All my life is in the title of the book
——Remembering the mentor, Professor Austen Angell

Austen's younger brother told me that Austen passed away yesterday. It is very sad. I didn't believe it at first, but received related emails one after another, confirming that it was true. What can be done during the epidemic? I just talked on the phone with Mr. Yue, who is far away in Denmark. Everyone is heartbroken and regretful for losing a respectable mentor and helpful friend. They all want to do something.

I always thought he was very healthy, even though he was almost 90, every time I saw him he was full of vitality and never tired. I even thought he could live to one hundred years old.

I came to Arizona State University in the United States on September 7, 2001. I followed Professor Angell, which laid the foundation for my future research in amorphous materials, especially in thermodynamics.

Austen was a top scientist in the field of international amorphous research and a leading figure. It was my honor and expectation to have been able to learn under his sect. When I received his offer, I also received I had been awarded the Humboldt Scholarship. Because I wanted to do research with him, I had to give up.

Coming to the Austen research group, there were two brothers Xu Wu and Xiaoguang, as well as a Frenchman and Yi Yi himself. I was the only one who was doing glass transition research, and the brothers were all working on amorphous electrolytes, especially organic ionic liquids. The first time I saw Austen, he was thin, piercing, walking fast and talking fast.

Entering the research group, Austen asked me to take over the job of a previous graduate, which was to measure fragility from the calorimetric point of view. This was my first job at Arizona State University. The basic principle of the research is to use the relationship between the structural temperature of the glass and the cooling rate, to obtain the glass transition activation energy, as Fragility is directly related to the activation energy. Our ingenuity is to introduce the relaxation enthalpy to obtain the temperature change of the glass structure, thus introducing the thermodynamic parameters. Based on this, I continue to think that in addition to the externally applied cooling rate, there are three other characteristic parameters related to the amorphous transformation that determine the amorphous relaxation enthalpy. The combination of these three parameters has an energy dimension, and this reminded me: this combination parameter may be related to the characteristic thermodynamic quantity of the material. After comparison, we found that this combination parameter is

proportional to the heat of fusion of the material. Finally, we established a quantitative relationship between Fragility and material thermodynamic parameters. So Austen and I quickly published the results. About half a year later, Professor Wolynes of the University of California, San Diego used his theory to confirm our work and called this association the Wang-Angell association. This relationship was later widely used in various amorphous-forming material systems.

I rarely saw Austen take a break. No matter how late I sent him an email, he would get back to you in a few minutes. He hardly wasted his time. During the years I worked with him, he was busy all day long. Every day at noon, he took a small box to heat in the microwave,and went back to his office to finish eating in a hurry. In 2002, I accompanied Austen to NIST for experiments. When we were waiting at the airport, he ran to the bathroom to find an electrical socket and sat on the ground and worked on the laptop. It was incredible. On the plane, he continued to work, by changing and writing articles.

Austen focused on learning and research all his life. He was engaged in the research of amorphous materials and published more than 500 articles in his lifetime. Many of them have become classics in the amorphous field. The "three-nons" characteristics (amorphous simple thermal activation, non-exponentiality and nonlinearity) in the dynamics of amorphous materials proposed by him have raised people's understanding of the amorphous state to a new height. In the fields of amorphous formation, amorphous thermodynamics, and amorphous dynamics, he had put forward many views and ideas that will benefit later generations. He put forward the liquid strength factor Fragility, which classifies the amorphous forming system and visually shows to people that liquids can actually be strong or weak! Since then, amorphous research has a new grasp and entry point. What are the essential characteristics of amorphous materials? Which key quantities can best reflect the characteristics of amorphous? He has brought us countless enlightenments.

He was also dedicated to the study of the glass transition temperature of water. I spent my entire life trying to figure out the glass transition temperature of water. Even when faced with huge challenges, he tried his best to find evidence. At that time, he also wanted me to do some water work, because it is very difficult to obtain amorphous ice directly from liquid water, and it is difficult to obtain it in a conventional laboratory. We use electrospray technology for aqueous solutions to obtain amorphous samples through high cooling rates and discuss the glass transition of aqueous solutions. On the same day, he saw that I had made an amorphous and measured the heat capacity curve. He was very happy and instantly drew a lot of pictures on paper.

Austen was kind, he had a lot of students, and everyone liked to communicate with him

at Arizona State University. I have also met many outstanding scholars from my time with Austen,and have kept in touch with many people to this day. I remember Nagel, from the University of Chicago, came to the school to give a report talk in 2006.When Austen came in, he immediately ran to hug him, just like an old friend he hadn't seen for many years.

Austen respected everyone's ideas and also expressed his own opinions. I liked to hear him talk about things, because he had a clear mind and a keen mind, and he could get to the essence right away. This is because he had always been on the front line of scientific research. I often tell my students that Austen's uniqueness is that he could explain seemingly simple things with esoteric principles, and use the simplest way to explain complex and difficult things. I envy his depth of thinking and logical ability. His article is not easy to read, because every sentence contains a lot of information. Now every time I read his articles, I still benefit from it, and I am still inspired.

I still have more than 200 pages of lecture notes from Austen. Before every class, he would send out a few pages of the printed outline to everyone. In class, he used an old-fashioned projector to write and draw on blank film while talking. He would introduce the latest work of amorphous research to students, especially the work of his group. When we had just gotten the results at NIST, and he would tell the students in class very quickly.

Austen and Jenny were very enthusiastic. Every time I would go to his house, I saw many professors in the department. Everyone joked together. Austen was naturally cheerful and joked around. He was very affectionate. The last time he came to China, he asked me to take him to the Great Wall. A friend had asked Austen to put his name badge on the Great Wall and take a photo, so Austen did it.

Austen had a simple life. He often drove a dilapidated car, light green, like a Pontiac. The trunk had to be supported by a wooden stick when it was opened. Phoenix is very hot in summer, but he basically never turned on the air conditioner. In his words, once you are in Arizona, you have to adapt to the climate. Later, when I got a car, I almost never used air conditioning. I still keep this habit to this day.

Austen had a lot of affection for China and had also trained many Chinese students. I remember he once said that he wanted to go to Guilin. He came to Ningbo to participate in international conferences in 2010 and stayed with me for a few days. Later, I heard that he had also been to Yili, Xinjiang (at the invitation of Teacher Huang).

The last time I saw Austen was at the 8th Complex System Relaxation Behavior Conference in Poland. He was always in a hurry. We discussed the two glass transitions in an asymmetric mixed system, which he said may be related to phase separation. After that, I was eager to discuss with others an article about amorphous semiconductors that they had collaborated with. Soon I read his new work. At that time, he seemed to be in

good spirits, his report was scheduled for Wednesday morning, and the lecture hall was packed. We joked that other branch venues should not arrange reports at this time. He finished the report and joked with everyone, saying that he had to wait until 2021 to go to Tokyo, Japan to participate in the Ninth Relaxation Conference.

However, we will never hear his passionate speeches, nor will we hear his teachings anymore.

If your husband is gone, your thoughts will stay forever; if your husband is always with you, your spirit will live forever!

Austen, life is a legend, and being your student is the glory of my life.

In the early morning of March 13, 2021 in Qinhuangdao