Testimonials from researchers, PhD candidates and graduates from the Institute for Textile Technology (ITA), RWTH Aachen University

We will regularly inform you about the everyday work-life, the international atmosphere, the different projects and success stories, the various biographies and career paths of the interesting people working at ITA.

With the help of these interviews, interested students can gain a deeper insight into the various fields of scientific work and research you can do as a Textile Engineer and maybe even as a student assistant at ITA.

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Dream2Lab2Fab – a German-Korea Cooperation Project: Interview with Dr. Hyunji Park from Korea

1.) You are currently working as a Post doctorand at the Institute for Textile Technology (ITA) of RWTH Aachen University. In which project are you involved?

"I am involved in the Dream2Lab2Fab – a German-Korea Cooperation Project. The Dream2Lab2Fab will connect the excellent expertise of Korea in electronics with German production technologies. Strong partnerships in science and industry have continued to push the boundaries of innovation and improved future products, production technologies and business models, e.g. Smart Services for the recently arising market for Smart Textiles."

2.) What is working at the ITA like? Please give us an insight into a typical day at work.

"Currently I have two official jobs at ITA: As Korea representative and as a research scientist. As a Korea representative, I keep the cooperation works with Korea partners in daily check and organize workshops and seminars held periodically. As a researcher I'm especially focusing on the field of smart printing. "

3.) Working at ITA means working in an international environment. Is the personnel at ITA also culturally diverse?

"The ITA staff of more than 150 comes from 15 different countries including India, Korea, Turkey, Italy and Canada. This diverse cultural environment brings forward new ideas and innovations in technology."

4.) Textile Engineering is a very specific field of research. When and why did you decide to become an expert for technical textiles?

"Most people know textiles only as clothes. But textiles are more: Fibre-based materials are high-performance materials in almost every application. Thus, I would like to introduce to other people, what the textiles can do."

5.) What did you study in your Bachelor’s and Master’s and in which field did you do your doctorate? How did you manage to get into your doctorate and Postdoc position?

"I hold a Master's degree in science in physics and biotechnology and a PhD in biomaterial and polymer science. For a long time, I have dreamed to realize my ideas to products. Now I'm making my dreams come true as a PostDoc researcher at ITA."

6.) What are your future career goals?

"I want to habilitate in the near future."

Thank you very much Dr. Hyunji Park and all the best for your future career!
Fibre reinforced composites: Interview with Dr.-Ing. Mohit Raina from India

1. You finished your doctorate at the Institut für Textiltechnik (ITA) of RWTH Aachen University. In which projects were you involved during your study and in which projects are you engaged now?

"Being at the Institut für Textiltechnik, I was involved in projects related to the field of textile machinery and field of fibre reinforced composites and concrete. The majority of the projects which I carried out were done with many other European professional project partners and the industry. For the specific focus of my doctorate, I focus on the airjet spinning technology. However ITA gave me the opportunity to work on projects where my knowledge as textile engineer was required. Currently I have started my business in India in the field of textile reinforced concrete which belongs to the group of advanced building materials which were developed at the RWTH Aachen."

2. What is working at the ITA like? Please give us an insight into a typical day at work.

"A typical day at work at ITA involves a large palette of activities. It involves activities like coordinating research as well as commercial projects, interacting with business partners, business visits, reviewing scientific literature, research on innovative topic, guiding students, experimenting on machines, project reporting, attending programs meant at improving managerial capabilities and a bit of administrative affairs."

3. Working at ITA means working in an international environment. Is the personnel at ITA also culturally diverse?

"Well the personnel at ITA make you feel at home. They integrate you in the system. If you show intent and willingness to learn, they integrate you in the team. Language is a barrier as some may say, but if the intent to do good work is clear, every employee accommodates your language hindrance and in fact assists you with learning the language faster as they become real time dictionaries walking around you all the time. The environment is also international as a number of students from all corners of the world including Australia, USA, India, Japan, Africa, Russia attend classes, do project work and also thesis work at the institute."

4. Textile Engineering is a very specific field of research. When and why did you decide to become an expert for technical textiles?

"Well, I have a primary bachelor and master degree in textile engineer and know the potential of textiles as advanced materials and their application in various industries. However since I originate from India, in the late 90s the textile industry in India is more of a manufacturing hub for commodity goods. This has been changing slowly over a decade. At the start of the century, there was less industrial practice going on
in the field of technical textiles. Being a potential for the future, some of my college professors guided me to enter into this field and explore the options in developed countries like Germany. Hence I set out on the path of learning more about technical textiles from only from books but also in practical daily life.

5. What did you study in your Bachelor’s and Master’s? How did you manage to get into your doctorate and into your nowadays position?

"I did my Bachelor’s from the Mumbai University and my Masters from IIT Delhi. During my masters course I had an opportunity to carry out a 9 month research project in Germany. This opportunity was provided to me by a scholarship given by the German Academic Research Association (DAAD). This scholarship changed my life and provided me with an entry into one of the most prestigious institutions in the field of textiles in Germany. I completed a successful Master project at ITA RWTH Aachen. As I said earlier if the intent to learn is right, the people around you at ITA give you the apt opportunity to grow. This growth was powered by trust in my ability to guide projects. Hence I was given this opportunity by the Director of the institute Prof. Gries himself, when he offered to guide me along the road of a Ph.D. He never said it would be easy, on the contrary the Ph.D. would help me structure my thoughts, my opinions and be prepared for the industry.

The Ph.D. didn’t just mean doing research but in fact growing as an expert and absolute professional in the field of textiles. This would ask for 16 hrs of work daily, which I was up for. It included aspects like learning the systems, learning the language, understanding research and implementing it. The journey through ITA brought me a juncture where I found myself to be the Chief Engineer of a team of above twenty German engineers. The mantra until the last day was “Learn and develop myself and in return give the institution my loyalty and results”. I finally moved on from the institution in 2014 where I moved onto start my own company along with Prof. Gries in India. The company looks into the manufacture of advanced building materials which I learnt in Germany at the institute."

6. What are your future career goals?

"I have started my own company Raina Industries Pvt. Ltd. and am going to grow is along with the support of ITA RWTH Aachen. The aim of the company is much in alignment with the values of the institution I worked for – develop people on innovative topics and also create employment in India. The goal is to become one of the largest pre-cast manufacturing companies in India."

Thank you very much Dr. Mohit Raina and all the best for your future career!
Project "InduNano" - light-weight construction in the automotive: Interview with Karolina Jaksik, M.Sc.

1.) You are currently doing your doctorate at the Institute for Textile Technology (ITA) of RWTH Aachen University. In which project are you involved?

"I am working on two public funded projects and several small R&D projects. My main task is to lead the project "InduNano". We want to heat up polymers by induction, what is possible due to a modification with nano ferrite. These polymer fibres will be used in light-weight construction in the automotive."

2.) What is working at the ITA like? Please give us an insight into a typical day at work.

"The work at ITA is a mix between organising, working at the lab, supervising students work and developing personal soft skills."

3.) Working at ITA means working in an international environment. Is the personnel at ITA also culturally diverse?

"Yes, it is. Anyway, the mostly spoken language between colleagues is German. But everybody is absolutely capable of the English language."

4.) Textile Engineering is a very specific field of research. When and why did you decide to become an expert for technical textiles?

"I came here for a student’s job and learned how wide the field of Textile Engineering really is. That is when I decided to stay here."

5.) What did you study in your Bachelor’s and Master’s? How did you manage to get into your doctorate position?

"I studied Material Science. And although this isn’t my faculty, the work has very much to do with material science. Especially in the field I am working in, the modification with nanoparticles in man-made fibres. I was working here for two years as a student and wrote my Master Thesis at the institute. Nevertheless, I had to apply for the job the same as everybody else."

6.) What are your future career goals?

"I want to achieve my doctor grade and work in the industry afterwards."

Thank you very much Karolina Jaksik and all the best for your PhD!
1. You are currently doing your doctorate at the Institute for Textile Technology (ITA) of RWTH Aachen University. In which project are you involved?

"I am not only involved in one project. As head of research group „3D-Preforming“, I am involved in many projects. In addition to controlling the projects I support the projects with my experience regarding project management and dissemination of the results into the industry.

I focus on the development of new preforming technologies for the manufacturing of fibre reinforced plastics. The preforming process includes cutting, handling and joining processes of textile carbon or glass structures. Within this topic I developed a new approach for preforming, handling and storage of textile preforms, which is also the main part of my PhD-Thesis.

In addition to my PhD, ITA gives me the opportunity to use my creativity and my engagement to develop and to implement new products. I have just launched a new textile product on the Kickstarter platform – the 3DLapPad. The special 3D textile architecture provides an optimum fresh air supply for laptops for better cooling and comfort.

Furthermore we developed with an industry partner a new innovative material – Carbonparkett. The material offers several different functionalities besides its precious look. The different functionalities (lighting, heating, touch) and the possibility to produce different surface designs offer a broad application for the product in many fields."

2. What is working at the ITA like? Please give us an insight into a typical day at work.

"The processing of the projects requires a lot of activities which are based on the communication aspect. The communication between colleagues and industry partners is the most important success factor. For this reason most of my time I am coordinating projects, organizing appointments, organizing my students, supervising student projects, discussing with partners the project status, visiting and talking with new industry partners and looking for new project partners. Another big part is developing new approaches for the composite market. For this I organize workshops with internal colleagues or with industry partners."
3. Working at ITA means working in an international environment. Is the personnel at ITA also culturally diverse?

"Definitely it is. If you analyse our projects and project partners you can see that we are represented internationally. The growing number of international contacts and business relations leads to an increasing number of international scientists, guest lecturers, foreign students and foreign industry visits."

4. Textile Engineering is a very specific field of research. When and why did you decide to become an expert for technical textiles?

"During my studies I got in contact with ITA for a student project. All this time, I've had so much fun working for and with ITA that I decided to continue in this field. After my studies I decided to make my PhD at ITA in the field of composites."

5. What did you study in your Bachelor's and Master's? How did you manage to get into your doctorate position?

"The requirements to get into a doctorate position are quiet challenging. During my studies and my student project I tried to learn as much as I could from the PhD students and tried to be involved in industry projects. Thus I was able to acquire a wide knowledge and work experience to get into the doctorate position."

6. What are your future career goals?

"I hope to finish my PhD next summer and hope to change into the industry sector. I don’t want to focus on the composite sector. I am always open to take new challenges. I could also see myself starting up a company for innovative products, for example the 3D LapPad. For me, a very important thing is, that work is enjoyable."

Thank you very much Mesut Cetin and all the best for your future career!
Carbon Fibres: Interview with Dipl.-Ing. Musa Akdere

1.) You are currently doing your doctorate at the Institute for Textile Technology (ITA) of RWTH Aachen University. In which project are you involved?

"I'm working in the man-made fibre department, in the carbon fibre group. Having graduated in Computational Engineering Science I gladly support all of my colleagues with regards to simulational topics. However, my main task is to investigate the carbon fibre manufacturing and to improve the manufacturing process with simulational means. For this I have a public founded project in which we measure the diffusion coefficients of the wet spinning process with Raman spectroscopy and use these coefficients as input parameters for computational fluid dynamics (CFD) simulations of the fibre building process."

2.) What is working at the ITA like? Please give us an insight into a typical day at work.

"Working at ITA is always exciting and challenging. Being responsible for different kind of projects you have to keep an open and fresh mind. There is always an new task requiring your attention and most of the time to think out of the box. Besides the project work you also have to establish new business connections to industry and engage in cooperation with other universities. Therefore, it involves a lot of traveling and meeting new people. Additional tasks are supervising students doing their thesis, conducting labour scale or industrial scale experiments or doing research on a new topic. To sum it up in a nutshell; it never gets boring."

3.) Working at ITA means working in an international environment. Is the personnel at ITA also culturally diverse?

"We have a lot of cooperation partners with different cultural backgrounds like Japan, India, Russia, Turkey and France, just to name some. We also have students from all over the world. This year I supervised a Master thesis from a student from Nepal and had an intern from Turkey. From other colleagues I know that we have students from Mexico to Australia."

4.) Textile Engineering is a very specific field of research. When and why did you decide to become an expert for technical textiles?
"During my study at RWTH Aachen I was looking for a project thesis for applied simulation and found a very interesting thesis about modeling the melt flow in an electro spinning plant. The more I researched the technical textiles the more I understood how important they are for our everyday life. Especially my field of carbon fibre research has a very promising future. Lightweight design and the possibility to save weight with carbon fibre reinforced plastics (CFRP) are getting more and more attention from the industry. I want to become an expert for carbon fibres become an intermediate layer between industry and research facilities. ITA as a textile research facility offers solutions for a variety of problems."

5.) **What did you study in your Bachelor’s and Master’s? How did you manage to get into your doctorate position?**

"I studied Computational Engineering Science, which is a combination of mathematical modeling and mechanical engineering. Graduates are predestinate simulational engineers. After graduating I worked at an automotive supplier in the simulation department. After three years I decided to return to university and apply for a doctoral position. During my work experience I realized how many textile solutions are used in the production of automobiles and I wanted to contribute to that development."

6.) **What are your future career goals?**

"After earning my Ph.D. I want to continue to build bridges to new technologies and also new cultures and people. This can be done by transferring the developed technology to a different country in form of an spin-off or by strengthening the bound to universities abroad as a lecturer. Both possibilities seem reasonable for me right now."

*Thank you very much Musa Akdere and all the best for your PhD!*
1. You are currently doing your doctorate at the Institute for Textile Technology (ITA) of RWTH Aachen University. In which project are you involved?

"I am currently doing my doctorate at the Institute for Textile Technology (ITA) of RWTH Aachen University. I am involved in the project related to production of elastic textile products from industrial waste. This project aims at the extraction of monomeric building blocks from industrial waste, which is converted to high value elastic polymer material. The elastic polymer is processed in the downstream processing line and subsequently textile products are developed".

2. What is working at the ITA like? Please give us an insight into a typical day at work.

"Our working day life contains following tasks:

1. Working for my publicly funded project
2. Working for my industry funded project
3. Project report writing
4. Preparation of new project proposals
5. Networking with industry to integrate them into projects
6. Supervision of student theses
7. Experimental work for PhD
8. PhD thesis writing"

3. Working at ITA means working in an international environment. Is the personnel at ITA also culturally diverse?

"Yes. The international students are cordially invited here for the scientific work. The international students get good opportunity to work in an industry oriented research atmosphere".

4. Textile Engineering is a very specific field of research. When and why did you decide to become an expert for technical textiles?

"During my Master studies, I decided to be a textile expert. The motivation came from professors at my home university during my master studies".

5. What did you study in your Bachelor's and Master's? How did you manage to get into your doctorate position?

"Bachelor in Textile Chemistry. Master in Fibre Science and Technology. I managed to get into doctorate position after my master thesis at ITA. Hard work and a well-defined aim is the key to get success".
6. What are your future career goals?

"My future career goal is to achieve a leading position in research either in a research institute or in industry".

Thank you very much Pavan Kumar Manvi and all the best for your future career!