



## Stay Tuned!

TU & YOU News December 2018

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## 40TH BIRTHDAY – OUR PARTY



From left to right: Walter Conrads, Chairman of the TUHH's Advisory Board Council; TUHH President Prof. Ed Brinksma; Katharina Fegebank, Deputy Mayor of the Free and Hanseatic City of Hamburg; Prof. Rainer-Maria Weiss, director of the Hamburg Museum of Archaeology; and the moderator, Andrea Gerhard. Photo: TUHH/ Y. Ortega

On September 21 and 22 the TUHH celebrated its fortieth anniversary with a colorful program of events. At an event entitled "Highlights of 40 Years and a Look at the Future" the TUHH invited guests on the Friday to join it on a varied journey through 40 years of TUHH history. Around 450 guests from business, science and the arts were in the Audimax I, where the ceremony began with the premiere of the TUHH anniversary film, which provided a modern overview of the TUHH's past and present. Katharina Fegebank, Senator for Science, Research and Equal Opportunities, said: "I congratulate the Hamburg University of Technology most cordially on its anniversary. For 40 years it has been the place in northern Germany for smart thinkers with bright ideas and technical talent." Prof. Dr. Rainer-Maria Weiss, director of the Hamburg Museum of Archaeology, painted in his keynote address "Bilbao on the Southern Elbe" an entertaining picture of regional development in which the TUHH stands as a driving force behind urban development. A journey through 40 years of music in Hamburg and a humorous summary of the ceremony with the "hidden Shakespeare" improvisation theater rounded off the proceedings.

On September 22, Knowledge Day, Hamburg research scientists presented their projects from technology and digitization, offering on the TUHH campus a wide range of activities in which to take part and to try out. Twenty Hamburg universities, research facilities and institutions were on campus with exhibits on "Technology and Digital Worlds." With projects to join in, lectures, information stands and science shows they gave around 4,000 Hamburg visitors engrossing insights into their research topics.

Friday evening was also the start of the Third TUHH & NIT Homecoming with 300 alumni, staff and friends. It kicked off with a barbecue and live music, the Cocktail-AG and Campusperle at the TUHH's Learning and Communication Center. On the Saturday evening the guests attended a large-scale Homecoming Ball at the de luxe Empire Riverside Hotel. On Landungsbrücken, with a breathtaking view of the Port of Hamburg by night, with culinary pleasures, music and dancing the TUHH and the NIT celebrated until the early hours—a very special highlight!



TUHH & NIT Homecoming, photo: C. Bittcher

## TUHH & NIT STUDENTS DEVELOP PROSTHETIC GLOVE

Students Cherisa Nicholls and Melissa Gile launched their startup TwoFold to make life easier for people with artificial arms. The two engineering students have set their sights on the healthcare sector with a combination of state-of-the-art sensors and a game app. Melissa, an American, and Cherisa, a Barbadian, are combining the study of technology management for an MA or an MBA at the NIT with their MSc program at the TUHH.

Around 1.3 million Americans have an artificial arm, but about 60 percent of them have difficulty in making full use of their artificial limb. Too great expectations and a lack of training quickly lead to frustration and, not infrequently, to rejection of bionic limbs. As they cost from \$10,000 to \$100,000 each, a dissatisfied patient is overburdened both emotionally and financially.

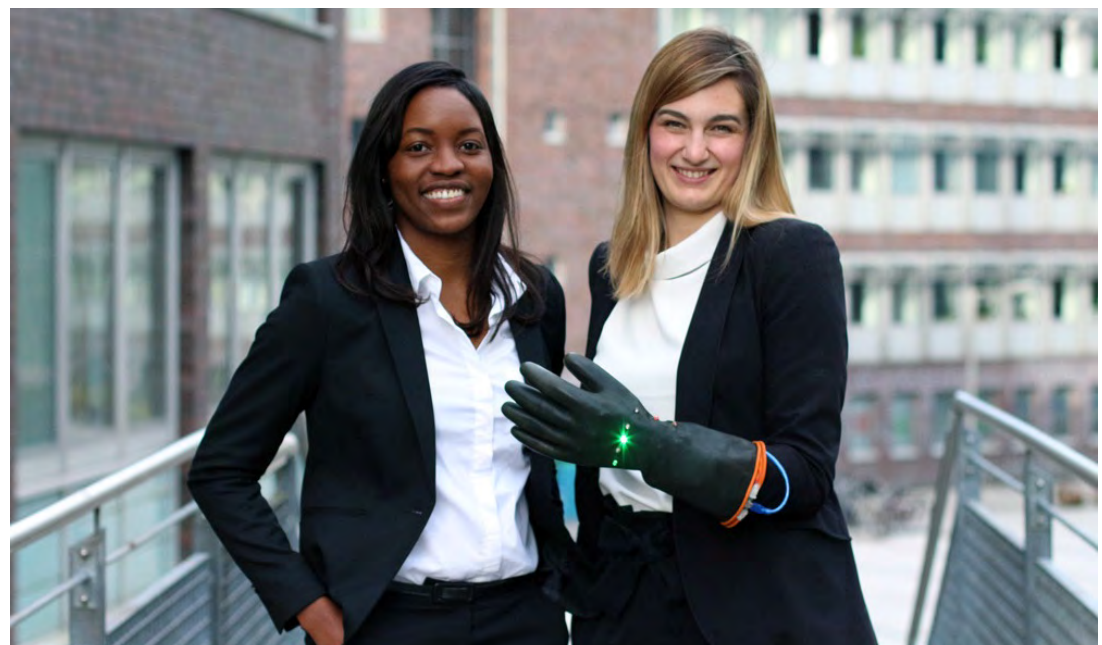
Students Cherisa and Melissa took up the problem with a view to creating opportunities for patients to practice at home and not just at the physiotherapy clinic. "There may now be a large number of artificial limbs of different kinds, but the manufacturers' additional therapy offerings are limited in number and there is still a gap in this area of the market," Cherisa Nicholls explains. Over 10,000 people a year receive an artificial arm in the United States and the Hamburg students especially aim to help new users in the initial phase.

Following extensive interviews and research they came up with the idea of developing a prosthetic

glove and an app to go with it. Bluetooth connects the glove to the app. Flexible sensors in the individual fingers register every movement and make little LED lights shine in response to them. Using the app, movements ranging from standard movement to the most delicate exercises can be trained as if in play. Everyday activities like holding a coffee cup, cutting food or throwing a ball are relearned faster with a little training. A glove of this kind would retail at around \$600, including the app, which is reasonable when you consider the cost of the artificial limb.

The two students are currently drawing up a detailed business plan. Fundraising and a lengthier test phase for their prototype would be the next steps. Whether they will actually market their prosthetic glove is not sure, but they have a piece of advice for other potential startups. "It is important always to have an 'ideas book' with you in case you have an idea at university, at work or in everyday life."

Students at the private NIT Northern Institute of Technology Management can found their own startup. In the Entrepreneurial Management (E-Track) specialization module they are familiarized with all of the relevant entrepreneurial tools and concepts. E-Track covers the entire process from the development of a business idea via resource planning to sales and marketing. The aim is to promote ideas and technologies that have a positive effect on humankind and nature.



TUHH and NIT students Cherisa Nicholls and Melissa Gile. Photo: M.-L. Dieckmann

### UPCOMING DATES

**January 11, 2019, 5 p.m.**

**Sabine Stecker exhibition opening**

Main Building (A), Am Schwarzenberg-Campus 1

Admission free

**January 16, 2019, 9.45 a.m. - 2 p.m.**

**Career paths:**

**TUHH@hit-Technopark**

In cooperation with hit-Technopark and TU & YOU, the Career Center offers you the opportunity to talk to TUHH alumni who are now working for a company in hit-Technopark.

More information and registration [here](#).

**January 16, 2019, 7 p.m.**

**TUHH goes music**

Concert of classical music in cooperation with the Academy of Music and Theater Hamburg

Am Schwarzenberg-Campus 5 Audimax I

Admission free, donations welcome

**January 23, 2019, 5 – 7 p.m.**

**Experiment & Research – Annual event for families with Year 1 to Year 7 schoolchildren**

Am Schwarzenberg-Campus 5 Audimax I

Admission free

**February 7, 2019, 8 p.m.**

**TUHH goes music**

SymphonING Concert

Friedrich-Ebert-Halle  
Alter Postweg 34  
21073 Hamburg

## EUROPE AT THE TUHH: ECIU UNIVERSITIES CONVENE IN HAMBURG

To maintain its extensive European network the European Consortium of Innovative Universities (ECIU) met from November 12 to 15 at the TUHH, where around 80 representatives of European universities convened to discuss current university issues.

In various working groups European university policy, entrepreneurship, social and societal effects

of research on society were discussed, as were current trends in research and teaching. Professor Ed Brinksma, President of the TUHH, welcomed the joint activities within the ECIU. "This European network," he said, "is an important strategic pillar of internationalization at our university. It has enabled numerous research, teaching, further education, personnel and technology transfer projects to be implemented."

The TUHH and nine other universities founded the ECIU in 1997. It is the world's leading consortium of research-oriented universities with a focus on innovation, creativity and society. Its aim, in close cooperation between its 13 international member universities, is to promote a knowledge-based economy and exchanges of students and research scientists.



ECIU meeting at the TUHH. Photo: TUHH

### LET'S SEE NOW, ...

... Gesine Liese, project manager **Kinderforscher an der TUHH** and **Nachwuchscampus**

**Ms. Liese, how can our alumni make their children enthusiastic about science and technology?**

I have been in charge of the Kinderforscher project at the TUHH for over 12 years. Our aim is to arouse and promote interest in science and technology among children and young people at an early age. Germany needs young engineers and scientists. In Kinderforscher projects school students with an interest in science can acquaint themselves with appropriate occupations in order, perhaps, to become the research scientists of tomorrow.

**How can we get to know about the work that the Kinderforscher do?**

For our youngest Kinderforscher, or research children, our annual Experiment & Research event for families with Year 1 to Year 7 school students takes place on January 23 from 17.00 to 19.00 hours. There are experiments to take part in and Year 3 and Year 4 students will be presenting their excursions to various TUHH institutes.

Year 8 to Year 13 young people can attend our Nachwuchscampus event on March 25. They will



Gesine Liese interviewed by TU & YOU, photo: TUHH / F. Schmiel

previously have spent four months cooperating with a STEM company in the Hamburg metropolitan region and given both practical and theoretical consideration to career orientation. At this event the young people present their cooperation company, including its career training and career opportunities, to other young people and the general public.

**And is there anything for alumni children who no longer live in Hamburg?**

We also have online experiment offerings. Following the KNIFFELIX experiment puzzles Pizza! and Ketchup! The third new topic, Erdboden, the soil, is now available for inquisitive everyday scientists at [www.kinderforscher.de/kniffelix](http://www.kinderforscher.de/kniffelix) online.

**February 9, 2019, 6 p.m.**

**TUHH goes music**  
SymphonING Konzert  
Forum Ohlsdorf

Fuhlsbüttler Str. 756  
22337 Hamburg

**February 10, 2019, 4 p.m.**

**AXIS Benefit Concert**

Am Schwarzenberg-Campus 5  
21073 Hamburg

**February 18, 2019, 8 p.m.**

**TUHH goes music**  
SwingING

Am Schwarzenberg-Campus 5  
Audimax I

Admission free,  
donations welcome

**CHRISTMAS CAMPAIGN**  
.....  
**THIS TIME DONATE FOR  
OUR KINDERFORSCHER!**

Thank you for your support!

**Donate now**

## INTERNSHIPS FOR AIW/GES STUDENTS: COMPANIES SOUGHT

How was the practical experience that you gained during your studies? Most alumni say that the practical experience they gained during their studies made a valuable contribution to their further career development. For one, the link between theory and practice helps students to forge initial ties with the world of work and to gain an idea of subsequent job opportunities. For another, it helps them to put their theoretical knowledge to practical use and to input intrinsic motivation into their studies. Students benefit from taking a closer look at entrepreneurial practice and from making contact with potential employers. Internships as part of a study program have an especially positive effect, as the Potsdam research project ProPrax has demonstrated. To make use of these benefits a 12-week internship is included in the seventh semester of the Allgemeine Ingenieurwissenschaften (AIW) study program and its English-language counterpart General Engineering Sciences (GES). The aim is to get to know the engineering profession in practice. Students are to familiarize themselves with operating processes at a company and to be involved in a company project.

The first students will do an internship from the 2019/20 winter semester. The TUHH Career Cen-

ter will help them to prepare and apply for their internship. In this connection companies are sought that offer internships in the following specializations: civil engineering, bioprocess engineering, electrical engineering, energy and environmental technology, computer science, mechanical engineering, medical engineering, naval architecture and process engineering. The cooperation between the Career Center and the company is to include offers such as trade fairs and excursions, lectures and workshops. TUHH alumni are especially valuable as multipliers.

The AIW and GES study programs provide for a wide-ranging basic study of engineering followed from the third semester by a choice of specialization. They are the only Bachelor's degree courses at the TUHH that offer a focus on medical engineering. With 210 credits they require a heavier workload than comparable specialized Bachelor's study programs and are therefore scheduled to take seven semesters.

[Eilika Schwenke, TUHH Career Center Contact](#)



In November, TUHH students visited medical devices and equipment manufacturer Stryker in Kiel, where General Engineering Sciences alumni described their career paths and their working day. Photo: Stryker GmbH & Co. KG

## FOUNDERS' ASSEMBLY AT MERCEDES-BENZ

At the invitation of Mercedes-Benz the seventeenth Founders' Assembly of the Foundation for the Promotion of the TUHH was held on November 19 at the Mercedes-Benz works in Hamburg-Harburg. The Assembly members were given a guided tour on which they gained insights into, inter alia, the production of lightweight components for Mercedes-Benz electromobility and the past and future development of the works. Professor Ed



Mercedes-Benz

Brinksma's address on "TUHH – the Growing University of Technology. The Pact Between Science and Business" and the concluding get-together rounded off an interesting and varied Founders' Assembly.

## I HAVE A QUESTION, PROFESSOR OTTERPOHL: HOW DOES “THE NEW TOWN” WORK? .....

Organic, rich in species and close to the city – can the combination work? Professor Ralf Otterpohl has developed a new concept of living and production, “The New Town,” that aims to combine small-scale ecological horticulture and local production with the benefits of urban living. Anyone who wants both to live in a rural setting and to enjoy the advantages of city life has until now had difficulty in finding a home, and that is precisely where TUHH professor and author Ralf Otterpohl's idea kicks in. In his book he draws up a concept for converting an existing farm into separate and organic market gardens for about 150 people. “More and more people are opting out of the classical 40-hour office job and want to spend their time more meaningfully. That is where my concept can be inspirational,” Otterpohl says, explaining his idea. The main concern of his new towns is sustainable small-scale agriculture that forms humus to safeguard food and water supplies to the city as well as to the town. Crops can, for one, be sold in the city or, for another be processed locally, creating an alternative to industrial agriculture and making possible an active, self-determined life in variety and biodiversity.

**Otterpohl:** After over 15 years of research into rural development I can now say that everything is there for a life of plenty for all. But it requires a whole lot of people who play an active role in creating a world that is especially worth living in. The city alone has no future. A sustainable farm consists of maybe 100 mini-farms – the New Town. Part-time gardeners produce food of the highest quality with interesting neighbors and form humus. Humus and living soil are the basis of our life; without them there will no longer be any humans. Humus formation ensures a high level of productivity, safeguards water supplies and strikes a climate balance. Hundreds of crop plants in horticulture, agro-forestry and woodland gardens strengthen and succor each other reciprocally. The many and varied small businesses of the New Towns supply the city too and most people typically own, in addition to their mini-farm, a share in a further processing business or, for example, manufacture household chemicals, work as carpenters or manufacture electrical equipment for market gardening. As at least 150 people live in the New Town there



In this series Prof. Dr.-Ing. Ralf Otterpohl, Director of the Institute of Wastewater Management and Water Protection, explains his area of research.

Prof. Dr.-Ing. Ralf Otterpohl, photo: A. Gaertner

is a demand for teachers, the healing professions, distribution, transportation and many other services. People have a wide range of occupations and earn a good living. They are independent and lead self-determined lives. Children grow up in and with nature. Older people who maybe retire to the country and work as market gardeners will later, as required, live in their own homes and enjoy home care in the New Town. In my book *Das Neue Dorf*, published by Oekom, you will find an extensive overview of successful approaches and the connections between soil, ground water, health and climate. All aspects of bio-intensive agriculture with a very high level of plant diversity are described, as are the incomes that can be earned from meaningful and fulfilling employment.

## ALUMNI PROFILE: DIPL.-ING. DIRK LESNY

### WOULD YOU LIKE TO BE PART OF OUR SERIES ALUMNI PROFILES?

Send us an E-Mail to [tuandyou@tuhh.de](mailto:tuandyou@tuhh.de)



Dirk Lesny, photo: private

**Name, Surname:**

Lesny, Dirk

**City, Country:**

Hamburg, Germany

**Study program/Degree:**

Mechanical Engineering, specializing in Manufacturing Technology, Dipl.-Ing.

**Year of graduation:** 1995

**Employer and position:**

ExxonMobil, Midstream Engineering Manager North Cluster

**Why did you decide to study at the TUHH back then and was it in retrospect a good decision?**

Back then sounds like it was so long ago! I decided in favor of the TUHH in 1990 because it was a young and dynamic university that was going places and was already held in high repute. Another factor that that mattered to me was its outstanding student-staff ratio. In retrospect, it was a good decision and one that I have never regretted.

**What motivated you to choose your study program and your profession?**

The fascination of technology and all that can be done with it if it is used responsibly. Studying engineering also promised to be a sound basis for a wide range of careers – even if the job prospects were not brilliant in the 1990s (but that is history).

**How would you summarize your time at the TUHH?**

Hard, focused work – always with the target in mind but without entirely neglecting the advantages of student life.

**What is your advice for getting off to a good career start in your industry?**

Starting with a good technical grounding never to lose sight of the commercial or the overview. A widely based, soundly developed personality clearly also helps. And when starting your career it is always a good idea to be flexible about where you work and to be ready to give much more than 100 percent initially.

**What do you use in your career that you learnt as a student?**

A surprising amount, considering they always say that very little of what you learn is of any use later. I make use of both the bricks and mortar of my main study program and the approach, the methods and the strategies that we learnt for our

Vordiplom. In addition

I have very often benefited from experience gained in the many jobs I had, be it at the uni as a student assistant or intern or as an intern or jobber at many companies.

**What does your typical working day look like and which are the competences that you need for it?**

There are few if any “typical” working days because the days are filled differently with organizational, analytical, information gathering or problem solving activities. That, of course, involves every conceivable and all of the conventional forms of communication. But the competences I mainly need (with the technical expertise to back them up) are flexibility, team skills, motivation (of myself and others), and the ability to switch roles – between contributor and decision maker, for example.

**If you were the President of the TUHH...**

... I would not have the great job that I have now, so I am happy to leave that to people who are better suited for the job. But as his advisor I would try to underscore the importance of the following points: 1) connections with industry that enable students to get their bearings and to gain experience; 2) enabling students to gain an international orientation while nonetheless appreciating and making use of the benefits of a regional anchoring; 3) constantly underscoring the importance of education and vocational training in this country's political landscape and enlisting support for it.

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**Publisher**

President of the Hamburg University of Technology (TUHH)  
21071 Hamburg

**Contact**

TU & YOU – Vera Lindenlaub  
[www.tuandyou.de](http://www.tuandyou.de)  
[TUandYOU@tuhh.de](mailto:TUandYOU@tuhh.de)

**Editor**

Vera Lindenlaub

**Graphics & Layout**

Tine Pape  
Illustration & Kommunikationsdesign

**Photos/Images**

M.-L. Dieckmann, Y. Ortega, A. Gaertner, TUHH, F. Schmied, C. Bittcher, Stryker GmbH & Co. KG