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"YOU ARE SO MUCH MORE THAN YOUR PURELY ACADEMIC SKILLS"



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"THERE'S NO WAY I WOULD HAVE STOLEN OUR OWN IDEA"

"WE'VE HAD A CRAZY AMOUNT OF SUCCESS, AND IT'S INCREDIBLE THAT THE COMPANIES HAVE ATTRACTED ALMOST DKK 1 BILLION IN INVESTMENT"

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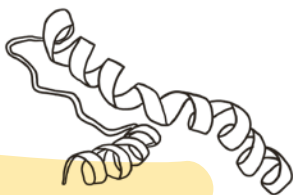
Why collaborate with Aarhus University? Because collaboration pays off. And because, together, we can find solutions to society's challenges. At Aarhus University, we want to work with you to explore new avenues. How? Here are some examples we've collected.



MEET THE ENTREPRENEURS DITTE HØJLAND  
FROM TEXTILE CHANGE AND THOMAS  
SOLGAARD FROM MANIGRIP ON PAGE 6



# VOX POP



## INTRODUCTION: AT A CROSSROADS

"We need to work more closely with large and small companies in both the private and public sector, and we need to get more CVR numbers set up by people at the university" says AU rector and director of Enterprise and Innovation.

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## STUDENTS AND ENTREPRENEURS – OR ENTREPRENEURS AND STUDENTS?

Manigrip and Textile Change are two of the many companies that were started by students during their time at university. And two of the over 150 companies that began in the entrepreneurial community The Kitchen.

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## VOXPOP

Dialogues, network meetings, PhD courses, research projects, internships, new study programmes... These are just some of the many ways Grundfos, Arla, Salling Group, Ringkøbing-Skjern Municipality and Kamstrup collaborate with Aarhus University.

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## HAVING A NETWORK IS AN UNDERVALUED PART OF DOING A DEGREE

Guilherme Maciel moved from Brazil to Denmark to write a PhD at Aarhus University. He thought he wanted to be an academic, but his time at university opened his eyes to a different path that was right for him. A path that eventually led him to Novozymes.

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## A HELPING HAND FOR THE IMMUNE SYSTEM

Groundbreaking research led to the creation of STipe Therapeutics, which aims to strengthen the body's own immune system through immunotherapy – and thereby help the body fight cancer. In just a few years, the company has grown to 16 employees.

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## – GOOD IDEAS ARE BUILT ON GOOD AND LONG-STANDING RESEARCH

Almost DKK 1 billion. This is the amount of investment the companies, the spinouts, from the Department of Biomedicine have been able to attract in recent years. It's completely crazy, says the head of department, who also explains that it is no coincidence.

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## AARHUS UNIVERSITY IN FIGURES

Did you know that Aarhus University entered into more than 500 research agreements with private companies in 2019? Or that the university's buildings cover 580,000 square metres?

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## INTRODUCTION:

# AT A CROSS- ROADS

**W**e are in a unique place right now. At a crossroads. Both as a university and as a society.

Will we continue as we have done for decades and centuries? Or will we change course, think differently, and explore new avenues?

At Aarhus University, we are in no doubt that we need to think innovatively. Our society is facing major challenges in everything from energy to nutrition – not to mention health. So we of course also need to make changes in the world of academia.

The universities already deliver world-class research and education. They already play a major and an important role in society, not least because they contribute thousands of new highly educated graduates to the private and public sector every year.

But we need more than this.

### Basic research and collaboration

In this magazine, you will find a selection of the best stories from our world and everyday life. We will describe how we collaborate with large companies and organisations, how we help students and employees turn their ideas into reality, and how small things can make a big difference.

Entrepreneur businesses like STipe Therapeutics and Textile Change help to underline that our efforts at Aarhus University are meaningful; that every day our students, staff and collaboration partners convert knowledge into solutions. But can we be even better at this?

We need to work more closely with large and small companies in both the private and public sector, and we need to get more CVR numbers set up by people at the university – both staff and students. In short, we need to come up with more solutions.

The key to this is, on the one hand, solid basic research, which will not produce immediate answers or commercial products overnight, and, on the other hand, increased collaboration on research and innovation, so our knowledge is applied in practice. This is a continuous balancing act and a never-ending journey.

Some of the companies featured in this magazine explain how they use the university to bring fresh eyes and new ideas into their businesses. But we also need fresh eyes and new ideas at the university itself. So if you have a new idea for collaboration, a question, a challenge that needs addressing, or something completely different, feel free to contact us.

We are ready.

**Lone Ryg Olsen,**  
Director of Enterprise and Innovation  
**Brian Bech Nielsen,**  
Rector



AARHUS UNIVERSITY WAS BORN OF PASSIONATE LOCAL COMMITMENT. LOCAL CITIZENS HELPED FUND THE UNIVERSITY THROUGH SMALL INDIVIDUAL CONTRIBUTIONS, AND LOCAL MANUFACTURERS DONATED A MILLION BRICKS TO THE CONSTRUCTION OF OUR BEAUTIFUL MAIN CAMPUS. SO, FROM DAY ONE, THE UNIVERSITY HAS RESPONDED TO THE NEEDS OF SOCIETY

# STUDENTS AND ENTREPRENEURS — OR ENTREPRENEURS AND STUDENTS?

The Kitchen gives students at Aarhus University the opportunity to start and grow their own company alongside their studies. It provides office facilities, meeting rooms, access to advice and guidance, and a network of over 150 other entrepreneurs in the process of developing their ideas. Two of the companies in The Kitchen are Manigrip and Textile Change.



**W**e have been part of the university's entrepreneurial community since 2017, and, at the beginning, there was a

slight tendency for people to work on their own idea and not share it with anyone else. That's not the case anymore, explains Thomas Solgaard.

- There's no way I would have stolen our own idea. That would be hard, replies Ditte Højland with a smile.

Thomas is the co-founder of Manigrip, which has developed an aid that literally helps people with rheumatism get a better grip on things, while Ditte is the co-founder of Textile Change, which has developed a method for reusing blended fabrics by, for example, being able to separate cotton and polyester.

On a daily basis, they work from their own offices in **The Kitchen, Aarhus University's largest entrepreneurial community**. But, right now, they – along with Thomas' fellow co-founder, Henrikke Kylén Pedersen, and one of Ditte's fellow co-founders, Emma Hostrup – are gathered on the second floor; in an open work space, where the yellow floor tiles and white walls speak their own clear language about the building's past as the kitchen at the old Aarhus Municipality hospital.

### **Business ideas came from study projects**

The four entrepreneurs also speak their own clear language. About The Kitchen. About being your own boss. About finance. And, of course, about the good idea and the desire to solve a problem for others.

- Our idea emerged during a course in which we had to design something for a patient group. **We asked ourselves the question: "What is the most widespread chronic condition?", and our answer was: "rheumatism". So we contacted the Danish Rheumatism Association, talked to rheumatism sufferers, and worked out that their biggest challenge was using their hands.** Being able to grip something and use it – and preferably with something nice to look at, explains Henrikke from Manigrip. Emma and Textile change have an almost identical story:

- In the fifth semester, it is possible to take an entrepreneurial internship at Startup Factory at Navitas, where you can work on your own idea. Simon (the third co-founder of Textile Change), Ditte and I grasped this opportunity and were able to get a small headstart when it came to developing our idea. We knew we wanted to work with recycling. **We also knew that there were major problems associated with the recycling of blended fabrics. And so we set out to solve these problems.**

AS WELL AS THE KITCHEN, THERE IS ALSO HATCH IT LAB AND ORBIT LAB AT KATRINEBJERG, STARTUP FACTORY AT NAVITAS, BUSINESS FACTORY IN HERNING, AND FOOD ENTREPRENEURSHIP HUB IN THE AGRO FOOD PARK.

IN THE KITCHEN, STUDENTS WITH ENTREPRENEURIAL AMBITIONS GET ACCESS TO A WORKPLACE, MEETING ROOMS AND TECHNICAL FACILITIES. THEY HAVE THEIR OWN STARTUP ADVISOR, A STRONG NETWORK, THE OPPORTUNITY TO ATTEND COURSES AND LECTURES, AND THE CHANCE TO LINK UP WITH A MENTOR. AS WELL AS THIS, THEY CAN GET ACCESS TO INVESTORS, LEGAL ADVISORS AND COMMUNICATION EXPERTS







- It was difficult to come back after a six-month entrepreneurial internship, but, on the other hand, it allowed us to see our studies in a new light. Everything suddenly became about what it meant for our business, says Ditte.

- People say there are three levels in The Kitchen. You can be a student and an entrepreneur on the side. You can be an entrepreneur and a student on the side. And you can just be an entrepreneur. I've certainly noticed these shifts, adds Thomas, who, together with Manigrip, moved from the university's previous entrepreneurial community to the newly established The Kitchen at the beginning of 2020.

In The Kitchen, both Manigrip and Textile Change have benefitted from the employees, who are ready to help with a range of questions, and the other entrepreneurs. In Ditte's words:

- You don't have to raise your hand too far before someone is ready to help; for example, the first time we applied to a foundation for funding, we were allowed to borrow another company's application, so we could see how they had done it. Now there are others who borrow from us.

AARHUS UNIVERSITY COLLABORATES WITH FOUR OTHER DANISH UNIVERSITIES AND THE DANISH FOUNDATION FOR ENTREPRENEURSHIP ON THE PROJECT "STARTUP I PRAKSIS", WHICH ENABLES STUDENTS TO DO AN INTERNSHIP IN THEIR OWN COMPANY. IN 2020, THIS PROJECT RECEIVED THE INNOVATION AND ENTREPRENEURSHIP AWARD FROM THE DANISH SOCIETY FOR EDUCATION AND BUSINESS.



Both Manigrip and Textile Change ended up finding a solution to the problems they identified - a product for rheumatism sufferers and a method to separate blended fabrics respectively. But they also discovered other solutions that gave rise to new directions, opportunities and challenges.

- When we finished our project, we took part in a small exhibition with other projects, where lots of people were interested in our idea; then, after our exam, we were contacted first by our co-examiner and then by our supervisor, who both said: "Take your idea further". None of us had considered making our idea into a company before that. Not at all, says Henrikke.

**Help is close at hand**

About half way through their studies, the two groups thus found themselves at a fork in the road, where they were expected to take both paths simultaneously. They had to complete their studies, but they also had to develop their idea and their company.

**Flexibility in the degree programme**

It is not only The Kitchen that has helped Textile Change and Manigrip to balance their studies and entrepreneurship. Other people have also given them a helping hand.

Thomas and Henrikke were two of the first students in the humanities who were allowed to do an internship in their own company, and, when it was time for them to write their Master's thesis, they also kept their company in mind.


- I tried to complete my Master's thesis as quickly as possible, and Henrikke attempted to stretch it as much as she could. This way, we were able to take it in turns to concentrate on Manigrip, explains Thomas.

Two of the co-founders at Textile Change, Ditte and Simon, have decided to work full time once they are finished with their Bachelor's degree. Emma, on the other hand, intends to continue to the Master's degree in civil engineering.





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- But I have been given the option to spread it over three years instead of two, so that I will still have time for the company, she remarks.

- We will be on the way to conquering the German market, says Henrikke.

- We will be ready to build a full-scale facility that can recycle a third of the textiles in Denmark. In this way, we will help to revolutionise the industry, says Ditte, with conviction in her voice.

And what if something goes wrong? Do you think you would start a new entrepreneurial project?

- Yes. Because **it's great to see things happen, to have the chance to make a real impact, and to see your own values shine through**, says Emma, without pause for thought, before Thomas adds with a smile:

- When you start to earn your own money as an entrepreneur, and you buy your first beer with the money you've earned yourself... People say that's the best beer you'll ever taste. ■



THE KITCHEN HAS ITS OWN COFFEE BAR, CLEVER COFFEE, WHICH SERVES SOME OF THE BEST COFFEE IN AARHUS. AND IT'S SUSTAINABLE

#### Ready to revolutionise

The Kitchen is open to everyone. Here there is room to work at your laptop or enjoy a coffee in the ground-floor café. Right now, a quiet conversation – briefly interrupted by a crying child – creeps up the stairs to the second floor, and it is tempting to draw a comparison between the coffee brewing in the pot and the business ideas brewing among the four entrepreneurs.

All four of them have their eyes on the horizon.

Textile change has managed to secure funding until the middle of 2022, which gives the co-founders peace of mind and allows Ditte and Simon to work full time on building a test facility. Mani-grip are still waiting to hear back about their applications – but Henrikke's and Thomas' smiling eyes and faces say it all.

Where will you be in 2022?

READ MORE ABOUT WHAT THE UNIVERSITY OFFERS ENTREPRENEURS AT [thekitchen.io](http://thekitchen.io)



AARHUS UNIVERSITY HAS KNOWLEDGE PARTNERSHIPS WITH SEVERAL OF DENMARK'S LARGEST COMPANIES. THESE ARE INDIVIDUALLY DESIGNED AGREEMENTS, BUT, AS A MINIMUM, THEY ALL INCLUDE A JOINT STEERING COMMITTEE, AN ANNUAL WORKSHOP AND AN ANNUAL NETWORK MEETING

How do Danish companies and organisations ensure that they continue to gain new knowledge and develop? And how do they collaborate with Aarhus University to achieve this?

We asked some of the university's collaboration partners. ►

VOX  
POP



## Kamstrup

**Kristian Rokkjær,**  
New Business Development  
Manager

**W**

e collaborate with Aarhus University – at the research level, in

relation to Master's students, and around startups and entrepreneurship.

Kamstrup has entered into a collaboration agreement with AU, which means we meet 2-3 times a year with researchers from the university's STEM departments and discuss specific collaboration projects based on new research results and technological challenges Kamstrup is facing.

This semester, we have three affiliated Master's degree students, who are going to write their Master's projects based on a project challenge we presented.

In relation to entrepreneurship, we have, among other things, begun working with the Technical University of Denmark on Scale-up Champions, where startups can offer their solutions to project challenges we have defined. We also provide project challenges for the course Applied Innovation in Engineering, which will be offered to AU students in spring 2021. **We are developing other initiatives in this area, including hackathons, project challenges and more.** These will be held in 2021 and supported by Kamstrup's discovery grants for startups.

Much of our internal development is of course tied up with product road maps, which leave little room for spontaneity, so we would like to use our partnership with startups to get access to and learn from the curiosity and agility that exists in such an environment.

CHALLENGES AND  
HACKATHONS ARE WAYS  
TO GET STUDENTS ON  
BOARD



MANUFACTURER OF  
SYSTEM SOLUTIONS FOR  
SMART ENERGY AND  
WATER METERING

DENMARK'S  
GEOGRAPHICALLY  
LARGEST  
MUNICIPALITY

## Ringkøbing-Skjern Municipality

**Sara Jørgensen,**  
Knowledge Coordinator

**S**ince 2013, we have had a Knowledge Committee consisting of politicians and representatives from the Business Council, trade unions, companies and educational institutions. In short, the committee's purpose is to ensure the municipality has a competent workforce, and, when you're fairly far from the large cities and educational institutions, you need to make a concerted effort to ensure the supply of knowledge to the labour market.

At the company level, we have a collaboration agreement with Aarhus University, whereby we collaborate on research projects and joint PhD projects and work together to match students from the university to companies in the municipality.

We have recently begun collaborating on the AU Digital Transformation Lab in Skjern, where we are focusing on Industry 4.0 and physically moving a section of Aarhus University to the municipality. **Being physically close to researchers from the university means something for the companies.** It becomes easier for them to collaborate, and the collaboration also becomes more visible. After all, it is difficult to see a written collaboration agreement.

THE WORLD'S LARGEST  
MANUFACTURER OF  
PUMPS.

## Grundfos

**Henrik Ørskov Pedersen,**  
Senior Technology Director

**W**

e have a dedicated technology organisation that focuses on long-term

technology development. How can we ensure we lead the way in technology? What do our product road maps need? And what is happening in the rest of the world? In other words, tech scouting.

Much of our tech scouting takes place in collaboration with universities, including Aarhus University. It involves both research collaboration in the form of joint research projects and PhD projects at Grundfos and intensive collaboration with students.

**Just this year, we have collaborated with 80 students in relation to internships, Bachelor projects, Master's theses and so on. This is a large number, given that our technology organisation employs approximately 90 people.** It's something we prioritise highly. Collaborating with students obviously gives us a good basis for recruitment, but it's also a huge plus that the students bring new knowledge with them and help us with real problems we're facing - and we of course also ensure that they gain knowledge and experience of working in the field.

COLLABORATED WITH 80  
STUDENTS IN 2020 – AND HAVE  
ALSO DONATED DKK 1.5 MILLION  
TO PROVIDE MICRO-SCHOLARSHIPS  
AND MENTOR PROGRAMMES  
FOR ENTREPRENEURS IN THE  
KITCHEN FROM 2021 TO 2023.

PHYSICAL PROXIMITY  
MEANS SOMETHING  
FOR COLLABORATION

STORES, WEB SHOPS, COFFEE  
BARS, RESTAURANTS ...  
OVER 53,000 EMPLOYEES  
SPREAD OVER FOUR  
COUNTRIES.

## Salling Group

**Louise Gade,**  
Executive Vice President, HR

**W**e seek new knowledge by orienting ourselves within the industry we're

a part of - also internationally and through collaboration with educational institutions.

This involves both new knowledge and concrete practice in other countries, and it covers many different topics: pure retail and management topics such as consumer habits, consumer behaviour, corporate social responsibility, logistics, data analysis methods, management... There are simply so many topics that we use an incredible number of channels to gain knowledge.

In recent years, we have worked closely with Aarhus University to develop a new higher education degree programme in retail, the MSc in Commercial and Retail Management. We were one of the initiators behind this new programme, and the university listened carefully to our input. We are now involved as guest lecturers, and the Salling Foundation has supported the programme through a donation of DKK 5 million.

As well as this, we take part in conferences and networking events across the university, and we have several individual arrangements with specific subject areas, where we engage in dynamic dialogue. We also have several interns and student assistants, which gives us the chance to try out potential employees, ensures that we keep up to date with what is going on in the educational institutions, and of course means that we are able to get some of our day-to-day jobs done.

## Arla Foods

**Peter Langborg Wejse,**  
Head of Open Innovation

**F**irst and foremost, we have some extremely talented and interdisciplinary employees in our innovation unit, where many fields are represented - and many at PhD level.

These employees often participate in international conferences, where they gather new knowledge.

We also invest in research projects all over the world. Among other things, we look for where there is experience and knowledge of our industry, and where the most talented people are - but also whether the universities are too closely involved with one of our competitors. Examples of our collaborations include PhD projects in England, Sweden and Denmark, and, as something new, also industrial PhD projects and postdoc activities supported by the Innovation Fund Denmark. These latter projects are exciting, because we are direct players in them, and because it's easier to build on the knowledge they generate when the researchers are located here at our premises.

Aarhus University and the University of Copenhagen are our two largest collaboration partners, and we actually work with Aarhus University on around 30 per cent of our projects. One of these is our large project "Arla Food for Health", which focuses on the health effects of dairy products, and every three years we start three new PhD projects with the university. When we start new PhD projects, we issue a general invitation: "If you have a good idea and think Arla should act on it, then...", and these projects are

COLLABORATING  
ON A NEW HIGHER  
EDUCATION  
PROGRAMME

THE LARGEST DAIRY  
CORPORATION IN  
NORTHERN EUROPE

a good supplement to those in which we define the research question. They can produce results we would not have predicted, and they can take us in directions we would not have explored had we defined the project ourselves.

We are also happy that AU FOOD is located in the Agro Food park, just across the road from our Innovation Centre. It is a strength that we are close to each other and can work together. Arla is also the only private company taking part in the research infrastructure initiative FOODHAY, in which we work alongside the Danish Ministry of Higher Education and Science, Aarhus University, the University of Copenhagen, the Technical University of Denmark, and the Danish Technological Institute to allocate new research facilities between us, so that we avoid making the same heavy investments and can instead collaborate and share. ■

PHD PROJECTS CAN  
PROVIDE KNOWLEDGE  
THEY DIDN'T KNOW  
THEY NEEDED

AARHUS UNIVERSITY  
COLLABORATES IN MANY OTHER  
WAYS. ALONG WITH PUBLIC AND  
PRIVATE PLAYERS IN CENTRAL  
DENMARK REGION, AARHUS  
UNIVERSITY IS ESTABLISHING A  
REGIONAL POWERHOUSE IN THE  
KITCHEN, WHICH WILL GENERATE  
MORE GROWTH AND INNOVATION  
WITHIN THE REGION'S AREAS  
OF EXPERTISE: FOOD, CLEAN  
TECHNOLOGY AND HEALTH.

# HAVING A NETWORK IS AN UNDERVALUED PART OF DOING A DEGREE

It was academic expertise that drew Guilherme Maciel from Brazil to Denmark to do a PhD, but it was his network and collaboration opportunities that made him stay



FIND GUILHERME'S  
PHD PROJECT HERE:  
[bit.ly/3oCsrw](https://bit.ly/3oCsrw)

READ HOW ARLA WORKS  
WITH KNOWLEDGE AND  
INNOVATION ON

P. 13



**G**uilherme Maciel is briefly back at Aarhus University, where, between 2013 and 2016, he worked on his PhD called "The impact of some farming-related factors and pre-processing steps on milk quality for cheese production".

It was here he spent three years exploring how agricultural practice and a cow's genetic background affect the final cheese product. And it was here he discovered he could excel at more than pure academia, and that he in fact wanted to do something different. That he wanted to use his knowledge in business and industry. That it was here he wanted to create value.

- It just dawned on me that I am more of a generalist than a scientist, jokes Guilherme Maciel, who originally moved to Denmark from Brazil in order to do a PhD at Aarhus University – simply because it was here he could find a supervisor conducting research

in the exact area Guilherme was interested in.

## Gaining social knowledge

When you ask Guilherme what it was he actually found in Denmark, it is not his supervisor or academic expertise he highlights. It is his network, both inside and outside the university walls.

In connection with his research project, for example, he made contact with Arla, who helped to finance the project. And, at the university, he worked with several other students, which enabled him to gain social knowledge and collaboration experience.

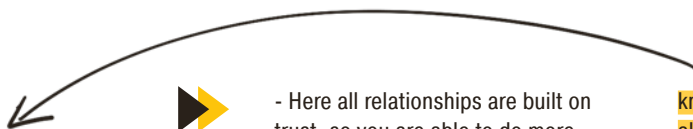
- Working with a lot of other students, both Danish and international, where you are working together on one joint project but coming from different backgrounds and cultures, has given me so much I can use, explains Guilherme.

As a Brazilian, he comes from a culture with a stricter work ethic and a different hierarchy in the workplace. But he quickly took to Danish culture. ►









COMPANIES CAN ENGAGE IN DIALOGUE WITH PHD STUDENTS AND EARLY CAREER RESEARCHERS THROUGH THE UNIVERSITY'S CAREER SERVICE, AU CAREER PHD & JR. HERE, EARLY CAREER RESEARCHERS ARE PREPARED FOR A CAREER OUTSIDE THE UNIVERSITY – INCLUDING THROUGH PHD CAREER MORNING, WHICH, IN 2020, OFFERED CAREER GUIDANCE TO 550 RESEARCHERS ACROSS DENMARK.

- Here all relationships are built on trust, so you are able to do more. You get more responsibility.

#### **Much more than academic skills**

After his PhD programme, Guilherme got his first job at Arla, where he stayed for five years before moving to Novozymes to work as a research scientist in August 2020. A move from milk to the product development of washing powder – a move bound up in the knowledge he acquired during his studies.

And in the ability to translate knowledge into practice.

According to Guilherme, it was almost as important as gaining academic

knowledge that Aarhus University also taught him how to apply this knowledge in practice.

- You are so much more than your purely academic skills. At university, you learn to take risks, to process information quickly, and to take responsibility and lead projects – across departments and subject areas. You also learn to work under pressure and to meet new people, claims Guilherme, and he goes on to underline what he believes to be at the heart of what he and his fellow students can do:

- We are trained to solve very complicated problems, and we are good at finding solutions.

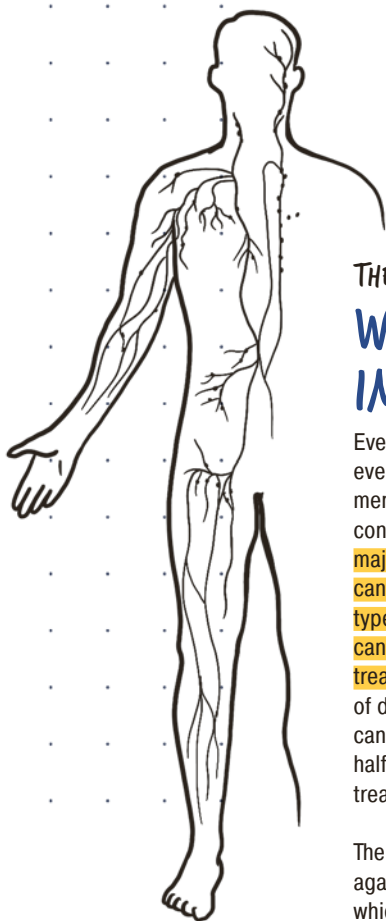
Guilherme came to Denmark expecting to pursue a career in academia. But it was something else he found, even though knowledge, academic expertise and an in-depth understanding of technology continue to form the basis of his professional life. ■

*"You are so much more than your purely academic skills. At university, you learn to take risks, to process information quickly, and to take responsibility and lead projects – across departments and subject areas. You also learn to work under pressure and to meet new people."*

YOUR NETWORK CONTINUES AFTER YOU LEAVE UNIVERSITY. 38,000 GRADUATES HAVE SIGNED UP TO THE UNIVERSITY'S ALUMNI NETWORK.

# A helping hand for the IMMUNE SYSTEM

STipe Therapeutics originated at Aarhus University and today employs 16 people. Here we join CEO Claus Elsborg Olesen for six insights into the world of STipe Therapeutics



## THE ELEVATOR PITCH:

## WE HELP THE BODY'S NATURAL IMMUNE SYSTEM

Everyone knows about cancer. But, even though many forms of treatment have been developed, cancer continues to be fatal. One of the major challenges in our fight against cancer is the diversity among cancer types and the different ways these cancer types respond to the forms of treatment available. The importance of developing new cancer medicine can be seen from the figures – around half of all clinical trials of new forms of treatment worldwide focus on cancer.

The latest development in our fight against cancer is immunotherapy, which encompasses different types of medicine designed to help the body's immune system fight cancer. The fact is that cancer cells often hide from the

immune system. Our technology can help make the immune system more sensitive, so that it detects the cancer earlier and begins to fight against it.

The technology acts on a specific part of our body's natural immune system, and we have discovered that we can limit systemic side effects and restrict the effect of the treatment to the area of the body under attack from cancer.

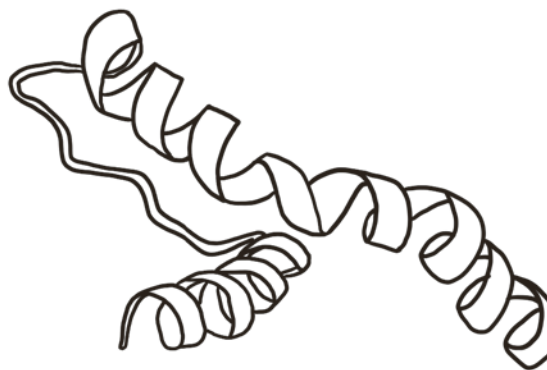
It's a bit like loading and cocking a gun. You still need to pull the trigger in order to shoot. In healthy people, nothing happens if they receive the treatment, but, if there is cancer, the immune system goes into battle. ►





THE IDEA:

## PROTEIN ACTIVATES THE SIGNAL PATHWAY



Immunotherapy is hot. New scientific articles are published on the topic almost every week, and immunotherapy is increasingly being used to treat new types of cancer. In 2018, the Nobel Prize for medicine was awarded to two of the researchers who paved the way for the use of immunotherapy.

At Aarhus University, research within this area has been intensified within recent years, with associate professor and researcher Martin Roelsgaard and Jakobsen leading some of the work.

Cancer cells hide from the immune system by inhibiting too many of the signals the immune cells use to fight foreign cells. When this happens, the cancer cells remain undetected and the body does not launch a counter-attack.

Research has shown that one of the signal pathways in our cells that

determine whether immune cells generate immunological defence agents to fight cancer is controlled by a protein called STING. It is precisely this STING signal pathway that Martin's research group is focusing on, and, among other things, their work has shown that a completely different protein in the cells, called IFI16, actually helps to regulate the activity of the STING pathway. In other words: IFI16 is a bit like a turbo charger for the STING engine in the immune cells.

So the idea was obvious. Can we artificially replicate IFI16 activity? Can we activate the STING signal pathway and help the body put up a better and stronger fight against the cancer cells? This would be a positive thing in itself. And the hope is that it will also increase the effectiveness of other forms of cancer treatment.

IN 2018, MARTIN RECEIVED THE ANDERS JAHRE AWARD FOR EARLY CAREER RESEARCHERS – ALSO CALLED “THE LITTLE NOBEL PRIZE” – IN RECOGNITION OF HIS RESEARCH.

SPINOUT:

## MAKE A DIFFERENCE

Cancer is a complicated disease. But it motivates us that we are able to contribute to saving human lives by solving some of the problems faced in the field of cancer treatment today. Basically, you either have to be “first in class” or “best in class”. We would prefer to produce something that others can’t – but why haven’t they done it? Is this even possible?

When Martin and I started STipe Therapeutics, we spoke to a number of pharmaceutical companies, who confirmed that there were challenges associated with going into this area of the immune system. We are trying to overcome these challenges.

By making a spinout, we will ensure that we can work commercially to

develop our product further in the company and that Martin can maintain his links to research by dividing his time between Aarhus University and STipe Therapeutics.

In relation to an academic research group, we in STipe Therapeutics have a more commercial aim. An aim to convert basic research into actual solutions. STipe has put together a strong international team of researchers and drug development experts from England, Sweden, Germany and the USA. It is vital to gather the necessary competencies since we are competing globally to develop immunotherapy.

READ MORE ABOUT OTHER SPINOUTS – SUCH AS PLANTCARB, VPCIR.COM, DRAUPNIR.BIO, METHYLDTECT AND AGROINELLI – AND COMMERCIAL INITIATIVES AT AARHUS UNIVERSITY AT <https://international.au.dk/collaboration/technology-transfer>

ACCORDING TO THE DANISH GROWTH FUND, FOUR OUT OF THE 10 DANISH COMPANIES THAT RECEIVED THE MOST VENTURE CAPITAL IN 2019 HAD TIES TO ACADEMIC RESEARCH AT AARHUS UNIVERSITY.

MARTIN ROELSGAARD JAKOBSEN,  
CHIEF SCIENTIFIC OFFICER



CLAUS ELSBORG OLESEN,  
CEO

READ MORE AT  
STIPETHERAPEUTICS.COM

## CAPITAL:

# AN ESSENTIAL FACTOR

Start-up capital is essential. Biotech development is expensive, and the potential for success is infinitely small. That's just how it is.

We first got start-up capital as a PreSeed Grant from the Novo Nordisk Foundation and then as a convertible loan of DKK 10 million from the Bio-Innovation Institute (BII), an initiative under the Novo Nordisk Foundation. The DKK 10 million secured a "Proof of Concept" data package, which laid the foundation for later receiving a Series A investment of Euro 20 million. This investment was made by a syndicate consisting of Arix Bioscience Holdings Limited, Novo Holdings A/S, Wellington Partners Life Science Venture

Capital Management, and Sunstone LSV General Partner IV.

Right now, there are 16 people employed in STipe Therapeutics – researchers, lab technicians, chemists, administrative staff and managers. We do cell studies, chemistry and some animal experimentation in-house, but we also have many research and development activities abroad. Our goal is to get a pharmacology graduate ready for the next phase of clinical trials (on humans), for which we need capital in the order of USD 40-60 million.

So, yes, capital is absolutely essential. Not only at the start.

## THE BOARD:

# AN INTERNATIONAL DIMENSION

We have an international profile. We are an international company, but it is not enough to say we are international, we also need to act on this, which is why we want to have an international board.

Our five investors each have a member on the board, and, before joining us, many of them were already heavily involved in companies within immunology and cancer treatment. But, of course, investors will always take an investment view on the company. Therefore, we also have

an independent member of the board, who contributes from both an academic and international perspective. Here we are fortunate to have Dr Natalie Sacks, who is Chief Medical Officer at the American company Harpoon Therapeutics and who has experience working on the STING signal pathway.

We have achieved a good breadth on our board, and this is important. Like all other companies, we also need to be challenged and inspired, and our board does this.

## NEXT STEP:

# THE FUTURE IS OPEN

There are many paths to success. We are working to develop a new medicinal product and sell it to a pharmaceutical company that has the power in terms of both production and commercialisation apparatus to get the product approved by the authorities.

But, even in the best-case scenario, a final medicinal product is still a

number of years off, so we are also open to other opportunities. We are opportunistic, as we say, and if the right offer comes along – for example, if a pharmaceutical company wants to buy us – we will look at it. The most important thing is to ensure that our idea can benefit cancer patients. ■

# Good ideas are built on good and long-standing research

Within a few years, the Department of Biomedicine has been the birthplace of several successful spinouts, which together have attracted nearly DKK 1 billion in investment. “Completely crazy” but “not entirely coincidental”, says head of department Thomas G. Jensen.



*ou have been hugely successful in creating spinouts, in other words companies started by researchers based on their*

*work at the university. What is your secret?*

Yes, we do have to pinch ourselves sometimes. We've had a crazy amount of success, and it's incredible that the companies have attracted almost DKK 1 billion in investment.

But it is of course not entirely coincidental, and there is of course more than one reason.

*There rarely is...*

First and foremost, we are fortunate to have **extremely talented researchers, who are keen for their research to**

**benefit patients** – as it typically does. They want to be at the university, but they also want to make sure that what they do has an effect – also in other ways than before.

So, a few years ago, we employed a **business engagement partner**, Claus E. Olesen, who divides his time between the department and the spinouts that he himself has helped to set up.

*And what has he added?*

Claus is extremely good at spotting projects with commercial potential and establishing contact with investors. He has helped create the basis for a mindset that turns ideas into reality, because wanting to do something beneficial is nothing new. What is new is that researchers have got much better at identifying relevant projects and focusing on them. In this way, it has been extremely useful to work with a business engagement partner.

1. TALENTED RESEARCHERS
2. WANT TO MAKE A DIFFERENCE
3. A BUSINESS ENGAGEMENT PARTNER



The university's Technology Transfer Office has also proved to be very professional and flexible with regard to the agreements that have been made.

*Can you give us an example?*

At the department, we have created settings and a culture in which people can get together freely. In fact, the idea for one of our large spinouts, NMD Pharma, which has attracted more than DKK 300 million in funding, was born at a Christmas party, where our business engagement partner was in the party committee with one of the researchers.

*This gives another meaning to the phrase "a wild Christmas party". What makes a good idea? There are of course big differences between the spinouts, but are there also some common denominators?*

Yes. Good innovation projects build on good and long-standing research. A really important ingredient in our successful innovation projects is excellent research. Quite simply.

We have three companies that have each received more than DKK 150 million in investment, and all three are based on good and long-standing research. Talented researchers in good research environments who keep at it.

*Most startups can only dream about the amounts of money you're talking about. What is it the various spinouts have done so well here?*

In general, we enjoy a good collaboration with business and industry on both research projects and research development. For example, the Novo Nordisk Foundation is involved in nearly all our spinouts, while the Lundbeck foundation has been very committed to our research projects. There is great interest in collaboration these days.

*Do you think you'll do more in the coming years?*

Yes. We want to rev it up even more. I dream about creating a physical environment in which university researchers and companies can get even closer to each other on a daily basis. Physical proximity and meeting in person is important, and it would be fantastic to be able to create a setting in which we could all meet up with each other.



AT AARHUS UNIVERSITY, RESEARCHERS WITH ENTREPRENEURIAL AMBITIONS RECEIVE SUPPORT IN THE FORM OF COURSES, ADVICE AND DEVELOPMENT FACILITIES, JUST AS ENTREPRENEURIAL RESEARCHERS ARE MATCHED WITH INDUSTRIAL PARTNERS AND INVESTORS AND GET HELP DRAWING UP CONTRACTS AND PATENTS. THESE SERVICES ARE OFFERED IN THE KITCHEN, THE INDIVIDUAL FACULTY, AND THE TECHNOLOGY TRANSFER OFFICE.

*One last question. There is of course also a downside. When researchers start their own companies and spend time on them, the resources disappear from the department, research and teaching, and isn't that a bit of a hassle?*

Fortunately, we are a large organisation, so it is possible for researchers to reduce their employment for a period and be employed in their company. And then we have to find a solution. We have done this, but I should underline that it is the whole organisation, indeed the whole university, who should take credit for it having gone so well. It's a team effort – and I mean everyone, not just the researchers and the companies – that's behind this. ■



# AARHUS UNIVERSITY IN FIGURES

25

SPINOUTS IN THE KITCHEN,  
WHERE RESEARCHERS AT  
AARHUS UNIVERSITY ARE  
BUSY TURNING THEIR IDEAS  
INTO COMPANIES (INCL. 17  
PRE-SPINOUTS)

51%

OF AARHUS  
UNIVERSITY'S  
GRADUATES ARE  
EMPLOYED IN THE  
PRIVATE SECTOR



38,000

STUDENTS ARE ENROLLED AT AARHUS  
UNIVERSITY, ACROSS BACHELOR, MASTER'S,  
PHD AND PART-TIME PROGRAMMES

580,000

SQUARE METRES COVERED BY AARHUS  
UNIVERSITY'S BUILDINGS (NET AREA)

3,300

SQUARE METRES IN THE  
KITCHEN, WHICH STARTUPS  
AND SPINOUTS CAN MAKE  
USE OF

# 170

STUDENTS TOOK PART IN AV CHALLENGE – AN INTERDISCIPLINARY CASE COMPETITION THAT FOCUSED ON SUSTAINABILITY AND INNOVATION, WHERE AURA, DANSKE BANK AND NOVOZYMES SET THE TASKS

# 4,000



INTERNATIONAL STUDENTS AT AARHUS UNIVERSITY – DIVIDED ACROSS 115 NATIONALITIES

# 86

STARTUPS IN THE UNIVERSITY'S ENTREPRENEURIAL COMMUNITY, THE KITCHEN, WHICH OFFERS FACILITIES AND GUIDANCE TO THOSE STARTING BUSINESSES

# 80



NEW INVENTIONS REGISTERED (2019)

# 85



NATIONALITIES REPRESENTED AMONG AARHUS UNIVERSITY'S ACADEMIC STAFF

# 8,000

EMPLOYEES, ACADEMIC AS WELL AS ADMINISTRATIVE, WORK AT AARHUS UNIVERSITY (FTES)

# 502

NEW RESEARCH AGREEMENTS ENTERED INTO WITH PRIVATE COMPANIES (2019)

# 12,000

ACADEMIC PUBLICATIONS WERE PUBLISHED IN 2019

# 200



STANDARD DEGREE PROGRAMMES TO CHOOSE BETWEEN AT AARHUS UNIVERSITY. THE MOST ATTRACTIVE PROGRAMMES IN 2020 WERE MEDICINE, PSYCHOLOGY AND LAW



FROM THE ENTREPRENEUR  
TO THE BILLION-KRONER  
BUSINESS. FROM THE BACHELOR  
STUDENT TO THE RESEARCHER.  
FROM THE LOCAL TO THE  
GLOBAL. MEET THEM ALL  
AND LEARN HOW AARHUS  
UNIVERSITY CONVERTS  
KNOWLEDGE INTO SOLUTIONS.  
AND HOW WE CAN DO THE  
SAME FOR YOU.