

2019 Medard W. Welch Awardee: Scott Chambers

“For pioneering contributions to understanding the origin and influence of heterogeneities, defects, and disorder in complex oxide epitaxial films and heterostructures”

The AVS attracts some exceptional scientists to join its ranks. At the 66th International Symposium in October 2019, in Columbus, Ohio, the AVS recognized the extraordinary contributions of one such scientist. The AVS honored Dr. Scott Chambers, Pacific Northwest National Laboratory, with the Medard W. Welch Award, which acknowledged his outstanding contributions to research in his field, as well as his professional service to the greater scientific community and to the AVS. The AVS established this award in 1969 to commemorate the pioneering efforts of M.W. Welch in founding and supporting the AVS. Scott has joined a list of remarkable awardees, and today we have the opportunity to get to know Scott a little better. He graciously granted the AVS an interview.



The Adventure Begins

As an enthusiastic young assistant professor, Scott joined the AVS after attending the 1984 National Symposium. This experience, along with his exposure to the AVS publications, inspired him to want to make a meaningful contribution to the Society. He felt the combination of “the symposia and publications included an ideal blend of basic science, applied science, vacuum technology, and instrumentation,” he explains. Scott also acknowledges the role the late Chuck Fadley, U.C. Davis Physics Department and Lawrence Berkley National Laboratory, played during the early years of his career. Scott received an encouraging welcome into the field by Chuck. He recounts that Chuck took the time to thoroughly answer all of his questions. Furthermore, Scott greatly admired Chuck’s papers, finding them “pace-setting, deeply insightful, and fascinating”. (The AVS also coincidentally awarded Chuck Fadley with the Medard W. Welch Award in 2005.)

The Established Professional

Now a distinguished professional in his field, others recognize Scott most by his research. He conducts careful, in-depth investigations because he feels passionately about research. He reflects that his favorite part of the job is “those rare “aha” moments when significant insights finally come after working on a vexing research problem for some time”. Scott professes to spend his ‘best days’ conducting experiments in the lab, which he affectionately thinks of as his ‘man cave’. He clearly embodies his favorite quote, by Albert Einstein: “A person who never made a mistake never tried anything new”. Scott finds getting laboratory time nowadays more of a rarity though. He typically spends his work day catching up on email, checking in with his group members in the lab, attending meetings, participating in conference calls, meeting with individuals, doing data analysis, and surveying research journals. He also spends a fair amount of each day writing papers and proposals. He still enjoys his work very much though, which is evident in his advice for future generations: “Pursue work that is deeply satisfying. A person spends far too much time on the job over the course of his/her working years to not have the work be enjoyable and rewarding”.

Looking Forward

Scott has achieved a lot in his career, which can be found doing a little online research. He has had hundreds of academic journal articles published, maintained membership in numerous professional societies, and won many prestigious awards. All this, and he still continues to plan exciting new advances in his career. In his own words, he discusses his next two goals:

1. First, I'm thinking hard about how to combine epitaxial growth capabilities for chalcogenides and oxides in the same UHV environment in order to prepare clean heterojunctions of these two kinds of materials. These material systems may have some novel and exotic properties not exhibited by either kind of material in isolation.
2. Second, I'm in the middle of pulling together a comprehensive textbook on methods of epitaxial film characterization which I think will be an invaluable resource to new and established researchers in the field. I'm writing a chapter on one technique (XPS), but am also working with several individuals who are authoring chapters on other techniques for which they are world-renowned experts. Finishing this project will be a major milestone.

The Work-Life Balance

Scott leads a full life outside of his job though. He prioritizes making time outside of work to pursue pastimes important to him. This includes spending quality time with his wife, sons, daughters' in law, and grandchildren. Additionally, he leads an active lifestyle, participating in activities like swimming multiple times a week, sailing (sometimes competitively!), snow skiing, and camping.

Concluding Thoughts

Scott described himself in two words as "All in". He gives his all to all aspects of his life. This dedication made him a deserving awardee, and we hope you will join the AVS in congratulating him!