



VIDEO TRANSLATION

DCA: "Welcome to everyone tuning in - To assist in the transfer of knowledge we will be conducting a series of video interviews with partners of the Marie Curie European Exchange Project No 734340 Dew-Cool-4-CDC. Today I am pleased to be joined by Dr Yuting Liu, from Tsinghua University.

Dr Liu: Hello.

DCA: To help those watching could you first tell me a little bit about Tsinghua University and your own daily responsibilities within the organisation.

Dr Liu: Tsinghua University is one of the top two universities in China with 110 years of history. Tsinghua University has developed a large quantity of engineering and technical skills. We're part of the Energy and Power Engineering Institute which cultivates skills and conducts research projects around clean energy, advanced power, and energy strategy mainly. This project is related to data centres and investigates low-energy cooling systems centred on dew-point cooling technology. Our organisation is responsible for developing dew-point evaporative cooler.

DCA: Can you tell me about your involvement in this Marie Curie European Exchange Project?

Dr Liu: I have participated in the major research work of dew-point evaporative coolers since the start of this project. I have visited Hull University in UK from 2017 to 2019, to complete the development, design, optimisation, produce and test work of high-efficient dew-point cooler, and received desirable results.

DCA: What are the principal goals and objectives of this project from your prospective?

Dr Liu: I think the goals can be divided in three parts. The first is developing low-energy cooling system for data centre, to achieve the energy conservation and emission reduction in data centres. The second is cultivating outstanding skills in novel low-energy cooling system area. The third is building up international communications and relationships in the energy conservation and emission reduction field, to promote the technological development in this area for the world.

DCA: Specifically what work packages and deliverables are you as an organisation responsible for?

Dr Liu: Tsinghua University is mainly focused on a core part of low-energy dew-point cooling system, namely the dew-point evaporative cooler. The research work includes the development, design, optimisation, produce and test of low-energy dew-point cooler. These are the main areas of our work.

DCA: Next we'll ask some technical questions. Can you introduce to our audience about the dew point cooler technology? What's the difference between DPC and traditional cooling technologies?

Dr Liu: Compared with traditional cooling technologies, dew point cooling technology has an obvious advantage in energy saving and environmental protection, because DPC only requires fans, water pumps, instead of high-energy components like compressors. Water is the refrigerant for it, and cooling can be produced in a high efficiency without any pollution as the evaporation of water absorbs heat. Therefore, it is an energy-saving and environmental-friendly cooling method.

DCA: Can you tell us more about TSING's work in the development of this technology and why does this technology important to the whole system?

Dr Liu: As mentioned above, dew point evaporative cooling system is a core component in the whole system, and Tsinghua University is responsible for the development and research of this cooling system, which is the core part of the whole project.

DCA: Can you introduce to our audience to the CDC waste heat recovery system that developed (or used) in this project?

Dr Liu: The CDC waste heat recovery system was completed by Guangdong University of Technology. The role of Tsinghua University is coordinating with GDUT to research the microchannel heat pipe in this system. Perhaps the principle of CDC waste heat recovery system should be introduced by GDUT.

DCA: Can you tell us more about TSING`'s work in the development of this technology?

Dr Liu: The technical work responsible by TSING is just about dew point evaporative cooling system, including the early-stage development, design, late optimisation, and final test of dew point cooler. These are the specific areas of responsibility for TSING.

DCA: and why is this technology important to the whole system?

Dr Liu: The core of the whole system is DPC, and this component works with water, only requires fans and water pumps rather than compressors. It has the obvious advantage of saving energy and protecting the environment, it is at the core of the whole system. Other systems such as waste heat recovery system are aiming to help dew point cooling system work in high efficiency. The job responsible by TSING is specific to research this DPC, including the early-stage development & design, optimise the detailed work, and finally test of the whole system, then deliver a desirable result. These were the major areas of work for TSING. As for waste heat recovery system, TSING is focusing on one component of the system, called microchannel heat pipe. We have optimised this heat pipe and heat recycle. These are two different systems.

DCA: Finally, can I ask you to summarise why it was so important for Tsinghua University to participate in this project and highlight the value of what it has and or will deliver?

Dr Liu: Tsinghua University always pays great attention on international cooperation and provides a lot of opportunities for international communication for both our teachers and students. This project involves multiple universities and enterprises across China, UK, France, and Germany, etc. For every participating organisation, it is a valuable chance to widen your visions and improve the level of research. Especially for us young researchers, it helps to broaden our international views by participating at an early stage of scientific careers and is important for personal development.

DCA: that great Mr Dr Liu, that just about leaves me enough time to thank Dr Liu, from Tsinghua University for taking the time today to explain a little more about the Marie Curie

European Exchange Project and the valuable contribution it has made to the research and development of the Dew Point Cooler technology. This interview will be available to view on the project website shortly, where you will also find interviews with all the partners involved in this project. Thank you.