Interviews on Alumni

Alumni can provide invaluable experience. In this edition of the alumni development report, we have interviewed eight alumni of the CDHAW (Die Chinesisch-Deutsche Hochschule für Angewandte Wissenschaften). The eight excellent alumni come from different fields and have different backgrounds. The interviewer had an in-depth dialogue with the eight alumni in terms of doctoral studies, experience of staying in Germany, the working environment in China and Germany, university education in China and Germany, chances in the job market of Germany and China, etc. At the same time, the eight alumni also gave a lot of valuable advice to young Chinese who are in Germany or want to come to Germany.

The 8 guests all graduated from CDHAW of Tongji University and covered all four majors of CDHAW. They are currently working in AI, automotive, energy, and semiconductor industries in China and Germany. They are:

Dr. Ziyuan Liu: majored in Mechatronics Engineering in class 2004, is now the Director of Robotics Technology R&D in Huawei Research Institute in Munich. He received his master's degree in Telecommunication Engineering from the Technical University of Munich, and then studied robotics at Siemens, where he received his PhD. After graduation of his PhD journey, he started his own startup for one year, then joined Siemens as an R&D scientist, and joined DAMO Academy of Alibaba at the end of 2008 to work on robotics-related technology development and product design.

Dr. Huchen Zhang: majored in automotive service engineering in class 2004, master graduated from RWTH Aachen University, Germany with a master's degree in automotive engineering, and completed his doctoral degree through the joint program of BMW and RWTH Aachen University. He has worked as a project manager for BMW's vehicle R&D configuration and software development, and is now the project manager for BMW's vehicle cost control projects.

Dr. Gang Lin: majored in Building Technology and Intelligence in class 2005, last year of the bachelor program he had an exchange study in Munich. Master graduated from RWTH Aachen University, majored in Energy Technology. After graduation, he was engaged in gas turbine research, and returned to China in 2015 and started his own company Marvel-Tech in Shanghai.

Dr. Mang Cai: majored in Mechatronics Engineering in class 2005, last year of the bachelor program he had an exchange study at Hochschule Esslingen. He studied at TU Braunschweig for his master and Ph.D. After returning to China, he joined Huawei's 2012 lab and is currently working at Huawei HiSilicon.

LuoKai Yan: majored in Building Technology and Intelligence in class 2008, master's degree in energy-saving and sustainable building from the Technical University of Munich, and now on-job doctorate of energy and power engineering from Zhejiang University. Also, he is the director of Digital Energy Department of Digital Energy Centre of Jiangsu Trina Intelligent Distributed Energy Co. He is mainly engaged in top-level design, consulting and information platform development in the fields of energy internet, integrated energy, power trading and low-carbon sustainable development. He has rich experience in low carbon energy operation and sustainable energy development.

Yangyang Liu: majored in automotive service engineering in class 2009, now team leader of Cluster System Architect of Bosch, previous Architecture Engineer for Bosch's self-driving vision system. During the last year of the bachelor program he had an exchange study at Hochschule Esslingen and completed an internship and thesis at ZF. Afterwards, he pursued a master's degree in Vehicle Engineering at the University of Stuttgart, during which he switched to the direction of autonomous driving. After graduation, he worked at ZF and Bosch in the autonomous driving department.

Dr. Shengqing Xiao: majored in Building Technology and Intelligence in class 2010, now working at Bosch Termotechnik as System- and Requirements Engineer. She studied at Hochschule Zwickau as an exchange student in her last year of CDHAW bachelor program and did her master at the University of Dresden in the field of Energy Technology. She got her PhD degree from Chemnitz University of Technology.

Zhen Lai: Majored in Business Engineering in class 2011, Head of Operational Purchasing @NIO Europe. He studied at BHT Berlin in the last year of his CDHAW bachelor. In 2015, he started his master program of business management at the Technical University of Munich (TUM), during which he completed his internship and thesis at Infineon, Nio Capital and Porsche Consulting. After graduation, he joined Nio’s European procurement team.

Topic1: Experiences and Thoughts on the Path to Pursuing a Ph.D.

Why did you choose to pursue a Ph.D.?

Dr. Ziyuan Liu

The opportunity to pursue a Ph.D. arose during my time as a working student at Siemens, and it happened by a stroke of luck. I was performing well in my work, and another team was interested. Through internal referrals, I ended up continuing my Ph.D. at Siemens, focusing on robotics and affiliated with the Chair of Communications Engineering of the Technical University of Munich.

Dr. Shengqing Xiao

My decision to pursue a Master's degree followed an unfulfilling bachelor exchange year in Germany. I felt I hadn't gained enough knowledge during my studies, and I believed I needed to continue my education. I applied for Master's programs in Germany and received acceptances from the Technical University of Dresden and RWTH Aachen. After comparing the programs, I chose Dresden, focusing on my area of interest.

After graduating from Dresden, I began job hunting. At that time, several companies offered promising opportunities, and I initially had no intention of pursuing a Ph.D. I was particularly interested in a project recommended by my thesis supervisor, which involved carbon-neutral heating transformations in residential areas. Looking back, this project was visionary, as it was around 2017, and the concept of carbon neutrality had yet to gain widespread attention in China. Germany was discussing energy transition, but the emphasis was not as strong.

The project was enticing; it was a federal initiative with substantial collaboration between my former professors, the Zwickau city government, and a university in Munich. After I joined, our senior professor often emphasized that working in a university without pursuing a Ph.D. would be a missed opportunity. Over time, his words convinced me, and I decided to pursue a Ph.D. The idea initially stemmed from curiosity and evolved as I realized the potential for personal and professional growth.

What Is Most Important During the Ph.D. Journey?

Dr. Mang Cai

In my opinion, maintaining curiosity and an eagerness for knowledge while remaining open to new experiences is crucial during a Ph.D. journey. When I was working on Light Detection and Ranging (Lidar), there were only a few dozen people worldwide, including China, working on it. I found this fascinating. In 2018, during my research at Huawei on automotive topics, the electrical research team consisted of only five or six people, making us pioneers. When I proposed the topic "Wickelungs-theorie" for my Ph.D. thesis in Braunschweig, my advisor mentioned that it was a niche topic that no one had explored for five to six decades. There were perhaps only five or six people worldwide working on it. Yet, I chose this topic.

Discovering small joys in learning and continuously striving for improvement is my personal character. China is currently undergoing significant technological advancements, and there are numerous opportunities for exploration and innovation, especially for those willing to try new things. Maintaining curiosity and a willingness to explore can provide a significant advantage.

Dr. Ziyuan Liu

The most crucial aspect of a Ph.D. journey, in my view, is the ability to self-learn. Once you enter university, professors can only provide fundamental knowledge. As you progress through graduate and Ph.D. programs and delve deeper into a specific field or topic, professors may not always guide you on what to do. Therefore, developing strong self-learning skills is essential. If you have a deep interest in something, keep digging deeper, learn relevant knowledge, transform what you see and hear into your own thoughts, and make judgments. This ability is vital. Waiting for others to tell you what to do or how to do it is not sufficient.

What Choices Follow After Completing a Ph.D.?

Dr. Ziyuan Liu

After graduating with my Ph.D. in 2014, I entered the field of robotics, focusing on computer vision. At that time, I ventured into entrepreneurship with the idea of creating a digital platform for photo digitization. The mobile app allowed users to scan photos, creating digital images for sharing with family and friends. Although the startup was not ultimately successful, I learned valuable lessons about project management and product design.

Dr. Shengqing Xiao

Regarding post-Ph.D. choices, I lean towards the industry world due to personal preference. Staying in academia would require continuously publishing papers. After achieving results, you must summarize and present them in various journal formats, following their specific requirements. I personally don't enjoy this process. In the corporate world, you are closer to the market, large companies have sufficient budgets, and they have their own laboratories for testing and data collection. I chose to seek employment and joined Bosch Thermotechnik in March 2022, starting as a management trainee in the research and development department. I recommend pursuing a Ph.D., but whether to stay in academia or to switch to industry depends on individual preferences and whether the role aligns with your interests. It's essential to assess if you can find a sense of accomplishment, whether you can contribute to your own development, and if you can continue learning.

Differences Between Pursuing a Ph.D. at a German University and in the industry?

Dr. Huchen Zhang

Pursuing a Ph.D. in a German university and in an industry can differ significantly. University Ph.D. programs in Germany are typically longer, lasting around five years for institutions like RWTH Aachen or the Technical University of Munich. The initial two years are often spent on project work, and it's only after this period that students choose specific Ph.D. topics. The subsequent three years mainly revolve around in-depth research on the chosen subject.

On the other hand, most corporate Ph.D. programs in Germany last for three years. Upon entering a company, you are assigned a specific project with allocated funding. Ph.D. candidates often act as project managers, conducting research while contributing to the company's objectives. Additionally, corporate Ph.D. programs do not confer Ph.D. titles; candidates must collaborate with a university professor to supervise their research and ultimately receive the Ph.D. title. Hence, compared to university-based Ph.D. programs, corporate Ph.D. candidates face a triad of pressures: research, practicality, and time constraints.

Topic 2: Working Experiences in Germany and China

What are the similarities and differences you've experienced in the working environment in German and in China?

Dr. Ziyuan Liu

I think both approaches have their advantages and disadvantages. If a task is something with a high level of certainty, then China's approach may be more efficient, with less discussion. Everyone sets the plan and follows a strict KPI evaluation system. In situations with clear goals and expected results, this work style is the most efficient. But if you're doing something more research-oriented, you might need to consider whether working under a more open, broad, and discussion-based approach would be better. This mainly depends on your goals because sometimes, in research, the objectives are constantly changing. How do you adapt to such changes? China's approach is more focused; I set a goal, and I keep working towards it. In contrast, the Western approach is more open, allowing for discussions and pursuing open-ended goals.

Zhen Lai

Most of my career experiences have been in a Chinese company in Germany: NIO, which is quite an international environment with colleagues from over 30 nationalities. From my personal experience, I don't see significant differences between the Chinese and German workplaces. It's all about people working together, and there will always be clashes and adjustments. Whether the work pressure is high or not depends on the individual, as pressure often comes from superiors. If your boss entrusts you with these pressures, it's also a sign of recognition because they trust you with important tasks. So, I believe pressure can have two sides. Personally, I enjoy a high-pressure environment where I wake up every day thinking about what I need to do. I set goals for the day, the week, and even further ahead. So, I personally enjoy it, but others might not like such a high-pressure environment, and they naturally choose differently. It's a matter of personal choice.

How do you view your experiences in Germany helping your career development in China?

LuoKai Yan

To be honest, the influence of my study in Germany on my career in China may not be significant. Even if I hadn't come to Germany, I might have experienced similar growth and progress in my career. As an overseas returnee, having an good international background can serve as a stepping stone in certain industries. However, this is merely a stepping stone.

In your subsequent career, your true capabilities, interpersonal skills, and, to a large extent, even luck play a more significant role. My time in Germany might have made me more rigorous and possibly even more rigid. Whether this change is good or bad is challenging to determine, as it depends on the specific circumstances. Nevertheless, I have no regrets.

Some people think that if you spend time in Germany, you'll become rigid and resistant to change. But that's not the case. It's just that you'll learn to adhere to your principles more. Ultimately, career development relies on your true abilities. As long as you are competent, your career will not really be hindered.

Dr. Gang Lin

I returned to China to start my own business because, during my time working at a German company, I had reached the position of a company partner. This experience gave me a deep understanding of how businesses operate and the logic behind them. Additionally, it coincided with China's 13th Five-Year Plan tackling critical challenges, and I received an invitation and felt it was appropriate, so I decided to return.

During my time in Germany, I gained a deep appreciation for the country's nationwide research and development system. This included how the industrial system functioned and how various levels of research coordinated with one another. Germany's mechanism for collaboration between small and medium-sized enterprises (SMEs) and large corporations particularly intrigued me. SMEs, which contribute significantly to the country's industrial output, received government support. They formed research and development alliances and worked with universities to achieve common goals. In these alliances, every company, regardless of size, had equal voting rights. They collectively determined research priorities, and university research institutes undertook specific projects.

Dr. Gang Lin

At each stage of development, the results were subject to evaluation. In the end, all members shared the outcomes, fostering progress and development among both large and small enterprises. This model taught me that large corporations aren't always the best option. Many SMEs excel in niche areas and hold the key to specialized technologies. In many cases, they drive innovation, while larger corporations focus on system integration. This concept contrasts with China's approach, which often revolves around resource allocation. However, once a large corporation reaches a certain size, it may experience delays in innovation and adaptability. So, don't blindly aspire to work for a big company; many smaller enterprises hold the keys to specialized technology and innovation.

How do you view your experiences in Germany helping your career development in China?

Dr. Huchen Zhang

First and foremost, language is essential. In Germany, especially in companies like BMW, the primary communication language is German. Being proficient in German is a necessity because in group meetings, people may not consider your feelings. You need to quickly comprehend their discussions.

Furthermore, there are cultural differences between Chinese and Germans. After spending so many years in Germany, I gradually learned how to interact with Germans. When dealing with Germans, it's generally better to be direct. If you have an issue, express it directly, and they will typically accept it. Moreover, Chinese students tend to be more reserved. They may not be as proactive as German students, who, even as interns in a company, are eager to present their ideas and seek recognition. This is something I hope Chinese students can learn from their German counterparts – to be more courageous in expressing themselves and their opinions. By expressing yourself more, you can also engage in deeper thinking and leave a stronger impression on others.

Chinese students are quick learners and hardworking. If there's something they don't understand initially, they can go back and study it until they grasp it. However, in the industry world, especially in larger meetings, there are times when strong on-the-spot reactions are required, particularly for the sake of one's interests. This places high demands on language skills. It's clear that language is indeed crucial.

Dr. Shengqing Xiao

One thing is transparent communication, whether in dealing with people or in doing tasks. This quality is essential. You should communicate with others very sincerely and be genuine in your interactions. Another important aspect is understanding others, including in your work. If you are working with someone on a project, you should try to see things from their perspective, even when their actions may not meet your expectations. At such times, it's crucial to try to understand them and provide positive guidance.

Furthermore, you should be very courageous in expressing yourself and your ideas, regardless of the topic of discussion. In the past, you might have thought that you should carefully consider your ideas and only express them if you were confident they were right. However, in my interactions with Germans, I've found that they are very brave. They say what's on their minds, communicate openly, and are very direct. If you adopt a similar approach, you can not only sharpen your thinking and language skills but also help others understand you better. Sometimes, if you don't express your ideas, the other person won't be able to understand you. But if you express yourself more and share your thoughts, it allows for better mutual understanding and learning between you and others.

Topic 3: Chances for the People with both Chinese and German backgrounds

Specific in your field, are there any special opportunities for people with both Chinese and German backgrounds?

Zhen Lai

It is a once-in-a-century opportunity for students with German educational background, who are interested in the automotive industry, electrification and artificial intelligence, as well as autonomous driving, to participate in the transformation of the industry. Through internships and jobs, students with Chinese and German educational backgrounds can get in touch with the most advanced knowledge and experience in the automotive industry, which has already been accumulated in Germany for so many years. Nowadays, more and more Chinese automobile companies are going overseas. Talented students will have more advantages to join these companies. Our Chinese language is one of the most important advantages, because you can communicate seamlessly with your colleagues in China, and you can report better to your executives in China. Because even if we all speak English, sometimes it's hard to explain your emotions. Communicating in your mother tongue is a unique advantage beyond imaginations. If you are good in German, you can communicate better with partners, suppliers and other people in the industry. Language is always the most important tool for human beings.

Yangyang Liu

For automated driving, German companies don't care if you are Chinese or German during hiring. Which matters is whether you have experience in this field, and whether your major and course of study match. In Germany, there is a relatively large need in talented students in the software engineering and artificial intelligence industries. Compared to software engineering students, it is more difficult for us (vehicle engineering students) to enter the automated driving industry. But we have a more comprehensive understanding of the automobile, it is easier to grasp the overall view.

Take the system architecture for example, which I'm currently working on. From optics to body control to hardware is something I need to understand and consider in the design and decision making. So I may not be drilling down to a specific detail, but I need to have a very broad view, which is one of the advantages of being a traditional vehicle engineering student. The prerequisite is that during your studies, you already have knowledge of the industry. Through your thesis or internship, you have some understanding of AI networks, deep learning and tangible programming experience, which will be more helpful to enter the industry.

Dr. Huchen Zhang

Many Chinese companies in the automotive industry are on the rise. In fact, the rise of China, not only in the automotive industry is wonderful for us Chinese students in Germany. Because whether you are in the company or privately with your friends, they will know more and more about China and want to know China through you. This will bring you a lot of opportunities.

LuoKai Yan

Actually, it's also a case-by-case analysis. Many people hear that you come back from overseas, they will want to know whether you have brought back something advanced in the field, even to cross certain barriers. As the old saying goes, foreign monks are better at the scriptures. If you have this kind of technology, then it can help you quickly open up the situation, which is meaningful to your carrier.

In the electricity reform and power trading field, in fact, the German background doesn't mean too much. Since 2015, the beginning of the reform of the Chinese electricity system, there are two lines of contention. One is the European model, represented by Germany, and the other is the American model. Of course, there are many other small models. There is a certain amount of competition between Germany and the United States. In this piece, who studied in Germany relatively suffer a little bit, doing not as well as export and publicity from United States. Now the American models are in the top therefore.

Of course, in the context of the current national "3060" dual-carbon goals, in fact, the energy industry provides a lot of opportunities for talented students with German background, especially on the user side. For example, the virtual power plant, or load integration field, Germany is doing very strong. That can give China a lot of inspiration, that's the opportunities for talented students with German background.

Dr. Ziyuan Liu

In my field, there are great opportunities in China. My field can be understood as a cross-discipline of AI and robotics. From the perspective of the past decade, that is to say, from 12 years onwards, the field of AI has been an overall changing. First of all, deep learning has become a must-have tool now. 12 years ago, everyone was using traditional methods, doing different attempts in the areas of concern, and then including the robot itself, which is very weak at the hardware level, whether it's your computational motherboard, sensors or actuators. But today, you will find that in addition to this intelligent algorithms, data-driven type, deep learning type of things that I just mentioned have made huge advances, the industry of robotics itself has also changed drastically. Robots have now entered a stage of localization, and there are a lot of excellent startups in this market in China, and you'll see that their technology is infinitely closing in on the world's top few.

Dr. Ziyuan Liu

In fact, once we reach this stage, I think another five to ten years may bring us an explosive period. Because with this level of industry in China, these expensive hardwares become relatively cheap, and the quality is to be guaranteed. Then after five to ten years, when the robot hardware level in China's industrial level under the support of a substantial increase in the words, I believe that the robot as a whole as an industry, as well as the intelligent algorithm of the entire industry will be more and more extensive landing. Especially in China, the huge market will see a huge outbreak.

Topic 4: Advices to the Chinese Students in Germany

Do you have any advice to the Chinese students in Germany?

Dr. Mang Cai

When we went abroad, Dean Prof. Feng gave us some words, I remember one: less sprechen, more zuhören. So, you have to pay special attention when you go to Germany, listen more and see more. And don't be prejudiced, Germany actually has a very deep history of philosophy, technology and other aspects. Germans have a lot of unique ideas. We should learn more, listen more, do not rush to conclusions.

Another point is to cherish the opportunity to go out, especially in this globalized world, and learn more about other people's advanced things, especially the inner things, rather than the superficial things. For example, Zeiss has a long history. The founder of Zeiss discovered the diffraction limit in optics, and later a scientist founded the company. So how come the Germans were able to make a scientist-start-up-company world-class, are we able to learn something new from it?

Dr. Gang Lin

Learn German well, there is only better, there is no best. We should speak German as close as possible to the level of mother tongue. After coming to Germany, whether you are studying or working in a company, also in the daily life, language is a very important communication skill. Otherwise, it will be more difficult to advance in any matter. Another thing is that after you come to Germany, you should take internships and thesis seriously, and grasp these opportunities to go to companies. Because this is a very good method to learn. First of all, it's for students to understand what their majors mean in the top companies during their study, and it's also a very good stage to show yourself. Only when you show your excellent learning ability, language ability and communication ability during this period, can enterprises fully know you and trust you.

Zhen Lai

From my experience of 10 years in Germany, the most important advice is to learn German well. Even if you can't achieve a score of 1.x in your study, language is still more important. In my opinion language is the most crucial key for you in Germany. In fact, if we choose to go abroad, we have to learn to live independently and undertake, for example, to deal with the foreign affairs bureau, even as small as to send a post, there will be a lot of opportunities for you to push yourself to open your mouth. As long as you dare to talk, your language will be better. Chinese friends in Germany are very important, but you also have to talk to Germans, you don't even have to be friends with a German, just talk to him. I have a tip, maybe the parents don't like, is to participate in more parties, and drinking alcohol (moderately of course) with Germans on those parties. Drinking a little alcohol in fact, your German skills will not be damaged, but your dare to say more. Actually, make some mistakes is okay, grammatical errors are not a problem, let everyone know what you want to say, and the language will become better.

Yangyang Liu

A master's degree in Germany may take a little bit longer than in the UK or the US, but if you really want to be more solid in a certain field, Germany is perfect for that. It has a very systematic study schedule and program, and you can make adjustment according to your interests. The dissertation experience is not only very challenging, but it also allows you to learn very solidly, so that you know exactly what you know about this small area. Therefore, German degrees are actually very well recognized by some institutions and companies in Europe or North America. The cost of studying abroad is relatively low. Language-wise, you can of course rely entirely on English here, in all aspects of life, including all aspects of school. However, if you want to enter German society more deeply and communicate with your colleagues and classmates, German is of course very necessary. Finally, Germany's industry is still relatively unique, such as hardware, automotive industry and chemical industry, etc. You probably have to combine your own interests and the strong companies or colleges in this area in Germany, since, Germany is not as big as the US or China, it cannot cover all industries comprehensively.

Dr. Ziyuan Liu

First of all, you must learn your own major well, which is a basic condition. On the other hand, I think we can still learn the language as well as possible, no matter whether you are good at English or German. You must have at least one language to be more proficient, because when you start to work, or to communicate with people, you will find that your ability to communicate, as well as a lot of soft skills is actually indispensable.

Dr. Shengqing Xiao

The most important thing is to be good at German(language). This is the most important ability for you to live, study and find a job in Germany. For example, if you are looking for a job, what is the first thing you will be interviewed? It's the level of German and the impression of you as a person.

And at Bosch, we are now recruiting interns or regular employees, and I have watched my colleagues go through the screening process and interviews, and they pull out people's transcripts and look at them one by one. At least in a big company like Bosch, probably because of the many choices, it cares a lot about your GPA, and it may not be the total GPA, it may be the GPA of each course, especially the courses related to your major, so studying hard is a must.

Dr. Shengqing Xiao

Secondly, after coming to Germany, you should participate in various activities, go out of your comfort zone, meet new people, and have different communication with different people. I think it is also very important to enjoy life while studying. Including enjoying the campus life in China from the first to the third year of CDHAW, exercising more and keeping healthy. Then you should have a plan for yourself early, and start to learn more practical stuff about the industry when you are still studying. And track the hot industries and adjust your study direction based on that.

LuoKai Yan

The first thing is to learn German well, I think this may be worth saying three times. (For the students of CDHAW who have to study professional courses immediately after arriving in Germany) Don't always think of learning German in German environment after arriving in Germany, in fact, the only time that you could learn German systematically, is the time before going to Germany. If you don't have a good foundation in German, you will have a hard time in the courses you want to study, and then you will have no time to learn German and communicate with Germans to improve your German, which will lead to a vicious circle. Then when you arrive in Germany, make sure you go and speak more German and don't be afraid to make mistakes. When you first arrive in Germany, just be brave, and people may be more tolerant of your German and willing to communicate with you. For everyone, language ability is not a decisive factor, but it really affects the speed of acquiring information, or the efficiency of learning knowledge, and that really has a very big impact.

In addition to language skills, I think it's also important to participate in more activities and keep an eye out for opportunities. Often, changes happen inadvertently. For example, if you go to a presentation or a forum, you may unintentionally decide the direction of your career after that. Personally, I've been able to get into my current career path through a number of associations and activities.

Dr. Huchen Zhan

First of all, learning German well is definitely one. You have to learn German well in China already, and when you come to Germany, you have to understand German society and communicate with Germans more. Chinese circle is very important, but you should not limit yourself to your own Chinese circle. You should try to make some German friends, to understand German culture, and then improve your German language skills.

Dr. Huchen Zhang

The second thing is to focus on the internship and thesis in the company. Of course, when you come to Germany in your last bachelor year, you will be required to do internship and thesis to be able to graduate. And it is better to go to a real German company. If you are a little bit confused about what you should study or do in the future, you can consider the IT field, which is a very promising field. Coders, or people who know how to program, are in high demand in Germany, as well as in the wider industry, and there is a particular shortage of them in Germany. Most Germans are reluctant to study IT, and although the mechanical industry in Germany has become more and more unpopular over the years, if you ask the Germans, the first choice of many of them is still to study mechanics. For example, the German car manufacturers, BMW, Mercedes-Benz, Audi, the demand of them for talents in machinery or automotive, shrinking very quickly. On the contrary, IT-related talents are in short supply.

Topic 5: Views on the Education Systems in China and Germany

What are the characteristics of higher education in Germany compared to the Chinese system?

Zhen Lai

Everyone is encouraged to think independently about their own pursuits and make decisions about their future. In Germany, some students may decide to discontinue their studies, while others might work part-time jobs to support themselves while pursuing their education. It's essential for younger students to engage in thoughtful self-reflection to understand their own goals and motivations. Blindly following others' advice without considering one's own aspirations is discouraged. The most crucial aspect is to continually reflect on why you are doing. Making mistakes is not a problem; the key is to sum up, analyze, and use those experiences for self-improvement.

Yangyang Liu

In Germany, the education system is indeed quite serious, from attending classes to writing papers and participating in internships. Upon arriving in Germany, many individuals experience a fundamental shift in their mindset. While studying in China, one may often have the perception that there is still a safety net supported by family. However, in Germany, it becomes very apparent that everything depends on one's own efforts. This profound change fosters a sense of independence. Independence can be a source of positive motivation, but it can also lead to feelings of loneliness. Nevertheless, this transformation makes individuals feel more self-reliant and responsible. You become accountable for yourself, and it encourages a more proactive and resilient approach because you have to manage and cope with the pressures independently while striving to achieve your goals.

Dr. Ziyuan Liu

In Germany, the education system encourages a sense of autonomy from childhood through adolescence and high school. It doesn't expect everyone to become an elite achiever, and their high school exams, in comparison to China's National College Entrance Examination, are generally less stressful. However, you'll notice that individuals with a strong sense of self-motivation and a desire to excel in their chosen field from a young age tend to perform exceptionally well. They continuously develop themselves based on their interests and passions, pushing themselves towards the next challenge. Such individuals often demonstrate remarkable performance when they enter the workforce. Those individuals who are naturally more self-disciplined and thrive in structured environments will do better in this system.

Dr. Shengqing Xiao

German education encourages students to think on their own and demands more creativity and hands-on skills. They don't have the same rigid academic schedule as in some other countries. Students have a greater degree of autonomy and flexibility. In Germany, students can choose when to take certain courses and may even take breaks if they wish. As a result, graduation times may vary among students, and each person has the freedom to make their own choices. Additionally, in Germany, during high school, there is often an opportunity for students to spend a semester or a year studying abroad. This exchange model is indeed an excellent way to promote international exchange and understanding among countries.

Dr. Huchen Zhang

Students in Germany do not pursue elite universities and do not pursue particularly high grades. When I was looking for my master's thesis and internship, I found that even if my grades were good, if I didn't have too much practical experience, and if I was not fluent in German, it would be very difficult to find internships and thesis opportunities in Germany. The key to utilizing time for German students is to internship and thesis, as actually learning by practicing. It is important to understand what others are discussing and to be able to quickly participate in their discussions in a fast-paced work environment. You also need to learn how to work with others to complete a project and how to play a leadership role in a team. These are things that are not easily learned by reading books.

Dr. Mang Cai

Personally, I feel that the most profound experience is the friendship between the mentor and the student during the PhD program. A good teacher-student relationship is not personal, but based on academic heritage, "I am his student, so I cherish the reputation of my professor and my college". The reputation is important for academics or technology field, in Germany and even in Europe. Similar to the former chivalry, this aristocratic spirit gives me a deep feeling. This kind of academic heritage may take a long time to accumulate in China.

Dr. Gang Lin

Most of the R&D in universities is done by professors and engineers from industry, who bring real products in industrial practice to distill the actual engineering problems.
Germans especially like to do 1:1 real experiment. They do not like to do some mechanical rationality of the module, but to take the engineering problem to do experiments, which can be very good to restore. And the result will be directly applied to industrial field. Not only theoretical analysis, but also solid experiments should be close to the real engineering reality. This piece of influence on me are still relatively deep until now.