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Testimony Semiconductor Joint Committee

Members of the Semiconductor Joint Committee,

For your record, my name is Henry Anderson. I am a third-year student at Oregon State University studying chemical engineering. I am a Johnson Scholar, an opportunity that introduced me to research opportunities. I am a graduate of Portland's Ida B. Wells-Barnett High School. Last summer, I interned at Lonza Laboratories in Bend. In three weeks, I will begin an internship at Siltronic in north Portland.

I am here today to thank the committee for its diligence and encourage you to invest in the universities responsible for educating the R&D workforce of the future.

We all enter as general engineering students at Oregon State University. We don't pick our major until the end of our first year. This approach differs from most engineering programs, where students choose a major in their first year. While exploring which major to choose, I was offered an undergraduate research opportunity in the XPS lab. I have a picture of the XPS here. This opportunity created my enthusiasm for chemistry and research that aligns with the semiconductor industry.

The ambient pressure – X-ray photoelectron spectrometer (AP-XPS) is the only one at a university on the west coast. At OSU, it is combined with an ambient pressure–scanning tunneling microscope (AP-STM), and this is the only one in the US. It is a \$1.6 million instrument and is accessible by OSU faculty but also industry, other universities, and of course, undergraduate and graduate students.

My first experience with the AP-XPS we have here at OSU came as I was working as a Johnson intern. At a first glance, this complex tool was intimidating to me as an undergraduate with very little research experience. As I began to learn more about this tool, however, my fascination for it and how it can be applied to the semiconductor industry grew and grew. It gives us unique insights into surface chemistries and provides us with information to innovate in the semiconductor field. The XPS research I am currently involved in on campus is providing me industry applicable experience and skills that extend beyond what can be learned in a lecture hall. I cannot emphasize enough how instrumental the opportunity to work with state-of-the-art equipment has been in my decision to pursue a career in the semiconductor industry.

My education and future career have been highly influenced by access to outstanding faculty, research facilities and internships in the semiconductor and high-tech industry. I plan to graduate and stay in Oregon and support the R&D ecosystem.

Thank you for this opportunity to testify. I can answer any questions you may have.