

2021 George T. Hanyo Awardee: Bang To - "For continued support of advanced plasma research by excellence in engineering operations and SEM support"

AVS has honored the remarkable contributions of Bang To, IBM T.J. Watson Research Center, with the 2021 George T. Hanyo Technical Award. This Award recognizes the valuable contributions made by those working in equipment design and construction, data analysis, improvements in experimental procedures and other comparable activities. An awardee must have contributed unusual skills and creative scientific or technical ideas in support of at least one major research or development program which influenced areas of interest to AVS. Additionally, this supporting work must have been provided over a period of at least ten years. The Kurt J. Lesker Company established this Award in 1969, in the memory of George T. Hanyo, a highly-skilled, long-time employee of the company. Bang has joined a list of extraordinary awardees. Today we have the opportunity to get to know her a little better, as she graciously granted AVS an interview. She gave us more insight into her professional work, her relationship with AVS, and the mindset that has helped her succeed in her career.



Bang has over 25 years of experience in her field as a staff engineer in the Microelectronic Research Laboratory at IBM. Part of her work, as a member in the Advanced Plasma Physics and Processes Group, has been to provide support to scientists and engineers working on many cutting-edge research projects. This has included subtractive Cu patterning, Trigate and Nanowire device demonstrations, novel spacer chemistry research, atomic layer etch, and quantum computing. She has played a crucial role on her team, including making significant contributions to sub-micron technology node CMOS etch process development, Silicon-On-Insulator (SOI) technology, and in the growing field of plasma-enhanced atomic layer etch (PE-ALE) processes. She specializes in etch tool operations, and her expertise in plasma etch has proven very useful to her group. Her frequent identification of unusual and unexpected issues has freed up the group researchers to focus on other experimental design and process analysis work. Bang has pursued her work with passion, thrilled that along the way she could help her colleagues achieve their goals too.

Bang has been "very excited to see all the work [she has] supported . . . continuously published in *JVST* and other journals and . . . presented consistently at the yearly AVS symposium by co-workers." She has continued to stay involved with AVS through collaboration with colleagues who are very active in AVS, and has found it quite satisfying to participate and make significant contributions to "state-of-the-art research projects that are well recognized by the AVS community." She described her relationship with her co-workers, who are a big part of her life. "I am always inspired by the scientists and engineers with whom I work side-by-side, and I feel fortunate to be able to acquire new knowledge from them every day." The feeling is mutual. Colleagues described Bang as a "role model for a support engineer in industry research. Her dedication to less glamorous tasks over the decades deserves a special mention and recognition." They also noted her uncompromising work ethic, her meticulous attention to detail, and her "excellent ability to adapt to change and redirect skills to new areas." Bang has clearly made significant contributions to influence areas of interest to AVS during her time at IBM, and her mindset has paved the way towards her success.

We gathered a few tidbits from Bang about her work philosophy that help explain her excellence in her occupation. When asked about her advice for future generations, she offered, “I would recommend that whatever you do, do it with passion and determination.” She also mentioned a favorite quote that guides her, by Thomas J. Watson. “If you want to achieve excellence, you can get there today. As of this second, quit doing less-than-excellent work.” Along with Bang’s demonstrated professional success, she also enjoys helping others achieve their career goals. Her next venture will be “to help young girls to pursue STEM education and careers.” Bang’s altruistic focus will continue to make her a wonderful mentor and role model.

A shining star in her field, Bang has made many valuable, long-term contributions to the scientific community. Please join us in congratulating her on earning this well-deserved award!