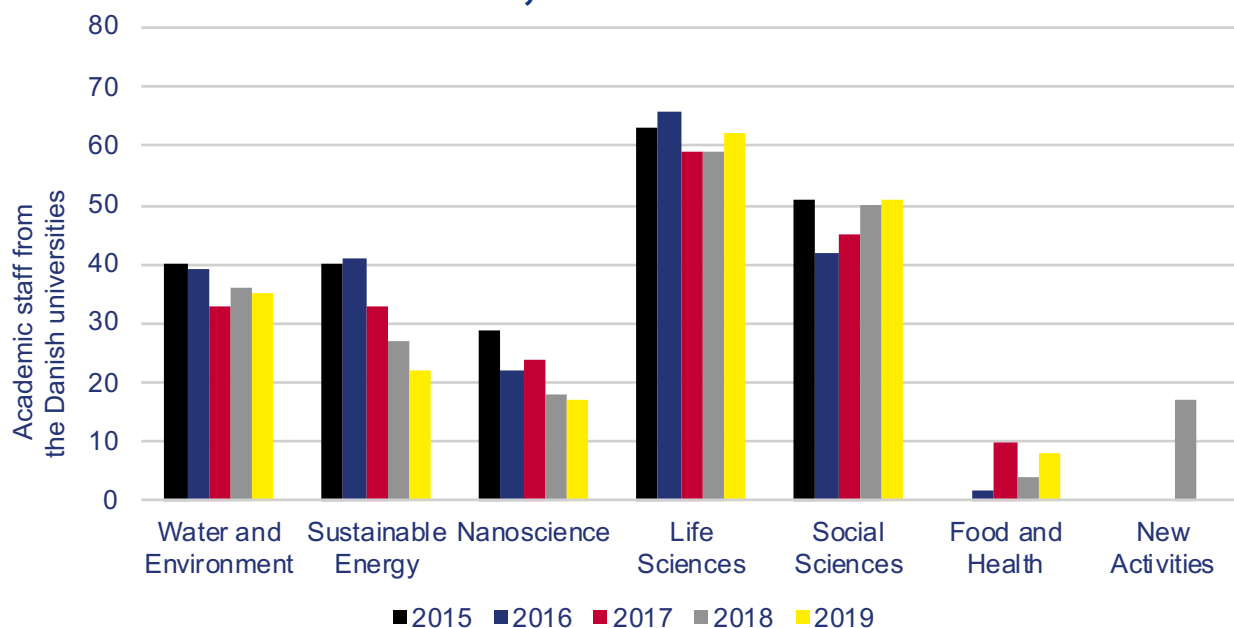
195

Academic staff members from the Danish universities conducted research or taught in China within the framework of SDC in 2019.

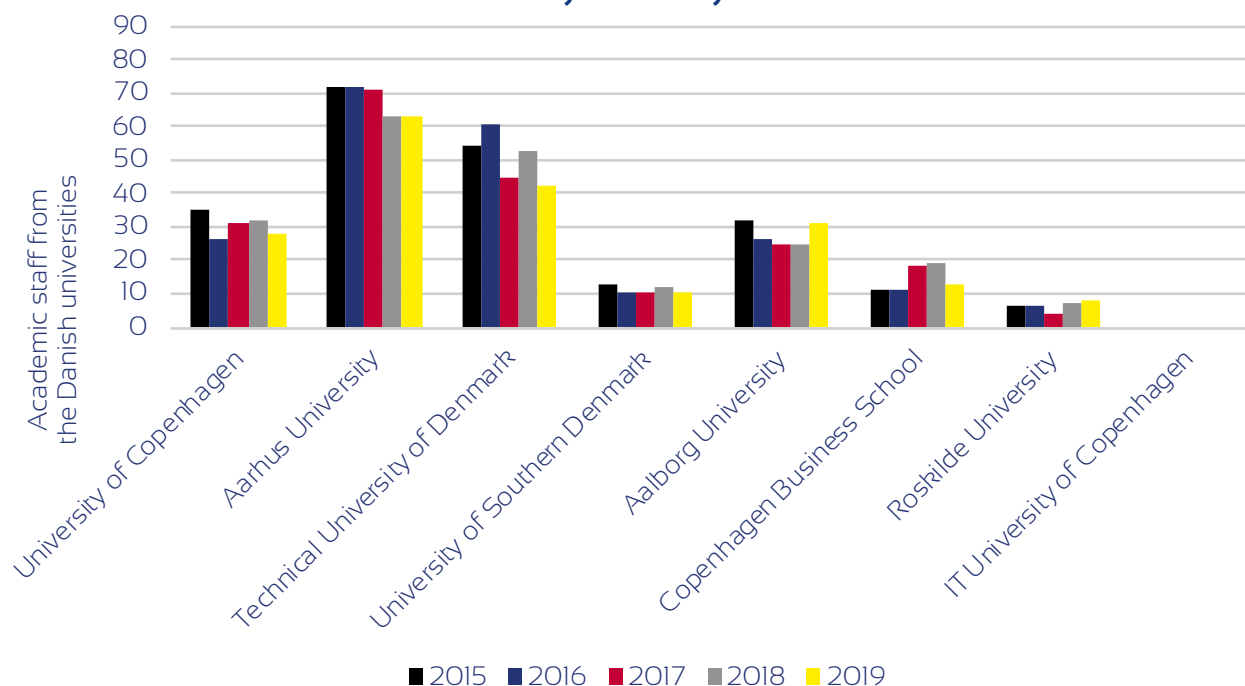
Academic staff who have been in China to conduct research or teach on SDC master's degree programmes



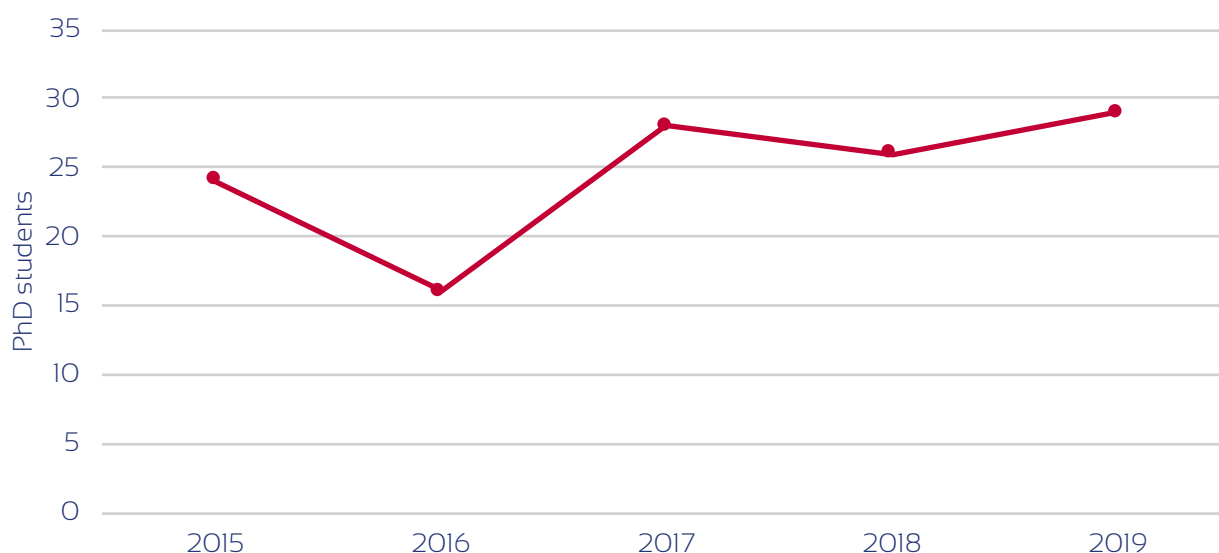
Academic staff who have been in China to conduct research or teach on SDC Master's degree programmes - by research theme



Academic staff who have been in China to conduct research or teach on SDC master's degree programmes - by university



SDC-funded PhD students enrolled at the Danish universities

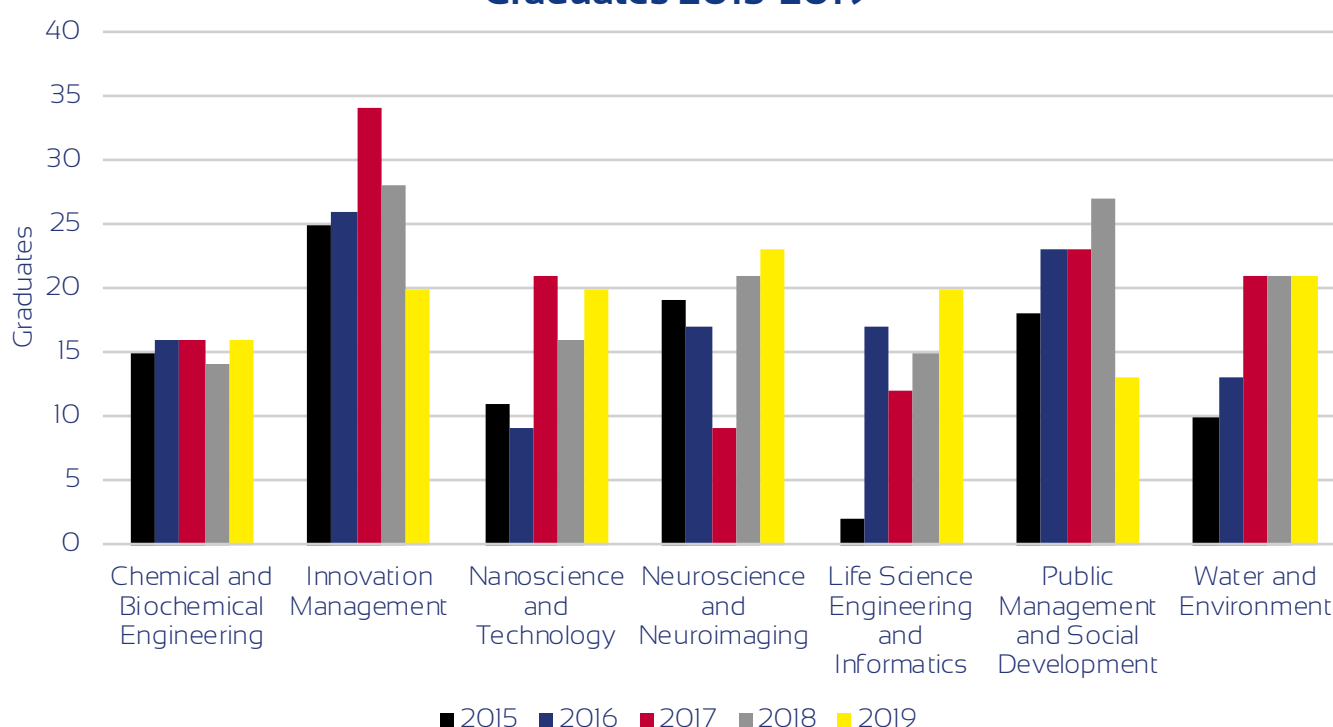


Since 2011 the Danish side of SDC has co-financed a number of PhD students each year at Danish universities. SDC PhD students have both a Danish supervisor and a Chinese supervisor, and the Danish SDC PhD students must spend a minimum of six months at a Chinese research institute during their studies. They have the opportunity to obtain a double PhD degree if they meet the requirements of both their Danish and Chinese host institutions.

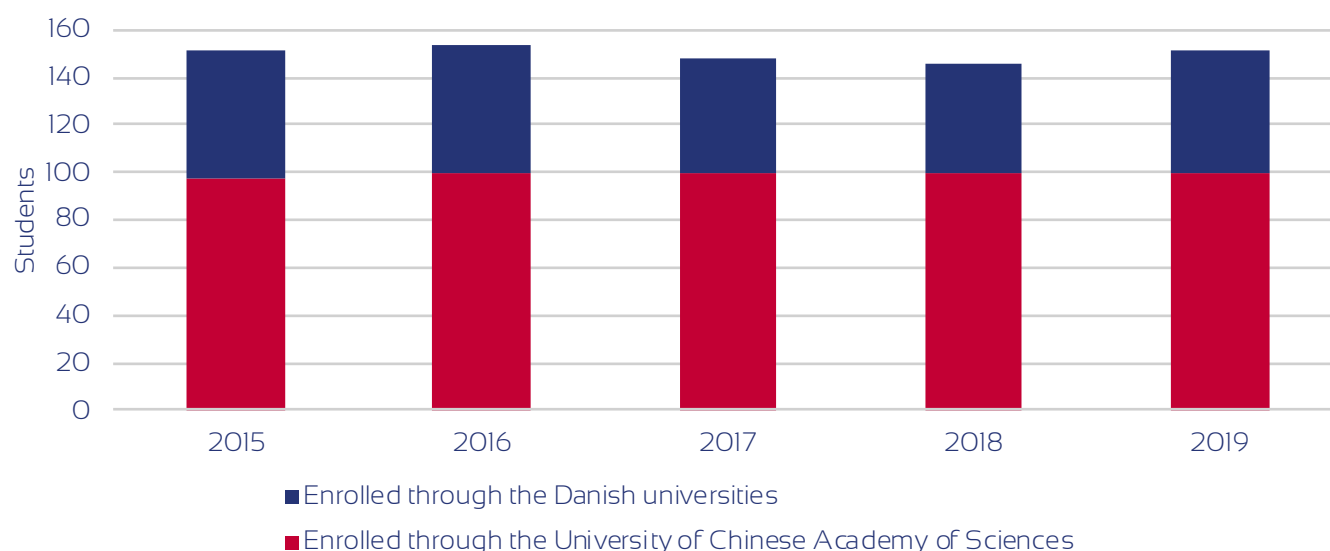
Master's Degree Students and Graduates

133 Master's degree students
graduated from SDC in 2019

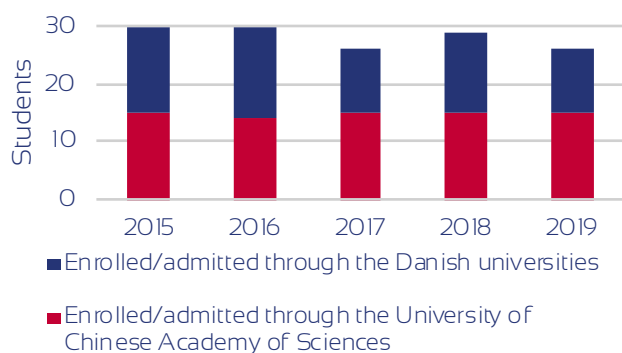
Graduates 2015-2019



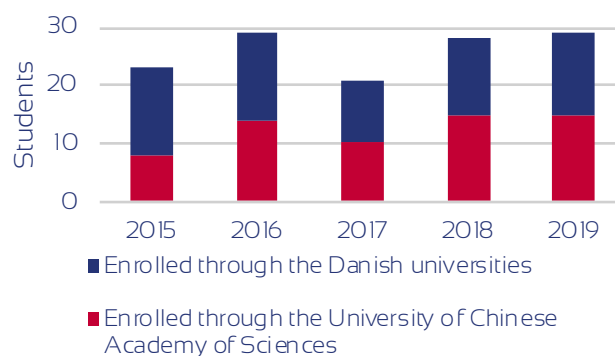
Intake of master's degree students



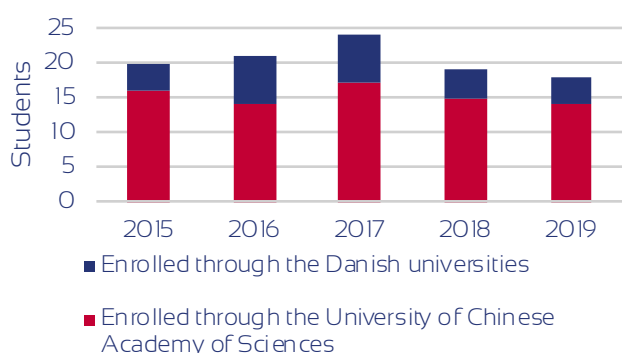
Intake of master's degree students Innovation Management



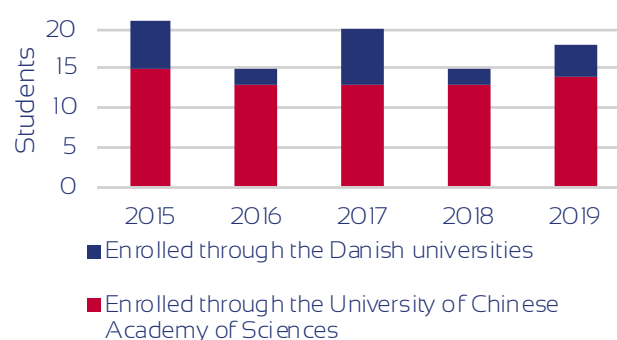
Intake of master's degree students Public Management and Social Development



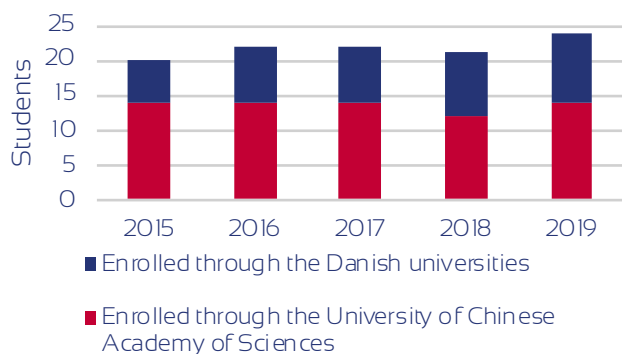
Intake of master's degree students Water and Environment



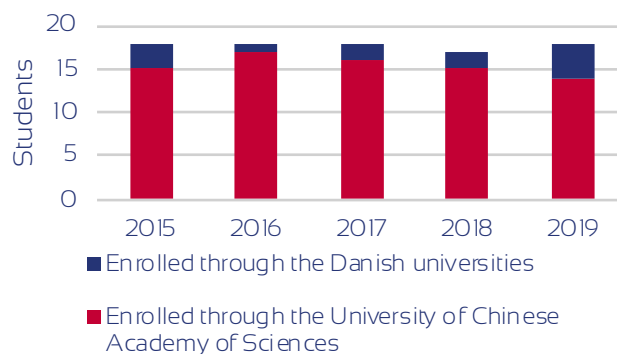
Intake of master's degree students Nanoscience and Technology



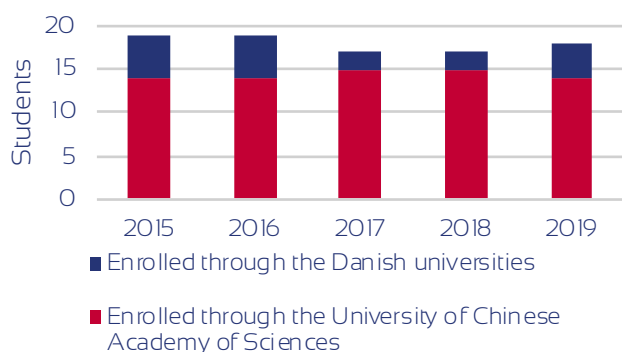
Intake of master's degree students Neuroscience and Neuroimaging



Intake of master's degree students Life Science Engineering and Informatics



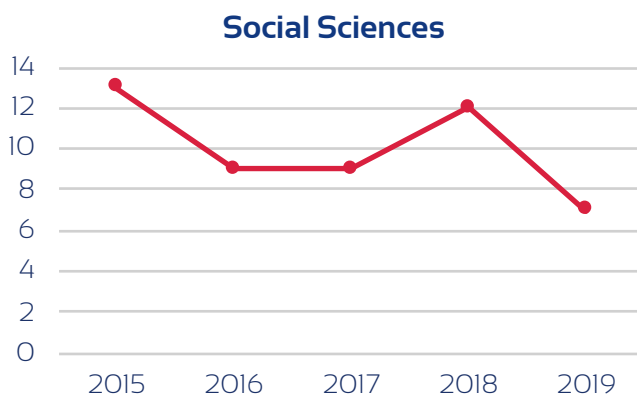
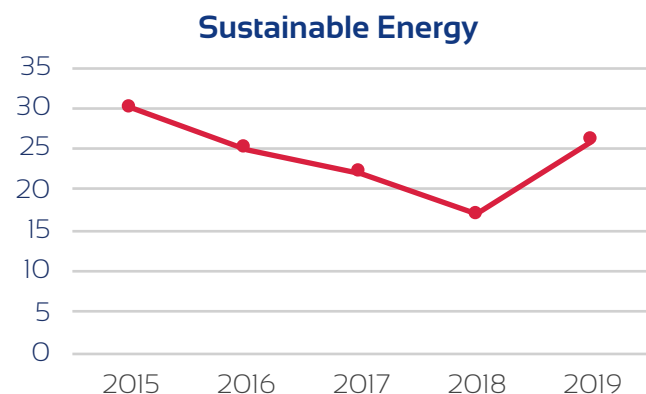
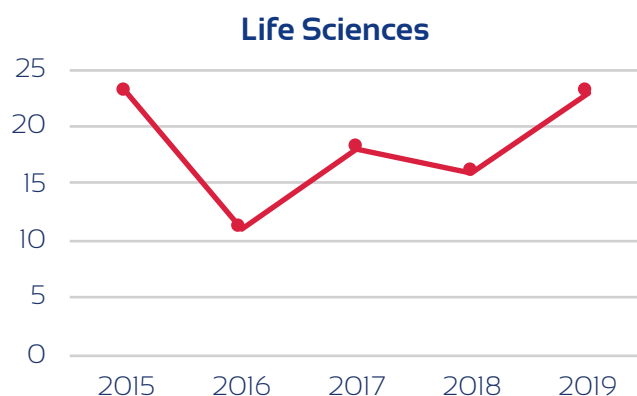
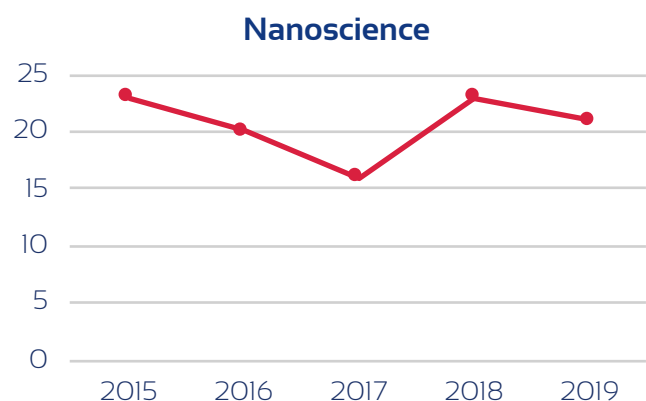
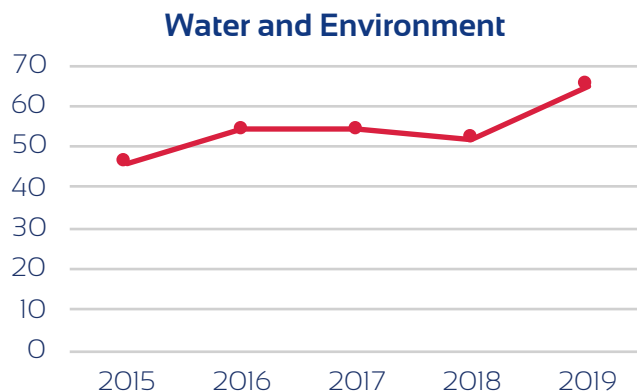
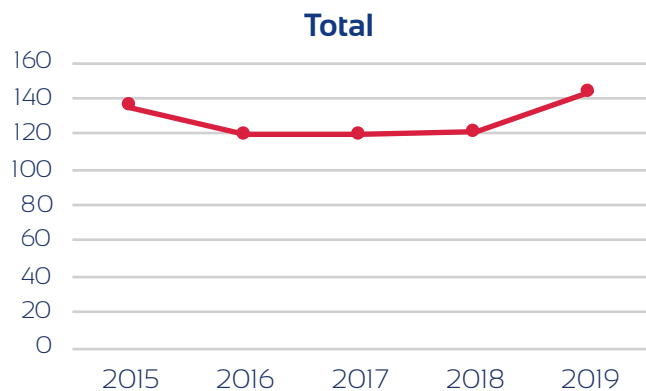
Intake of master's degree students Chemical and Biochemical Engineering



*In September 2018, the Master's degree programme was transferred from the University of Southern Denmark to the Technical University of Denmark

Publications

From 2015-2019, SDC faculty registered 637 scientific publications.



2019 Publications

The list of publications is compiled based on searches in Web of Science, Scopus and the Danish National Research Database. Only publications registered with affiliation to Sino-Danish Center for Education and Research are included.

Water and Environment

Ai, Jing; Yin, Weizhao; Hansen, Hans Christian B. / Fast Dechlorination of Chlorinated Ethylenes by Green Rust in the Presence of Bone Char. *Environ. Sci. Technol. Lett.* 6, no. 3, March 2019, pp. 191-196

Borno, Marie Louise; Muller-Stover, Dorette Sophie; Liu, Fulai; / Biochar properties and soil type drive the uptake of macro- and micronutrients in maize (*Zea mays* L.). Biochar properties and soil type drive the uptake of macro- and micronutrients in maize (*Zea mays* L.), Volume 182, no. 2, April 2019

Cao, Yu; Zhi, Yongwei; Jeppesen, Erik; Li, Wei / Species-Specific Responses of Submerged Macrophytes to Simulated Extreme Precipitation: A Mesocosm Study. *WATER*, Volume 11, no. 6, June 2019

Chen, Dong; Gao, Yingxin; Sun, Dejun; Li, Yujiang; Li, Feng; Yang, Min / Changes of flooding reagents' properties under simulated high temperature/pressure conditions in oil reservoirs and their impact on emulsion stability. *RSC Adv.*, Volume 9, no. 28, May 2019, pp. 16044-16048

Chen, Shan; Zhang, Wei; Zhang, Jiahui; Jeppesen, Erik; Liu, Zhaoying; Kociolek, J. Patrick; Xu, Xiaoying; Wang, Liqing / Local habitat heterogeneity determines the differences in benthic diatom metacommunities between different urban river types. *Sci. Total Environ.*, Volume 669, June 2019, pp. 711-720

Chou, Qingchuan; Cao, Te; Ni, Leyi; Xie, Ping; Jeppesen, Erik / Leaf Soluble Carbohydrates, Free Amino Acids, Starch, Total Phenolics, Carbon and Nitrogen Stoichiometry of 24 Aquatic Macrophyte Species Along Climate Gradients in China. *Front. Plant Sci.*, Volume 10, April 2019, pp. 1-11

Christensen, Cecilie S. L.; Rasmussen, Søren K. / Low Lignin Mutants and Reduction of Lignin Content in Grasses for Increased Utilisation of Lignocellulose. *AGRONOMY-BASEL*, Volume 9, no.5, May 2019

Clemente, Juan M.; Boll, Thomas; Teixeira-de Mello, Franco; Iglesias, Carlos; Pedersen, Asger Roer; Jeppesen, Erik; Meerhoff, Mariana / Role of plant architecture on littoral macroinvertebrates in temperate and subtropical shallow lakes: a comparative manipulative field experiment. *LIMNETICA*, Volume 38, no. 2, 2019, pp. 759-772

Deichmann, Majken M.; Andersen, Mathias N.; Thomsen, Ingrid K.; Børgesen, Christen D. / Impacts of controlled drainage during winter on the physiology and yield of winter wheat in Denmark. *Agric. Water Manag.*, Volume 216, May 2019, pp. 118-126

Deng, Jianming; Salmaso, Nico; Jeppesen, Erik; Qin, Boqiang; Zhang, Yunlin / The relative importance of weather and nutrients determining phytoplankton assemblages differs between seasons in large Lake Taihu. *China. Aquat. Sci.*, Volume 81, no. 3, July 2019, p. 48

Fu, Hui; Yuan, Guixiang; Jeppesen, Erik; Ge, Dabing; Li, Wei; Zou, Dongsheng; Huang, Zhenrong; Wu, Aiping; Liu,

Qiaolin / Local and regional drivers of turnover and nestedness components of species and functional beta diversity in lake macrophyte communities in China. *Sci. Total Environ.*, Volume 687, October 2019, pp. 206-217

Gurmesa, Geshe Abdisa; Lu, Xiankai; Gundersen, Per; Mao, Qinggong; Fang, Yunting; Mo, Jiangming / Species Differences in Nitrogen Acquisition in Humid Subtropical Forest Inferred From ^{15}N Natural Abundance and Its Response to Tracer Addition. *Forests*, Volume 10, no. 11, November 2019, p. 991

He, Chaohui; Manevski, Kiril; Andersen, Mathias Neumann; Hu, Chunsheng; Dong, Wenxu; Li, Jiazhen / Abiotic mechanisms for biochar effects on soil N_2O emission. *Int. AGROPHYSICS*, Volume 33, no. 4, 2019, pp. 537-546

He, Hu; Han, Yanqing; Li, Qisheng; Jeppesen, Erik; Li, Kuanyi; Yu, Jinlei; Liu, Zhengwen / Crucian Carp (*Carassius carassius*) Strongly Affect C/N/P Stoichiometry of Suspended Particulate Matter in Shallow Warm Water Eutrophic Lakes. *Water*, Volume 11, no. 3, March 2019, p. 524

Huang, Lijuan; Hansen, Hans Chr Bruun; Wang, Huihui; Mu, Jing; Xie, Zijian; Zheng, Lifang; Hu, Zhengyi / Effects of sulfate on cadmium uptake in wheat grown in paddy soil - pot experiment. *PLANT SOIL Environ.*, Volume 65, no. 12, 2019, pp. 602-608

Huang, Liangliang; Huang, Jian; Wu, Zhiqiang; Mo, Yuanmin; Zou, Qi; Jeppesen, Erik; Wu, Naicheng / Beta Diversity Partitioning and Drivers of Variations in Fish Assemblages in a Headwater Stream: Lijiang River, China. *Water*, Volume 11, no. 4, April 2019, p. 680

Hvid, Mathias S.; Jeppesen, Henrik S.; Miola, Matteo; Lamagni, Paolo; Su, Ren; Jensen, Kirsten M. O.; Lock, Nina / Structural changes during water-mediated amorphization of semiconducting two-dimensional thiostannates. *IUCRJ*, Volume 6, no. 5, September 2019, pp. 804-814

Li, Congcong; Li, Hongjun; Li, Jiazhen; Lei, Yuping; Li, Chunqiang; Manevski, Kiril; Shen, Yanjun / Using NDVI percentiles to monitor real-time crop growth. *Comput. Electron. Agric.*, Volume 162, July 2019, pp. 357-363

Li, Jiaqi; Liu, Wenzong; Ren, Ruiyun; Xu, Dechun; Liu, Chengyan; Wang, Bo; Wang, Aijie / Weakened adhesion force between extracellular polymeric substances of waste activated sludge caused by rhamnolipid leading to more efficient carbon release. *Sci. Total Environ.*, Volume 692, November 2019, pp. 892--902

Li, Meng; Hu, Hualing; He, Xiaosong; Jia, Jinhu; Drosos, Marios; Wang, Guoxi; Liu, Fulai; Hu, Zhengyi; Xi, Beidou / Organic Carbon Sequestration in Soil Humic Substances As Affected by Application of Different Nitrogen Fertilizers in a Vegetable-Rotation Cropping System. *J. Agric. Food Chem.*, Volume 67, no. 11, March 2019, pp. 3106-3113

Lie, Wei; An, Wei; Jeppesen, Erik; Ma, Jinfeng; Yang, Min; Trolle, Dennis / Modelling the fate and transport of *Cryptosporidium*, a zoonotic and waterborne pathogen, in the Daning River watershed of the Three Gorges Reservoir Region, China. *J. Environ. Manage.*, Volume 232, February 2019, pp. 462-474

Liu, Chen; Zhang, Meiyi; Pan, Gang; Lundehøj, Laura; Nielsen, Ulla Gro; Shi, Yi; Hansen, Hans Christian Bruun / Phosphate capture by ultrathin MgAl layered double hydroxide nanoparticles. *Appl. Clay Sci.*, Volume 177, September 2019, pp. 82-90

Liu, Li; Fryd, Ole; Zhang, Shuhan / Blue-Green Infrastructure for Sustainable Urban Stormwater Management - Lessons from Six Municipality-Led Pilot Projects in Beijing and Copenhagen. *Water*, Volume 11, no. 10, September 2019, p. 2024

Liu, Qiance; Cao, Zhi; Liu, Xiaojie; Liu, Litao; Dai, Tao; Han, Ji; Duan, Huabo; Wang, Chang; Wang, Heming; Liu, Jun; Cai, Guotian; Mao, Ruichang; Wang, Gaoshang; Tan, Juan; Li, Shenggong; Liu, Gang / Product and Metal Stocks

Accumulation of China's Megacities: Patterns, Drivers, and Implications. *Environ. Sci. Technol.*, Volume 53, no. 8, April 2019, pp. 4128-4139

Liu, Qi; Liu, Benjuan; Zhang, Yanhui; Hu, Tianlong; Lin, Zhibin; Liu, Gang; Wang, Xiaojie; Ma, Jing; Wang, Hui; Jin, Haiyang; Ambus, Per; Amonette, James E.; Xie, Zubin / Biochar application as a tool to decrease soil nitrogen losses (NH₃ volatilization, N₂O emissions, and N leaching) from croplands: Options and mitigation strength in a global perspective. *Glob. Chang. Biol.*, Volume 25, no. 6, June 2019, pp. 2077-2093

Liu, W.; An, W.; Jeppesen, E.; Ma, J.; Yang, M.; Trolle, D. / Modelling the fate and transport of *Cryptosporidium*, a zoonotic and waterborne pathogen, in the Daning River watershed of the Three Gorges Reservoir Region, China. *J. Environ. Manage.*, Volume 232, 2019, pp. 462–474

Makepeace, Joshua W.; He, Teng; Weidenthaler, Claudia; Jensen, Torben R.; Chang, Fei; Vegge, Tejs; Ngene, Peter; Kojima, Yoshitsugu; de Jongh, Petra E.; Chen, Ping; David, William I. F. / Reversible ammonia-based and liquid organic hydrogen carriers for high-density hydrogen storage: Recent progress. *Int. J. Hydrogen Energy*, Volume 44, no. 15, March 2019, pp. 7746-776

Manevski, K.; Børgesen, C. D.; Li, X.; Andersen, M. N.; Zhang, X.; Shen, Y.; Hu, C. / Modelling agro-environmental variables under data availability limitations and scenario managements in an alluvial region of the North China Plain. *Environ. Model. Softw.*, Volume 111, 2019, pp. 94-107

Martinsen, Grith; Liu, Suxia; Mo, Xingguo; Bauer-Gottwein, Peter / Optimizing water resources allocation in the Haihe River basin under groundwater sustainability constraints. *J. Geogr. Sci.*, Volume 29, no. 6, June 2019, pp. 935-958

Martinsen, Grith; Liu, S.; Mo, X.; Bauer-Gottwein, P. / Joint optimization of water allocation and water quality management in Haihe River basin. *Sci. Total Environ.*, Volume 654, 2019, pp. 72--84

Menezes, R. F.; Attayde, J. L.; Kosten, S.; Lacerot, G.; e Souza, L. C.; Costa, L. S.; da S. L. Sternberg, L.; dos Santos, A. C.; de Medeiros Rodrigues, M.; Jeppesen, E. / Differences in food webs and trophic states of Brazilian tropical humid and semi-arid shallow lakes: implications of climate change. *Hydrobiologia*, Volume 829, no. 1, 2019, pp. 95-111

Moro, M. A.; Andersen, M. M.; Smets, B. F.; McKnight, U. S. / National innovative capacity in the water sector: A comparison between China and Europe. *J. Clean. Prod.*, Volume 210, 2019, pp. 325--342

Mu, Jing; Hu, Zhengyi; Huang, Lijuan; Tang, Sichen; Holm, Peter E. / Influence of alkaline silicon-based amendment and incorporated with biochar on the growth and heavy metal translocation and accumulation of vetiver grass (*Vetiveria zizanioides*) grown in multi-metal-contaminated soils. *J. SOILS SEDIMENTS*, Volume 19, no. 5, May 2019, pp. 2277--2289

Mu, Jing; Hu, Zhengyi; Xie, Zijian; Huang, Lijuan; Holm, Peter E. / Influence of CaO-activated silicon-based slag amendment on the growth and heavy metal uptake of vetiver grass (*Vetiveria zizanioides*) grown in multi-metal-contaminated soils. *Environ. Sci. Pollut. Res.*, Volume 26, no. 31, November 2019, pp. 32243--32254

Nuchel, Jonas; Bocher, Peder Klith; Svenning, Jens-Christian / Topographic slope steepness and anthropogenic pressure interact to shape the distribution of tree cover in China. *Appl. Geogr.*, Volume 103, February 2019, pp. 40--55

Pan, Gang; Miao, Xiaojun; Bi, Lei; Zhang, Honggang; Wang, Lei; Wang, Lijing; Wang, Zhibin; Chen, Jun; Ali, Jafar; Pan, Minmin; Zhang, Jing; Yue, Bin; Lyu, Tao / Modified Local Soil (MLS) Technology for Harmful Algal Bloom Control, Sediment Remediation, and Ecological Restoration. *Water*, Volume 11, no. 6, May 2019, p. 1123

Qin, Boqiang; Paerl, Hans W.; Brookes, Justin D.; Liu, Jianguo; Jeppesen, Erik; Zhu, Guangwei; Zhang, Yunlin; Xu, Hai;

Shi, Kun; Deng, Jianming / Why Lake Taihu continues to be plagued with cyanobacterial blooms through 10 years (2007-2017) efforts. *Sci. Bull.*, Volume 64, no. 6, March 2019, pp. 354-356

Randall, Mark; Fensholt, Rasmus; Zhang, Yongyong; Bergen Jensen, Marina / Geographic Object Based Image Analysis of WorldView-3 Imagery for Urban Hydrologic Modelling at the Catchment Scale. *Water*, Volume 11, no. 6, May 2019, p. 1133

Randall, Mark; Sun, Fubao; Zhang, Yongyong; Jensen, Marina Bergen / Evaluating Sponge City volume capture ratio at the catchment scale using SWMM. *J. Environ. Manage.*, Volume 246, September 2019, pp. 745--757

Rashid, Muhammad Adil; Jabloun, Mohamed; Andersen, Mathias Neumann; Zhang, Xiyang; Olesen, Jorgen Eivind / Climate change is expected to increase yield and water use efficiency of wheat in the North China Plain. *Agric. WATER Manag.*, Volume 222, August 2019, pp. 193-203

Rashid, M. A.; Zhang, X.; Andersen, M. N.; Olesen, J. E / Can mulching of maize straw complement deficit irrigation to improve water use efficiency and productivity of winter wheat in North China Plain? *Agric. Water Manag.*, Volume 213, 2019, pp. 1-11

Ravn, Henrik Dalby; Lauridsen, Torben Linding; Jepsen, Niels; Jeppesen, Erik; Hansen, Peter Gruth; Hansen, Johan Gruth; Berg, Soren / A comparative study of three different methods for assessing fish communities in a small eutrophic lake. *Ecol. Freshw. Fish*, Volume 28, no. 2, April 2019, pp. 341-352

Scharfenberger, U.; Jeppesen, E.; Beklioglu, M.; Søndergaard, M.; Angeler, D. G.; Cakiroglu, A. I.; Drakare, S.; Hejzlar, J.; Mahdy, A.; Papastergiadou, E.; Sorf, M.; Stefanidis, K.; Tuvikene, A.; Zingel, P.; Adrian, R. / Effects of trophic status, water level, and temperature on shallow lake metabolism and metabolic balance: A standardized pan-European mesocosm experiment. *Limnol. Oceanogr.*, Volume 64, no. 2, 2019, pp. 616-631

Shajib, Md Tariqul Islam; Hansen, Hans Christian Bruun; Liang, Tao; Holm, Peter E. / Metals in surface specific urban runoff in Beijing. *Environ. Pollut.*, Volume 248, May 2019, pp. 584-598

Stolze, Lucien; Zhang, Di; Guo, Huaming; Rolle, Massimo / Surface complexation modeling of arsenic mobilization from goethite: Interpretation of an in-situ experiment. *Geochim. Cosmochim. Acta*, Volume 248, March 2019, pp. 274-288

Stolze, Lucien; Zhang, Di; Guo, Huaming; Rolle, Massimo / Model-Based Interpretation of Groundwater Arsenic Mobility during in Situ Reductive Transformation of Ferrihydrite. *Environ. Sci. Technol.*, Volume 53, no. 12, June 2019, pp. 6845-6854

Su, Du; Ben, Weiwei; Strobel, Bjarne W.; Qiang, Zhimin / Occurrence, source estimation and risk assessment of pharmaceuticals in the Chaobai River characterized by adjacent land use. *Sci. Total Environ*, November 2019, p. 134525

Sun, Xiaolei; Hu, Zhengyi; Li, Meng; Liu, Li; Xie, Zijian; Li, Songyan; Wang, Guoxi; Liu, Fulai / Optimization of pollutant reduction system for controlling agricultural non-point-source pollution based on grey relational analysis combined with analytic hierarchy process. *J. Environ. Manage.*, Volume 243, August 2019, pp. 370-380

Sun, Xiaolei; Li, Meng; Wang, Guoxi; Drosos, Marios; Liu, Fulai; Hu, Zhengyi / Response of phosphorus fractions to land-use change followed by long-term fertilization in a sub-alpine humid soil of Qinghai-Tibet plateau. *J. SOILS SEDIMENTS*, Volume 19, no. 3, March 2019, pp. 1109—1119

Tang, Daojian; Zhang, Guishui; Chen, Fengxia; Ma, Jiahai / Cocatalyst or substrate? Competitive Fenton transformation of cysteine and salicylic acid. *Environ. Sci. Res. Technol.*, Volume 5, no. 6, June 2019, pp. 1046-1053

Tang, Daojian; Zhang, Guishui; Wang, Ya; Chen, Fengxia; Ma, Jiahai / The reactivity and pathway of Fenton reactions driven by hydroxybenzoic acids: the effect of hydroxylation. *Environ. Sci. Res. Technol.*, Volume 5, no. 9, September 2019, pp. 1507-1514

Trolle, D.; Nielsen, A.; Andersen, H. E.; Thodsen, H.; Olesen, J. E.; Børgesen, C. D.; Refsgaard, J. C.; Sonnenborg, T. O.; Karlsson, I. B.; Christensen, J. P.; Markager, S.; Jeppesen, E. / Effects of changes in land use and climate on aquatic ecosystems: Coupling of models and decomposition of uncertainties. *Sci. Total Environ.*, Volume 657, 2019, pp. 627-633

Wang, Yuwan; Ma, Anzhou; Liu, Guohua; Ma, Jianpeng; Wei, Jing; Zhou, Hanchang; Brandt, Kristian Koefoed; Zhuang, Guoqiang / Potential feedback mediated by soil microbiome response to warming in a glacier forefield. *Glob. Chang. Biol.*, November 2019, pp. 697-708

Xu, Chao; Wang, Hai-Jun; Yu, Qing; Wang, Hong-Zhu; Liang, Xiao-Min; Liu, Miao; Jeppesen, Erik / Effects of Artificial LED Light on the Growth of Three Submerged Macrophyte Species during the Low-Growth Winter Season: Implications for Macrophyte Restoration in Small Eutrophic Lakes. *Water*, Volume 11, no. 7, July 2019, p. 1512

Xu, Jian-Xin; Li, Xiao-Ming; Sun, Guo-Xin; Cui, Li; Ding, Long-Jun; He, Chen; Li, Li-Guan; Shi, Quan; Smets, Barth F.; Zhu, Yong-Guan / Fate of Labile Organic Carbon in Paddy Soil Is Regulated by Microbial Ferric Iron Reduction. *Environ. Sci. Technol.*, Volume 53, no. 15, August 2019, pp. 8533-8542

Zhou, Ruimin; Jiang, Zhaoyan; Yang, Chen; Yu, Jianwei; Feng, Jirui; Adil, Muhammad Abdullah; Deng, Dan; Zou, Wenjun; Zhang, Jianqi; Lu, Kun; Ma, Wei; Gao, Feng; Wei, Zhixiang / All-small-molecule organic solar cells with over 14% efficiency by optimizing hierarchical morphologies. *Nat. Commun.*, Volume 10, no. 1, December 2019, p. 5393

Yu, Jinlei; He, Hu; Liu, Zhengwen; Jeppesen, Erik; Chen, Feizhou; Zhang, Yongdong / Carbon Transfer from Cyanobacteria to Pelagic and Benthic Consumers in a Subtropical Lake: Evidence from a ¹³C Labelling Experiment. *Water*, Volume 11, no. 8, July 2019, p. 1536

Zhang, Qinghui; Dong, Xuhui; Yang, Xiangdong; Odgaard, Bent Vad; Jeppesen, Erik / Hydrologic and anthropogenic influences on aquatic macrophyte development in a large, shallow lake in China. *Freshw. Biol.*, Volume 64, no. 4, April 2019, pp. 799-812

Zhang, W.; Zhou, Y.; Jeppesen, E.; Wang, L.; Tan, H.; Zhang, J. / Linking heterotrophic bacterioplankton community composition to the optical dynamics of dissolved organic matter in a large eutrophic Chinese lake. *Sci. Total Environ.*, Volume 679, 2019, pp. 136-147

Zhou, Lei; Zhou, Yongqiang; Hu, Yang; Cai, Jian; Liu, Xin; Bai, Chengrong; Tang, Xiangming; Zhang, Yunlin; Jang, Kyoung-Soon; Spencer, Robert G. M.; Jeppesen, Erik / Microbial production and consumption of dissolved organic matter in glacial ecosystems on the Tibetan Plateau. *WATER Res.*, Volume 160, September 2019, pp. 18-28

Zhou, Li-Jun; Han, Ping; Yu, Yaochun; Wang, Baozhan; Men, Yujie; Wagner, Michael; Wu, Qinglong L. / Cometabolic biotransformation and microbial-mediated abiotic transformation of sulfonamides by three ammonia oxidizers. *WATER Res.*, Volume 159, August 2019, pp. 444-453

Zhou, Yongqiang; Li, Yuan; Yao, Xiaolong; Ding, Wenhao; Zhang, Yibo; Jeppesen, Erik; Zhang, Yunlin; Podgorski, David C.; Chen, Chunmei; Ding, Yi; Wu, Huawu; Spencer, Robert G. M. / Response of chromophoric dissolved organic matter dynamics to tidal oscillations and anthropogenic disturbances in a large subtropical estuary. *Sci. Total Environ.*, Volume 662, April 2019, pp. 769-778

Zhou, Yongqiang; Ma, Jianrong; Zhang, Yunlin; Li, Jingbao; Feng, Lian; Zhang, Yibo; Shi, Kun; Brookes, Justin D.;

Jeppesen, Erik / Influence of the three Gorges Reservoir on the shrinkage of China's two largest freshwater lakes. Glob. Planet. Change, Volume 177, June 2019, pp. 45-55

Zhou, Yongqiang; Zhou, Lei; He, Xiaoting; Jang, Kyoung-Soon; Yao, Xiaolong; Hu, Yang; Zhang, Yunlin; Li, Xiangying; Spencer, Robert G. M.; Brookes, Justin D.; Jeppesen, Erik / Variability in Dissolved Organic Matter Composition and Biolability across Gradients of Glacial Coverage and Distance from Glacial Terminus on the Tibetan Plateau. Environ. Sci. Technol., Volume 53, no. 21, November 2019, pp. 12207-12217

Zhou, Yongqiang; Zhou, Lei; Zhang, Yunlin; Garcia de Souza, Javier; Podgorski, David C.; Spencer, Robert G. M.; Jeppesen, Erik; Davidson, Thomas A. / Autochthonous dissolved organic matter potentially fuels methane ebullition from experimental lakes. Water Res., Volume 166, December 2019, p. 115048

Zhu, Tingting; Cai, Weiwei; Wang, Bo; Liu, Wenzong; Feng, Kai; Deng, Ye; Wang, Aijie / Enhanced nitrate removal in an Fe-O-driven autotrophic denitrification system using hydrogen-rich water. Environ. Sci. Res. Technol., Volume 5, no. 8, August 2019, pp. 1380-1388

Sustainable Energy

Anicic, Bozidar; Lu, Bona; Lin, Weigang; Wu, Hao; Dam-Johansen, Kim; Wang, Wei / CFD Simulation of Mixing and Segregation of Binary Solid Mixtures in a Dense Fluidized Bed. Can. J. Chem. Eng., Volume 98, no. 1, 2019, pp. 412-420

Basit, Abdul; Ahmad, Tanvir; Ali, Asfand Yar; Ullah, Kaleem; Mufti, Gussan; Hansen, Anca Daniela / Flexible Modern Power System: Real-Time Power Balancing through Load and Wind Power. ENERGIES, Volume 12, no. 9, May 2019

Chen, Weichao; Huang, Gongyue; Li, Xiaoming; Li, Yonghai; Wang, Huan; Jiang, Huanxiang; Zhao, Zhihui; Yu, Donghong; Wang, Ergang; Yang, Renqiang / Revealing the Position Effect of an Alkylthio Side Chain in Phenyl-Substituted Benzodithiophene-Based Donor Polymers on the Photovoltaic Performance of Non-Fullerene Organic Solar Cells. ACS Appl. Mater. Interfaces, Volume 11, no. 36, September 2019 pp. 33173-33178

Dang, Dongfeng; Yu, Donghong; Wang, Ergang / Conjugated Donor-Acceptor Terpolymers Toward High-Efficiency Polymer Solar Cells. Adv. Mater., Volume 31, no. 22, 2019, p. 1807019

Englmair, Gerald; Moser, Christoph; Schranzhofer, Hermann; Fan, Jianhua; Furbo, Simon / A solar combi-system utilizing stable supercooling of sodium acetate trihydrate for heat storage: Numerical performance investigation. Appl. Energy, Volume 242, May 2019, pp. 1108-1120

Fang, Xiaowei; Wang, Ze; Song, Wenli; Li, Songgeng; Lin, Weigang / Preparation of furans from catalytic conversion of corn stover in H₂O-THF co-solvent system – The effects of acids combined with alkali metal cations. J. Taiwan Inst. Chem. Eng., Volume 97, 2019, pp. 105-111

Fang, Zhengjun; Wu, Feng; Lin, Liangwei; Qin, Qiwen; Au, Chaktong; Tao, Qiang; Li, Xitian; Yu, Donghong; Yi, Bing / Effects of sulfonation on bis-styrylbiphenyl fluorescent whitening agents for polypropylene. J. Appl. Polym. Sci., Volume 136, no. 23, June 2019, p. 47635

Friis, Jakob Ege; Subbiahdoss, Guruprakash; Gerved, Gorm; Holm, Allan Hjarbæk; Santos, Olga; Blichfeld, Anders Bank; Moghaddam, Saeed Zajforoushan; Thormann, Esben; Daasbjerg, Kim; Iruthayaraj, Joseph; Meyer, Rikke Louise / Evaluation of Surface-initiated Polymer brush as Anti-scaling Coating for Plate Heat Exchangers. Prog. Org. Coatings, Volume 136, November 2019, p. 105196

Han, Liangliang; Uranbileg, Nergui; Jiang, Shengshi; Xie, Yu; Jiang, Huanxiang; Lan, Zhenggang; Yu, Donghong; Bao, Xichang; Yang, Renqiang / An extraordinary cyclohexylmethyl side chain dominating polymeric donor packing patterns and energy levels for efficient non-fullerene polymer solar cells. *J. Mater. Chem. A*, Volume 7, no. 17, May 2019, pp. 10505-10513

Hu, Cunliang; Lv, Tongxin; Li, Jingqing; Huang, Shaoyong; Li, Hongfei; Chen, Jizhong; Yu, Donghong; Christiansen, Jesper de Claville; Jiang, Shichun; An, Lijia / Conformational Energy Settled Crystallization Behaviors of Poly(L-lactic acid). *ACS Appl. Polym. Mater.*, Volume 1, no. 9, September 2019, pp. 2552-2560

Li, Fengchao; Sun, Zongheng; Zhou, Yurong; Wang, Qi; Zhang, Qunfang; Dong, Gangqiang; Liu, Fengzhen; Fan, Zhenjun; Liu, Zhenghao; Cai, Zhengxiong; Zhou, Yuqin; Yu, Donghong / Lithography-free and dopant-free back-contact silicon heterojunction solar cells with solution-processed TiO₂ as the efficient electron selective layer. *Sol. Energy Mater. Sol. Cells*, Volume 203, December 2019, p. 110196

Liu, Ming; Zhou, Yurong; Dong, Gangqiang; Wang, Wenjing; Wang, Jiaou; Liu, Chen; Liu, Fengzhen; Yu, Donghong / SnO₂/Mg combination electron selective transport layer for Si heterojunction solar cells. *Sol. Energy Mater. Sol. Cells*, Volume 200, September 2019, p. 109996

Liu, X.; Naulin, V.; Xu, J. C.; Deng, G. Z.; Rasmussen, J. J.; Liu, J. B.; Nielsen, A. H.; Goldston, R. J.; Maingi, R.; Liu, Y.; Xu, G. S.; Wang, L.; Li, J. / Erratum: Statistical study of particle flux footprint widths with tungsten divertor in EAST (2019 Plasma Phys. Control. Fusion 61 045001). *Plasma Phys. Control. Fusion*, Volume 61, no. 6, June 2019, p. 69601

Liu, X.; Nielsen, A. H.; Rasmussen, J. J.; Naulin, V.; Olsen, J.; Xia, T. Y.; Wang, L.; Deng, G. Z.; Wu, X. Q.; Liu, Y.; Wang, Y. M.; Li, Y. Y.; Zang, Q.; Xu, G. S.; Li, J. / Study of power width scaling in scrape-off layer with 2D electrostatic turbulence code based on EAST L-mode discharges. *Phys. Plasmas*, Volume 26, no. 4, April 2019, p. 42509

Mancini, Enrico; Mansouri, Seyed Soheil; Gernaey, Krist V.; Luo, Jianquan; Pinelo, Manuel / From second generation feed-stocks to innovative fermentation and downstream techniques for succinic acid production. *Crit. Rev. Environ. Sci. Technol.*, October 2019, pp. 1--45

Nakhaei, Mohammadhadi; Wu, Hao; Grévin, Damien; Jensen, Lars Skaarup; Glarborg, Peter; Dam-Johansen, Kim / CPFD simulation of petcoke and SRF co-firing in a full-scale cement calciner. *Fuel Process. Technol.*, Volume 196, December 2019, p. 106153

Pedersen, Jan Ole; Hanson, Christian G.; Xue, Rong; Hanson, Lars G. / Inductive measurement and encoding of k-space trajectories in MR raw data. *Magn. Reson. Mater. Phys. Biol. Med.*, Volume 32, no. 6, December 2019, pp. 655-667

Tao, Qiang; Fu, Yafen; Liu, Qian; Zhou, E.; Yan, Dong; Fang, Zhengjun; Liao, Yunfeng; Huang, Xianwei; Deng, Jiyong; Yu, Donghong / The side chain effects on TPD-based copolymers: the linear chain leads to a higher j(sc). *J. Macromol. Sci. PART A-PURE Appl. Chem.*, Volume 56, no. 10, October 2019, pp. 926-932

Ulusoy, Burak; Lin, Weigang; Karlstrom, Oskar; Li, Songgeng; Song, Wenli; Glarborg, Peter; Dam-Johansen, Kim; Wu, Hao / Formation of NO and N₂O during Raw and Demineralized Biomass Char Combustion. *ENERGY & FUELS*, Volume 33, no. 6, June 2019, pp. 5304-5315

Ulusoy, Burak; Wu, Hao; Lin, Weigang; Karlstrom, Oskar; Li, Songgeng; Song, Wenli; Glarborg, Peter; Dam-Johansen, Kim / Reactivity of sewage sludge, RDF, and straw chars towards NO. *FUEL*, Volume 236, January 2019, pp. 297-305

Wang, Jiawei; You, Shi; Zong, Yi; Traeholt, Chresten; Zhou, You; Mu, Shujun / Optimal dispatch of combined heat and

power plant in integrated energy system: A state of the art review and case study of Copenhagen. INNOVATIVE SOLUTIONS FOR ENERGY TRANSITIONS, Volume 158, 2019, pp. 2794--2799

Wang, Xunchang; Han, Jianhua; Jiang, Huanxiang; Liu, Zhilin; Li, Yonghai; Yang, Chunming; Yu, Donghong; Bao, Xichang; Yang, Renqiang / Regulation of Molecular Packing and Blend Morphology by Finely Tuning Molecular Conformation for High-Performance Nonfullerene Polymer Solar Cells. ACS Appl. Mater. Interfaces, Volume 11, no. 47, November 2019, pp. 44501-44512

Yuan, Bo; Wang, Ze; Song, Wenli; Li, Songgeng / Two-step etherification of phenolic-oil with methanol under catalysis of alumina-supported metal salts. NEW J. Chem., Volume 43, no. 21, June 2019, pp. 8250-8259

Zong, Yi; Su, Wenjing; Wang, Jiawei; Rodek, Jakub Krzysztof; Jiang, Chuhao; Christensen, Morten Herget; You, Shi; Zhou, You; Mu, Shujun / Predictive Control for Smart Buildings to Provide the Demand Side Flexibility in the Multi-Carrier Energy Context: Current Status, Pros and Cons, Feasibility and Barriers. INNOVATIVE SOLUTIONS FOR ENERGY TRANSITIONS, Volume 158, 2019, pp. 3026-3031

Zou, Yanfen; Lu, Yuhai; Cheng, Yang / The impact of polycentric development on regional gap of energy efficiency: A Chinese provincial perspective. J. Clean. Prod., Volume 224, July 2019, pp. 838-851

Social Sciences

Arnoldi, Jakob; Muratova, Yulia / Unrelated acquisitions in China: The role of political ownership and political connections. ASIA PACIFIC J. Manag., Volume 36, no. 1, March 2019, pp. 113-134

Gao, J.; Schøtt, T.; Sun, X.; Liu, Y. / Heterogeneous Effects of Business Collaboration on Innovation in Small Enterprises: China Compared to Brazil, Indonesia, Nigeria, and Thailand. Emerg. Mark. Financ. Trade, Volume 55, no. 4, 2019, pp. 795-808

Hansen, Birte / The digital revolution - Digital entrepreneurship and transformation in Beijing. Small Enterp. Res., Volume 26, No. 1, January 2019, pp. 36-54

Li, Yao; Cheng, Yang; Hu, Qing; Zhou, Shenghan; Ma, Lei; Lim, Ming K. / The influence of additive manufacturing on the configuration of make-to-order spare parts supply chain under heterogeneous demand. Int. J. Prod. Res., Volume 57, no. 11, June 2019, pp. 3622-3641

Liu, Ye; Schott, Thomas; Zhang, Chuqing / Women's experiences of legitimacy, satisfaction and commitment as entrepreneurs: embedded in gender hierarchy and networks in private and business spheres. Entrep. Reg. Dev., Volume 31, no. 4, March 2019, SI, pp. 293-307

Wu, Yanxia; Jia, Guozhu; Cheng, Yang / Cloud manufacturing service composition and optimal selection with sustainability considerations: a multi-objective integer bi-level multi-follower programming approach. Int. J. Prod. Res., September 2019, pp. 1--19

Zapata-Barrero, Ricard; Rezaei, Shahamak / Diaspora governance and transnational entrepreneurship: the rise of an emerging social global pattern in migration studies. J. Ethn. Migr. Stud., February 2019, pp. 1-15

Nanoscience

Bacci, Giorgio; Bacci, Giovanni; Larsen, Kim G.; Mardare, Radu / Converging from branching to linear metrics on Markov chains. *Math. Struct. Comput. Sci.*, Volume 29, no. 1, January 2019 pp. 3-37

Cui, Haiying; Chen, Xiaochen; Bai, Mei; Han, Dong; Lin, Lin; Dong, Mingdong / Multipathway Antibacterial Mechanism of a Nanoparticle-Supported Artemisinin Promoted by Nitrogen Plasma Treatment. *ACS Appl. Mater. Interfaces*, Volume 11, no. 50, December 2019, pp. 47299-47310

Dai, Yitao; Ren, Pengju; Li, Yaru; Lv, Dongdong; Shen, Yanbin; Li, Yongwang; Niemantsverdriet, Hans; Besenbacher, Flemming; Xiang, Hongwei; Hao, Weichang; Lock, Nina; Wen, Xiaodong; Lewis, James P.; Su, Ren / Solid Base Bi₂₄O₃₁Br₁₀(OH) with Active Lattice Oxygen for the Efficient Photo-Oxidation of Primary Alcohols to Aldehydes, *Angew. CHEMIE-INTERNATIONAL Ed.*, Volume 58, no. 19, May 2019, pp. 6265-6270

Dalum, Sakse; Hedegard, Per / Theory of Chiral Induced Spin Selectivity. *NANO Lett.*, Volume 19, no. 8, August 2019, pp. 5253-5259

De Cock, Martine; Dowsley, Rafael; Horst, Caleb; Katti, Raj; Nascimento, Anderson C. A.; Poon, Wing-Sea; Truex, Stacey / Efficient and Private Scoring of Decision Trees, Support Vector Machines and Logistic Regression Models Based on Pre-Computation. *IEEE Trans. DEPENDABLE Secur. Comput.*, Volume 16, no. 2, 2019, pp. 217-230

Dehli, J.; Karlsson, C.; Bizelli-Silveira, C.; Jiang, Xingyu; Kraft, D.; Foss, M. / E-cadherin mediated cell-biomaterial interaction reduces migration of keratinocytes in-vitro. *Colloids Surfaces B Biointerfaces*, Volume 180, August 2019, pp. 326-333

Han, Xuexiang; Xu, Ying; Li, Yiye; Zhao, Xiao; Zhang, Yinlong; Min, Huan; Qi, Yingqiu; Anderson, Gregory J.; You, Linhao; Zhao, Yuliang; Nie, Guangjun / An Extendable Star-Like Nanoplatfrom for Functional and Anatomical Imaging-Guided Photothermal Oncotherapy. *ACS Nano*, Volume 13, No. 4, April 2019, pp. 4379-4391

He, Jing-Lin; Wang, Xing-Xing; Mei, Ting-Ting; Wu, Ling; Zeng, Ju-Lan; Wang, Jian-Hui; Wang, Jianxiu; Yu, Donghong; Cao, Zhong / DNA-templated copper nanoclusters obtained via TdT isothermal nucleic acid amplification for mercury(ii) assay. *Anal. METHODS*, Volume 11, no. 32, August 2019, pp. 4165-4172

Li, Ningning; Wen, Yao; Cheng, Ruiqing; Yin, Lei; Wang, Feng; Li, Jie; Shifa, Tofik Ahmed; Feng, Liping; Wang, Zhenxing; He, Jun / Strongly coupled van der Waals heterostructures for high-performance infrared phototransistor. *Appl. Phys. Lett.*, Volume 114, no. 10, March 2019, p. 103501

Li, Ningning; Zhang, Yu; Cheng, Ruiqing; Wang, Junjun; Li, Jie; Wang, Zhenxing; Sendeku, Marshet Getaye; Huang, Wenhao; Yao, Yuyu; Wen, Yao; He, Jun / Synthesis and Optoelectronic Applications of a Stable p-Type 2D Material: alpha-MnS. *ACS Nano*, Volume 13, no. 11, November 2019, pp. 12662-12670

Min, Huan; Qi, Yingqiu; Chen, Yanhuan; Zhang, Yinlong; Han, Xuexiang; Xu, Ying; Liu, Ying; Hu, Jianshe; Liu, Hiubiao; Li, Yiye; Nie, Guangjun / Synthesis and Imaging of Biocompatible Graphdiyne Quantum Dots. *ACS Appl. Mater. Interfaces*, Volume 11, no. 36, September 2019, pp. 32798-32807

Ramos-Docampo, Miguel A.; Fernandez-Medina, Marina; Taipaleenmaki, Essi; Hovorka, Ondrej; Salgueirino, Veronica; Stadler, Brigitte / Microswimmers with Heat Delivery Capacity for 3D Cell Spheroid Penetration. *ACS Nano*, Volume 13, no. 10, October 2019, pp. 12192-12205

Rix, Jens Broe; Hedegard, Per / Thermoelectric Driven Ring Currents in Single Molecules and Graphene Nanoribbons. *J.*

Wang, Junjun; Wang, Feng; Yin, Lei; Sendeku, Marshet Getaye; Zhang, Yu; Cheng, Ruiqing; Wang, Zhenxing; Li, Ningning; Huang, Wenhao; He, Jun / A unipolar nonvolatile resistive switching behavior in a layered transition metal oxide. *Nanoscale*, Volume 11, no. 43, November 2019, pp. 20497-20506

Wang, Yin; Wang, Zegao; Yang, Qian; Hua, An; Ma, Song; Zhang, Zhidong; Dong, Mingdong / Edge- oriented MoS₂ supported on nickel/ carbon core- shell nanospheres for enhanced hydrogen evolution reaction performance. *NEW J. Chem.*, Volume 43, no. 16, April 2019, pp. 6146—6152

Wang, Zhongping; Liu, Xiaoqing; Lu, Yan; Wang, Zegao; Bortolini, Christian; Chen, Menglin; Wei, Sheng; Li, Wei; Zhu, Junfa; Ju, Huanxin; Rosei, Federico; Dong, Mingdong; Wang, Li / Direct on-surface synthesis of gold-phthalocyanine via cyclization of cyano-groups with gold adatoms. *Mater. Chem. Front.*, Volume 3, no. 7, July 2019, pp. 1406-1410

Xiang, Zhichu; Yang, Xiaoliang; Jiang, Gexuan; Fan, Di; Geng, Lingling; Wang, Hao; Hu, Zhiyuan; Fang, Qiaojun / Design of a Simple and Practical Nanosystem Coordinates Tumor Targeting and Penetration for Improved Theranostics. *Adv. Ther.*, Volume 2, no. 2, February 2019, p. 1800107

Yang, Qian; Dong, Lichun; Su, Ren; Hu, Baoshan; Wang, Zegao; Jin, Yan; Wang, Yin; Besenbacher, Flemming; Dong, Mingdong / Nanostructured heterogeneous photo-catalysts for hydrogen production and water splitting: A comprehensive insight. *Appl. Mater. TODAY*, Volume 17, December 2019, pp. 159-182

Yang, Xiaoliang; Zhang, Yan; Lai, Wenjia; Xiang, Zhichu; Tu, Bin; Li, Dan; Nan, Xiaohui; Chen, Chunying; Hu, Zhiyuan; Fang, Qiaojun / Proteomic profiling of RAW264.7 macrophage cells exposed to graphene oxide: insights into acute cellular responses. *Nanotoxicology*, Volume 13, no. 1, January 2019, pp. 35-49

Zeuthen, Christina M.; Shahrokhtash, Ali; Sutherland, Duncan S. / Nanoparticle Adsorption on Antifouling Polymer Brushes. *LANGMUIR*, Volume 35, no. 46, November 2019, pp. 14879-14889

Zhao, Huiling; Yang, Qian; Wang, Zegao; Zhao, Hang; Liu, Bo; Chen, Qianming; Dong, Mingdong / Fabrication of 2D Hetero-Complexes With Nucleic-Acid-Base Adenine and Fatty-Acid Stearic Acid at Liquid/Solid Interface. *Front. Chem.*, Volume 7, July 2019

Life Sciences

Cai, Xin-lu; Weigl, Michael; Liu, Bing-hui; Cheung, Eric F. C.; Ding, Jin-hong; Chan, Raymond C. K. / Delay discounting and affective priming in individuals with negative schizotypy. *Schizophr. Res.*, Volume 210, August 2019, pp. 180-187

Christensen, Mikkel; Schiott, Birgit / Revealing a Dual Role of Ganglioside Lipids in the Aggregation of Membrane-Associated Islet Amyloid Polypeptide. *J. Membr. Biol.*, 252, 5-Apr, 343-356, 2019

Christensen, Mikkel H.; Schiott, Birgit / Membrane Interactions of IAPP. *Biophys. J.*, Volume 116, no. 3, 2019, p. 491a

Duan, Tainan; Liang, Ru-Ze; Pai, Yi-Fang; Wang, Kaili; Zhong, Cheng; Lu, Shirong; Yu, Donghong / Facile synthesis of bis-dicyanovinylidene-end-capped push-pull molecules as panchromatic absorbers. *Dye. Pigment.*, Volume 161, February 2019, pp. 227-232

Fernandes, Henrique M.; Cabral, Joana; van Hartevelt, Tim J.; Lord, Louis-David; Gleesborg, Carsten; Møller, Arne; Deco, Gustavo; Whybrow, Peter C.; Petrovic, Predrag; James, Anthony C.; Kringelbach, Morten L. / Disrupted brain structural connectivity in Pediatric Bipolar Disorder with psychosis. *Sci. Rep.*, Volume 9, no. 1, December 2019, p. 13638

Garcia, S.; Lauritsen, J.; Zhang, Z.; Dalgaard, M. D.; Nielsen, R. L.; Daugaard, G.; Gupta, R. / Prediction of nephrotoxicity associated with cisplatin-based chemotherapy in testicular cancer patients. *Eur. J. Hum. Genet.*, Volume 27, no. 2, October 2019, p. 1686

Han, Ping; Yu, Yaochun; Zhou, Lijun; Tian, Zhenyu; Li, Zhong; Hou, Lijun; Liu, Min; Wu, Qinglong; Wagner, Michael; Men, Yujie / Specific Micropollutant Biotransformation Pattern by the Comammox Bacterium *Nitrospira inopinata*, *Environ. Sci. Technol.*, Volume 53, no. 15, August 2019, pp. 8695-8705

Hasselholt, S.; Hahn, U.; Vedel Jensen, E. B.; Nyengaard, J. R. / Practical implementation of the planar and spatial rotator in a complex tissue: the brain. *J. Microsc.*, Volume 273, no. 1, 2019, pp. 26--35

Huang, Y.; Zheng, X.; Pilgaard, B.; Holck, J.; Muschiol, J.; Li, S.; Lange, L. / Identification and characterization of GH11 xylanase and GH43 xylosidase from the chytridiomycetous fungus, *Rhizophlyctis rosea*. *Appl. Microbiol. Biotechnol.*, Volume 103, no. 2, 2019, pp. 777--791

Jarvis, Kirsten Brunsvig; LeBlanc, Marissa; Tulstrup, Morten; Nielsen, Rikke Linnemann; Albertsen, Birgitte Klug; Gupta, Ramneek; Huttunen, Pasi; Jönsson, Ólafur Gisli; Rank, Cecilie Utke; Ranta, Susanna; Ruud, Ellen; Saks, Kadri; Trakymiene, Sonata Saulyte; Tuckuviene, Ruta; Schmiegelow, Kjeld / Candidate single nucleotide polymorphisms and thromboembolism in acute lymphoblastic leukemia – A NOPHO ALL2008 study. *Thromb. Res.*, Volume 184, December 2019, pp. 92-98

Lausen, Mads; Christiansen, Gunna; Poulsen, Thomas Bouet Guldbrk; Birkelund, Svend / Immunobiology of monocytes and macrophages during *Chlamydia trachomatis* infection. *MICROBES Infect.*, Volume 21, no. 2, March 2019, pp. 73-84

Li, Qi; Dai, Weine; Zhong, Yang; Wang, Lingxiao; Dai, Bibing; Liu, Xun / The Mediating Role of Coping Styles on Impulsivity, Behavioral Inhibition/Approach System, and Internet Addiction in Adolescents From a Gender Perspective. *Front. Psychol.*, Volume 10, October 2019

Li, Qi; Wang, Yong; Yang, Zhong; Dai, Weine; Zheng, Ya; Sun, Yuwei; Liu, Xun / Dysfunctional cognitive control and reward processing in adolescents with Internet gaming disorder. *Psychophysiology*, Volume 57, no. 2, February 2020

Liang, Yun-si; Yang, Han-xue; Ma, Yan-tao; Lui, Simon S. Y.; Cheung, Eric F. C.; Wang, Yi; Chan, Raymond C. K. / Validation and extension of the Questionnaire of Cognitive and Affective Empathy in the Chinese setting. *PSYCH J.*, Volume 8, no. 4, December 2019, pp. 439--448

Lin, Xiao-Xiao; Sun, Ya-Bin; Wang, Yu-Zheng; Fan, Lu; Wang, Xin; Wang, Ning; Luo, Fei; Wang, Jin-Yan / Ambiguity Processing Bias Induced by Depressed Mood Is Associated with Diminished Pleasantness. *Sci. Rep.*, Volume 9, no. 1, December 2019, p. 18726

Myhre, Christa Løth; Thygesen, Camilla; Villadsen, Birgitte; Vollerup, Jeanette; Ilkjær, Laura; Krohn, Katrine Tækker; Grebing, Manuela; Zhao, Shuainan; Khan, Asif Manzoor; Dissing-Olesen, Lasse; Jensen, Morten Skovgaard; Babcock, Alicia A.; Finsen, Bente / Microglia Express Insulin-Like Growth Factor-I in the Hippocampus of Aged APP^{swe}/PS1^{ΔE9} Transgenic Mice. *Front. Cell. Neurosci.*, Volume 13, July 2019

Roager, Henrik Munch; Vogt, Josef K.; Kristensen, Mette; Hansen, Lea Benedicte S.; Ibrugger, Sabine; Maerkedahl, Rasmus B.; Bahl, Martin Lain; Lind, Mads Vendelbo; Nielsen, Rikke L.; Frokiaer, Hanne; Gobel, Rikke Juul; Landberg, Rikard; Ross, Alastair B.; Brix, Susanne; Holck, Jesper; Meyer, Anne S.; Sparholt, Morten H.; Christensen, Anders F.; Carvalho, Vera; Hartmann, Bolette; Holst, Jens Juul; Rumessen, Juri Johannes; Linneberg, Allan; Sicheritz-Ponten,

Thomas; Dalgaard, Marlene D.; Blennow, Andreas; Frandsen, Henrik Lauritz; Villas-Boas, Silas; Kristiansen, Karsten; Vestergaard, Henrik; Hansen, Torben; Ekstrom, Claus T.; Ritz, Christian; Nielsen, Henrik Bjorn; Pedersen, Oluf Borbye; Gupta, Ramneek; Lauritzen, Lotte; Licht, Tine Rask / Whole grain-rich diet reduces body weight and systemic low-grade inflammation without inducing major changes of the gut microbiome: a randomised cross-over trial. *Gut*, Volume 68, no. 1, January 2019, pp. 83-93

Wang, Yong-ming; Cai, Xin-lu; Zhang, Rui-ting; Wang, Yi; Madsen, Kristoffer Hougaard; Sorensen, Thomas Alrik; Moller, Arne; Cheung, Eric F. C.; Chan, Raymond C. K. / Searchlight classification based on Amplitude of Low Frequency Fluctuation and functional connectivity in individuals with obsessive-compulsive symptoms. *Cogn. Neuropsychiatry*, Volume 24, no. 5, September 2019, pp. 322-334

Wang, Y.-M.; Zou, L.-Q.; Xie, W.-L.; Yang, Z.-Y.; Zhu, X.-Z.; Cheung, E. F. C.; Sørensen, T. A.; Møller, A.; Chan, R. C. K. / Altered Functional Connectivity of the Default Mode Network in Patients With Schizo-obsessive Comorbidity: A Comparison Between Schizophrenia and Obsessive-compulsive Disorder. *Schizophr. Bull.*, Volume 45, no. 1, 2019, pp. 199-210

Wu, Xiaoxi; Lv, Lei; Hu, Lifang; Shi, Qinqin; Peng, Aidong; Huang, Hui / The Synthesis and Optoelectronic Applications for Tellurophene-Based Small Molecules and Polymers. *CHEMPHYSCHEM*, Volume 20, no. 20, October 2019, pp. 2600-2607

Y. Larsen, N.; Ziegel, J. F.; Nyengaard, J. R.; Jensen, Eva B. Vedel; Larsen, Nick Y.; Ziegel, Hanna F.; Nyengaard, Ens R.; Jensen, Eva B. Vedel / Stereological estimation of particle shape from vertical sections. *J. Microsc.*, Volume 275, no. 3, September 2019, pp. 183-194

Zhang, Rui-ting; Wang, Yi; Yang, Zhuo-ya; Li, Ying; Wang, Yong-ming; Cheung, Eric F. C.; Shum, David H. K.; Yang, Tian-Xiao; Barkus, Emma J.; Chan, Raymond C. K. / Network structure of anticipatory pleasure and risk features: Evidence from a large college sample. *PsyCh J.*, December 2019, pp. 331

Zhang, Rui-ting; Zhou, Han-yu; Wang, Yong-ming; Yang, Zhuo-ya; Wang, Yi; So, Suzanne H.; Chiu, Chui-de; Leung, Patrick W. L.; Cheung, Eric F. C.; Chan, Raymond C. K. / Network analysis of schizotypal personality traits and their association with other subclinical psychiatric features. *Asian J. Psychiatr.*, Volume 44, August 2019, pp. 209-216

Food and Health

Duerlund, Mette; Andersen, Barbara Vad; Grønbeck, Marlene Schou; Byrne, Derek Victor / Consumer reflections on post-ingestive sensations. A qualitative approach by means of focus group interviews. *Appetite*, Volume 142, November 2019, p. 104350

The Danish Board of SDC

The annual report was approved by the Danish Board of SDC in April 2020.



Chairman, Philip John Binning
Senior Vice President, Technical
University of Denmark



Vice Chairman, Lars Bo Nielsen
Dean of Health,
Aarhus University



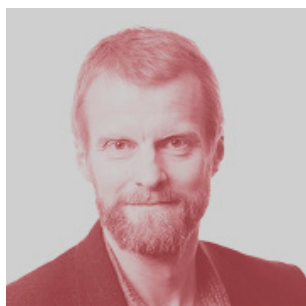
John Renner Hansen
Special Advisor to the Rector,
University of Copenhagen



Georg Dam Steffensen
University Director,
IT University of Copenhagen



Rasmus Antoft
Dean,
Faculty of Social Sciences,
Aalborg University



Peter Kjær
Prorector,
Roskilde University



Dana Minbaeva
Vice-President for International
Affairs,
Copenhagen Business School



Bjarne Graabech Sørensen
Pro-Vice-Chancellor,
University of Southern
Denmark

