

Vivian Walworth

In Memoriam-1922–2016

By John and Mary McCann



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Vivian Walworth was a Founding member in 1947 of the Society of Photographic Scientists and Engineers, now Imaging Science and Technology (IS&T). She served our Society in many ways for 69 years. She had planned to attend the 2016 EI meeting in San Francisco. She passed away on March 29, 2016.

She served IS&T on its Board of Directors, and was President from 1981-1985. She was the editor of the Journal of Imaging Science and its successor Journal of Imaging Science and Technology from 1989-1996. She founded the IS&T Reporter, and was its editor for twenty-two years. A generation of authors has benefited from her thoughtful discussions of content and her helpful suggestions for improving the clarity of their message .

For her engagement with the IS&T, she was elected a Fellow of the Society 1987, Honorary Member 2001, and received the rare President's Citation in 1988 and in 2009; Senior Member 1974; Service Award 1966.

Vivian received a B.S. in Chemistry from the University of Michigan in 1942. Upon her arrival at Polaroid in 1944, she joined the development team of Polaroid's first imaging product, Vectographs. She worked on all aspects of the program, from design and manufacture, to installation of processing equipment and training. That 3D imaging material was used extensively during World War II for displaying aerial reconnaissance information. A hanger sized display of Vectographs of the Normandy coast was part of the Allied preparations for the D-Day Invasion. After the war, her work continued to Color Vectographs and 3D movies. That work extended into research and development of silver halide emulsions for Polaroid Instant Photography.



(L-R) Elsa Dorfman, Vivian Walworth and Diane Grob Schmidt (ACS President) with the plaque honoring Edwin Land at the NHCL dedication held at the MIT Museum on August 13, 2015.

(Photo by Samara Vise)

Vivian led Polaroid's research on silver halide emulsions from 1961 until she retired in 1985 as the Senior Manager for Photosensitive Materials. Vivian interacted with Ansel Adams and John Sexton, Polaroid consultants, on many photographic projects. She was Polaroid's scientific interface with Wolf Berg and J. W. Mitchel, international experts in emulsion research. Her lab provided tailored emulsions for the new Polaroid instant films then under development, and served as a resource for the company's emulsion pilot and production plants. Her work at Polaroid included research and development of polarizers, 3D imaging processes, photosensitive materials and photomicrography. Her 28 Patents reflect her contributions in these fields.

Her laboratory provided special support for Polavision, Polaroid's unique instant additive color motion picture film. Unlike most Polaroid film systems that stripped the developed

emulsion off the final print, this system left the entire emulsion in place on the movie film. The change in optical density from projected white to projected black was the result of changes in silver covering power. Unlike most silver images, the entire image had a constant amount of silver. Whites were made by compact chemically developed silver, while blacks were made of diffuse, high covering power silver. Although Polavision was not a commercial success, the emulsion technology was remarkable.



(L-R) Stephen Herchen (Former Polaroid VP and CTO of the Impossible Project), Myron S. Simon (Former Polaroid Chemistry Manager and NESACS Board) and Vivian K. Walworth at the NHCL dedication.

(Photo by Samara Vise)

She was simultaneously the manager of the Research Microscopy Laboratory. Vivian was a strong advocate of microscopy in the analysis of photographic systems. Under her guidance the Microscopy Laboratory expanded their light and electron microscopy capabilities and became a resource for the entire company.

Vivian was a role model and mentor to both women and men in science, and in corporate life. She was a full-time working Mom who, with her husband Wilbur, raised five wonderful and devoted children. She and her husband found time to tend a summer garden in Nova Scotia, the family's vacation home. For fifteen years, she was coleader of the Concord Mariners, a senior Girl Scout troop that featured sailing, seamanship and community service. She was a member of the Boston Mycological Club from the early 1950's

She was a long-time member of the American Chemical Society and was a member of the local chapter editorial board. She was recognized for her seventy-five year involvement at

the August 2015 ACS meeting when the Polaroid Osborne Street site was (at Vivian's nomination) designated an ACS National Historic Chemical Landmark.

Vivian was the "Boswell of Instant Photography." She worked closely with Polaroid's President and Director of Research, Edwin Land. She collaborated with him on journal articles describing Polaroid technologies, and was the "ghost writer" for "The Universe of One-Step Photography" in the IS&T publication *Pioneers of Photography*. She worked with Land and Howard Rogers to publish "One-Step Photography" in the seventh edition of *Neblette's Handbook of Photography and Reprography*. She was editor or chapter author on other comprehensive publications describing photographic systems. (*Imaging Processes and Materials: Neblette's eighth edition*, three editions of the *Kirk Othmer Encyclopedia of Chemical Technology*, and the *SPSE Handbook of Photographic Science and Engineering*).

Vivian's scientific work came full circle. She continued her work in stereographic photography. After retiring from Polaroid, she consulted at Rowland Institute for Science on bringing color Vectographs into the digital age. With other Polaroid scientists, she was a founder of Stereo Jet Inc., which is continuing to develop ink-jet processes for printing 3D images. She has been an organizing force at each Stereoscopic Displays and Applications Conference held annually as part of the Electronic Imaging Meeting. She is responsible for the standard use of circular polarizers in 3D viewing glasses to reduce image interaction and allow viewers' head tilt. As John Merritt wrote, "We have lost one of the primary pillars of the stereoscopic community and we will miss her deeply."

She was a scientist, inventor, scholar, author, editor, Senior Manager at Polaroid, role model, hiker, expert mycologist, and community leader in Girl Scouts and conservation programs in her town. At the same time she was a wife, mother, grandmother. Every fall, she hosted her friends and neighbors, roasting a whole lamb on a spit at the family "Beast Feast" in her back yard. The IS&T and all of many associates, in all her activities, will remember her warm smile, her enthusiasm, her gentle encouragement, her skill at bringing people together, and her fierce skill at proofreading.