

In Memoriam—Annabel A. Muenther



With great sadness IS&T observes the death of Annabel Muenther at age 65. Annabel died on May 17, of complications related to breast cancer. She will be remembered as a dedicated scientist; lover of opera; steadfast gardener; generous wife, mother, and friend; and someone who lived life to its fullest, with incredible energy.

A Fellow and Senior Member of IS&T, she received the Lieven Gevaert Medal (2000) for her contributions in the field of silver halide photography. She was also a member of the International Committee on Imaging Science (ICIS) and Secretary from 1998-2006, serving as Program Chair for the ICIS2006 Congress. The week before her death, Annabel was awarded in absentia the ICIS 2010 Chibisov Prize for her significant contributions to the progress of silver halide photography over the years.

Born in Manhattan, Annabel received her BS in chemistry from the University of Michigan (1966) and PhD in chemical physics from Harvard University (1972). She was a member of Phi Beta Kappa, Phi Kappa Phi, and Pi Beta Phi. Prior to completing her dissertation, Annabel joined the Phototheory Lab under T. H. James at Eastman Kodak Co. in December 1970 where she used her interest and expertise in spectroscopy to make many contributions and advancements to the field of photographic science. She worked at Kodak until May 2005. Annabel's career at Kodak encompassed the zenith of conventional silver halide photographic technology, and included external collaborations in basic scientific investigations, as well as internal applied science relevant to advancing photographic technology. As her work progressed she became a Senior Research Assistant in the Imaging Materials Division and then a Senior Research Associate, a rank achieved by only a few very accomplished scientists, characterized by broad-based efforts with significant impact and industry-wide recognition. In 1990 she was the first female scientist to achieve this rank.

As a Research Fellow, Annabel also became a permanent member of the Kodak Research Scientific Council (RSC), chairing it from 2000-2002. The RSC had the general mission of improving the Kodak research and development environment to foster staff creativity and accomplishment. During her chairmanship, Annabel's scientific leadership was evident as she maximized the visibility and impact of the Council efforts. Creative new programs supplemented the traditional RSC commitments, interdisciplinary exchange within the research and development communities improved, and corporate renewal through business development was advanced, as was the development of younger staff members. Her emphasis on technology innovation created an atmosphere of increased energy and excitement.

Known as a leading scientist in the field of dye sensitization of silver halide photographic materials, Annabel could express a clear understanding of the complicated topics of emulsion/addenda combinations. She introduced picosecond laser spectroscopy, which at the time was state-of-the-art time resolution, to silver halide research at Eastman Kodak as a member of the Phototheory Laboratory. Some of the last projects Annabel worked on at Kodak Research Laboratories included two-electron sensitization and antenna dye sensitization for latent image formation in silver halide photographic materials. Two-electron sensitization was used to increase the response of silver halide-based photographic materials using sensitizers designed to inject two electrons instead of the conventional one into the conduction band of silver halide. The advantage of this approach is that it enables latent image formation to occur with half the usual number of photons, i.e., two instead of the usual four, thus effectively doubling the photographic speed of the films. These were very demanding projects, requiring a delicate balance between photographic response and dark reaction (or fog, in photographic terminology). It took a very special scientist to have the determination and perceptiveness to solve these problems, and Annabel, with her insightful approach, proved to be ideally suited to the task.

After her retirement and diagnosis of cancer, Annabel began work on a University of Rochester project investigating the use of Kodak sensitizing dyes for anti-cancer properties. It had been shown that dyes with polarographic reduction potentials between -1.10V and -.70V were especially active as anti-cancer agents. Work at the University by Annabel and other former Kodak employees, including Paul Gilman, was directed toward finding the site of activity and the mechanism of action of these dyes.

Annabel was much more than a brilliant scientist. She was a true lady, highly-educated, cultured, beautifully-groomed, and equally friendly to everyone whose path she crossed. She was also expressed a strong and unique personality: all her cars had names and, according to her, distinct personalities. She didn't care for Jell-O or any sweet/salty combination; thought it was horrific and uncivilized to start work at the crack of dawn; loved every minute of being a mother; and taught everyone who met her that her illness did not define her in any sense. She simply persevered with grace and dignity. She will be sorely missed. We thank all who contributed to this retrospective of Annabel's career, including her daughter, Annabel Abby Muenther Edwards, and her professional colleagues Paul Gilman, Mamie Kam-Ng, Myra Olm, Thomas Penner, Pam Peterson, Allan Sowinski, and Tadaaki Tani.

—Gary House