The third summer school also jointly applied by Beijing Jiaotong University and RWTH Aachen University, sponsored by CDZ (Sino-German Center for Research Promotion) was successfully opened in RWTH Aachen University, Germany, from Aug. 1st to Aug. 9th 2016. It is the complete successful cooperation again between two universities after the triumphant held of two Chinese-German summer schools in 2012 and 2014.

The theme of the summer school is “The Failure Theory of Metal Structure and the Design Method of Reliability”. After the strict selection processes of application, ability assessment and language test, 15 participants from Chinese side are chosen from Beijing Jiaotong University, Jilin University, Harbin Institution of Technology, Beijing Institute of Technology, Nanjing Forestry University, Taiyuan University of Science and Technology, China Academy of Railway Sciences as well as Integration National Engineering Laboratory of High-speed Train System. 14 participants from Germany side come from the 5 top universities around the country, such as RWTH-Aachen, Leibniz University Hannover, University of Stuttgart, University of Siegen University of Leipzig as well as Juelich Institute.

The opening ceremony was hosted by German applicant of the summer school, Prof. Markert, chair of the IAM, RWTH. Mr. Biermann from Institute of Laser technique, Mr. Janssen from RWTH international office and Ms. Gensterblum from RWTH international academy presented welcoming speeches. Chinese applicant, Prof. Lele Zhang introduced the organizing and preparing processes of the three summer schools as well as the achievements have gotten, she also sincerely appreciated CDZ for its finances of three summer schools, which pushed the activity forward a cooperation “brand” gradually. This program acted as a bridge of international communication and established a decent platform and space for promoting the cultural, academic and scientific research exchanges between universities schools and countries. In the introduction of student activities and education of RWTH Aachen University by Mr. Gensterblum from international academy, summer schools as a kind of the supplementary pattern for teaching was highly appraised, which let students all over the world get to know RWTH Aachen University, and let the RWTH Aachen university provides resources for much more students. The third Chinese-German summer school will benefit more students from both China and Germany.

In this summer school, 6 lectures corresponding on the theme were presented by 2 lecturers are from RWTH Aachen University, 1 lecturer is from Darmstadt University of Applied Sciences and 1 lecturer is from Xi’an Jiaotong-Liverpool University as well as 1 lecturer from Comprehensive Technology Research Institute of Japan Railway. The participants raised actively asked questions and communicated with the lectures. A dynamic and open atmosphere in the class led to a delightful outcome in lecturing process. Moreover, the core of this event is group student reports, giving students full display and communication space, and 9 student seminars were held on the damage and fracture mechanics, multi-field problems, dynamics and control of mechanical systems, structural health monitoring and maintenance, mechanical and mathematical research material methods.

In the part of laboratory tour, all the participants were arranged to visit some outstanding laboratories in and around RWTH such as Fraunhofer Institute for Laser Technology (ILT), Laboratory for Machine Tools and Production Engineering (joint WZL and Fraunhofer Institute for Production Technology IPT), the Laboratory of IAM (Institute of General Mechanics) and the Laboratory of IWM (Institute for Material Applications in Mechanical Engineering). Through the introduction and demonstration given by the engineers working in these laboratories, all the participants gained a further understanding on the advanced scientific research level and high manufacture processing capability in Germany; most participants learnt the importance of combining theoretical research into practical application with regard to the mechanical industries as well as relevant fields. In the discussion sessions, all the participants actively introduced their current research projects and universities in their presentations.

A special excursion was held in the Volkswagen's Osnabrueck factory, which is one of the main assemble bases for cars. There, the participants mainly toured of the part of assemble in this factory, Along the
production line, following the engineer's explanation, students observed the assemble process of complex mechanical structures, application of intelligent manufacturing equipment, and experienced the high level industrialized product reached and the manufacturing process of modern automobile. After the visit, the participants reread the key problems about the process how basic theory and methods can apply into engineering practice by the comprehensive understanding.

The organizer of the summer school also planned a guided tour to the famous Aachen Cathedral for all the participants to understand the city history, the catholic relics as well as the splendid culture of Aachen. Participants from Chinese side even spared sometime to explore and experience German society and people. During the weekend, some Chinese participants enjoyed a train and cruise tour along the Rhine River, witnessed the beautiful natural landscape of the Rhine and experienced the local life and manners in the small towns on the river bank.

The closing ceremony was held in the afternoon of Aug. 9th. Applicants from both sides, Prof. Markert and Prof. Zhang first summarized the program and considered it as a successful and inspirational academic event between Chinese and German students in specific research fields. Summer schools have gotten substantial achievements for the scientific research and student training between two universities. Both sides are willing to take this opportunity to innovate and perfect the pattern and content for an ongoing summer school in the future, which will further make a contribution to the international communication between China and Germany with regard to the science research and the culture exchange based on the full recognition of sponsors, partners and participants. Certificates were awarded by both professors to all the participants on the ceremony.