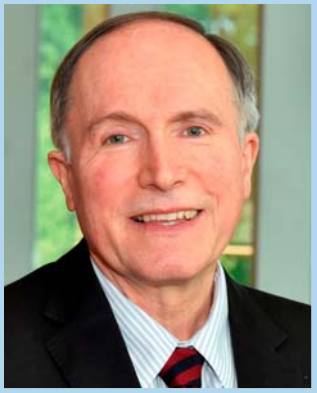
2019 John A. Thornton Memorial Awardee: Gottlieb S. Oehrlein

"For groundbreaking contributions to the fundamental understanding of plasma-surface interactions enabling micro- and nanofabrication, using plasma-assisted techniques, including plasma based atomic layer etching"



The AVS continues to attract some extraordinary scientists to join its ranks. At the 66th International Symposium in October 2019, in Columbus, Ohio, the AVS recognized the exceptional contributions of one such scientist. The AVS honored Dr. Gottlieb S. Oehrlein, a Professor at University of Maryland, with the John A. Thornton Memorial Award/Lecture, which acknowledged his outstanding contributions to research and technological innovation. This award is a memorial to Dr. John A. Thornton, whose commitment to science, contributions to the generation and study of thin films, and dedication as an educator, earned him the respect and high regard of his colleagues. Gottlieb has joined a list of remarkable awardees, and today we have the opportunity to get to know Gottlieb a little better. He graciously granted the AVS an interview.

Professional and Research Interests

Gottlieb specializes in plasma-surface interactions work related to materials processing, in particular plasma etching of semiconductors. He typically starts his day early, before 6 am, and does a variety of work items, including email, before commuting to work. Mornings, he often has meetings or phone calls, and he teaches on some days. Afternoons, he usually has meetings with students, group members, or collaborators. (On a neat side note, he also specifically sets time aside in the afternoon just for thinking.) Evenings, he frequently writes or reviews drafts of papers. Gottlieb has accomplished an incredible amount, in terms of receiving honors and awards, as well as having well over 250 peer-reviewed articles published.

Like many good scientists who had to start somewhere, Gottlieb had a mentor. He cites Dr. James W. Corbett, his PhD advisor, as his key mentor who inspired him. Gottlieb described him as "an amazing person besides being an outstanding scientist," and he feels very fortunate to have met him. Gottlieb in turn decided to become a professor and work with students as well. Gottlieb explained that he enjoys working with students more than any other aspect of his profession because it pleases him to "see them grow and become established researchers and engineers who have confidence in their own abilities to perform leading-edge work". Gottlieb clearly has his hands full, but still has plans to do more. He expressed his desire of "putting on paper some of the things I have learnt and not have had the chance to write". This worthy pursuit sounds like it will benefit his students, the larger scientific community, and the AVS!

Relationship with the AVS

Gottlieb first became involved with the AVS due to his colleagues Harold Winters, John Coburn and Young Lee, from IBM Research, close connection with the AVS. They published most of their key work in the Journal Vacuum Science & Technology, so Gottlieb had familiarity with the journal. In 1986, the AVS invited Gottlieb to present a talk at the yearly meeting in Baltimore, and he found the conference amazing because of the many researchers and colleagues who had similar interests to his. He has been a continuous member ever since, rarely missing the annual meetings. He also explained that a great deal of his research group's work in plasma surface interactions has been published in JVST.

Gottlieb has been pleased to serve the AVS over the years by participating in the Plasma Science and Technology Division and teaching short-courses, among other activities. He stays involved with the AVS because he likes that the Society "is very representative of the most open-minded and pluralistic aspects of America. I, along with many others who entered the United States from abroad and decided to make this our home, have found America to be welcoming to immigrants and foreigners. This is how I always experienced AVS and this is why I felt at home in the AVS society". The AVS feels incredibly pleased he feels this way. The Society does strive for inclusion in its membership and in its multidisciplinary focus.

Personal Life and History

Gottlieb has a full life outside of work that has contributed to his professional success. His wife Sharon (together with him since graduate school), family, and parents have always been important to him. As a child, he lived in Germany with his parents on a farm where he "loved to be and learnt so much". However, his parents elected to send him to a Gymnasium, with the idea that he would go to a university, following the example of his mother's brother. In the German educational system, a Gymnasium emphasizes academic learning, and is the most reputed of the three secondary schools. Along with a strong early interest in academics, over the years, Gottlieb has come to enjoy spending time outdoors, hiking, painting, listening to music, and taking photographs.

Outlook on Life

Gottlieb has a great attitude, evidenced by him describing himself in one word as "optimistic". Some of his success can likely be attributed to this personality trait, as well as his convictions on how others should be treated. His advice for others in the future is as follows: "Let all your actions be guided by a belief in and respect for people and life in general". This mentality segues right into his favorite quote, by Tom Watson, Jr. of IBM: "I want this company to be known as the company which has the greatest respect for the individual." Gottlieb commented upon the quote, saying, "This [quote] seems so natural and at the same time so important, and bringing respect to my daily interactions with people is essential to me". Gottlieb's personal convictions and achievements have made him a deserving awardee, and we hope you will join the AVS in congratulating him!