

In Memoriam

PERSONAL REFLECTIONS ON A GUIDING LIGHT: WINSLOW R. BRIGGS (1928-2019)

On February 11, 2019, the botanical society and the broader scientific community suffered the loss of one of our most esteemed members, Dr. Winslow R. Briggs, an exceptionally productive scientist, extraordinary mentor, and beloved colleague. As but two representatives among many former students and scientists to have been mentored by Winslow, we hope to convey our sense of his ongoing impact on the scientific world, and on individuals that are fortunate enough to be included in the long list of associates, mentees, and friends influenced by this generous and gifted man.

Several recent tributes have enumerated many of Winslow's achievements. His scientific productivity and the importance of his contributions to plant biology are indisputable; for more than seven decades, Winslow contributed a tremendous amount to our understanding of light-mediated regulation of plant growth and development, and of the biochemical and physiological mechanisms underpinning those responses. Throughout his career, from his doctoral work at Harvard University, an eight-year stint as a faculty member at Stanford University, his return to Harvard as a Professor of Biology, and his subsequent recruitment as Director of (and ultimately Emeritus positions in) the Carnegie Institution of Washington's Department of Plant Biology and Professor at Stanford University, Winslow's scientific accomplishments and impact across many fields cannot be overstated. For his groundbreaking work on auxin redistribution, phytochrome function, and blue-light receptors, Winslow was inducted into the



Winslow Briggs (center) with Ann Briggs and Tim Short at a Carnegie conference in 2014.

prestigious National Academy of Sciences, the American Academy of Arts and Sciences, the Deutsche Akademie der Naturforscher Leopoldina, and the California Academy of Sciences. As further testament to his outstanding influence in scientific endeavors, he earned numerous awards, including:

- The Distinguished Fellow of the Botanical Society of America Award “for pre-eminence in research ranging from vernalization in ferns and hormone transport to the chemistry and biophysics of light-mediated growth of plants”
- The Alexander von Humboldt Award to U.S. Senior Scientists to pursue scientific research in Freiburg, Germany
- The Stephen Hales Prize for “serving plant physiology as a teacher and mentor, as an investigator of how light interacts with internal metabolic and hormonal controls, and as a senior spokesperson for science” and the Adolph E. Gude, Jr. Award “...in recognition of outstanding service to the science of plant biology”, both from the American Society of Plant Biologists, for which he served as President in 1975-76
- The U.S. Department of Agriculture – American Chemical Society Sterling B. Hendricks Memorial Award
- The Japan Society International Prize for Biology

There can be no doubt that Winslow was widely recognized throughout his career as a brilliant scientist.

While it was through his substantial scientific achievements that we were initially drawn to

work with him, we soon came to understand how much more there was to Winslow beyond his superb research reputation, and we wish to convey the deeply personal connections that make Winslow’s a life to celebrate. Winslow was an inspiring mentor, and the environment he fostered made going into the lab everyday a joy. Unless he was traveling, one could expect him to appear at least once a day in the lab to look at the latest autoradiographs or consider the next experiment; and several times each day he would suggest brewing a cup of tea as an excuse to talk about the manuscripts we were outlining, discuss recent papers that might be relevant to our work or that were important scientific milestones, or simply float ideas for possible future experiments. On multiple occasions he donned a lab coat and parka to help harvest pea epicotyls or maize coleoptiles in the cold room under “reagent grade” darkness, in preparation for large-scale membrane extractions and protein phosphorylation experiments—and used the opportunity to exchange awful jokes and puns. At the same time, he gave us enormous latitude to try novel experiments or take new approaches, allowing us to succeed on our own terms or to fail and learn from our mistakes. To wit, when it was suggested that *Arabidopsis* might be a good addition to our model species for biochemical studies, Winslow’s initial response was, let’s say, less than enthusiastic, yet he yielded gracefully. After this little weed proved to be precisely the plant we needed to finally identify what turned out to be the phototropin photoreceptor, Winslow became one of the greatest advocates of using *Arabidopsis* as a genetic and biochemical system.

What these examples have in common is that Winslow treated us not as underlings to be directed, but as colleagues with valuable

insights that could alter his preconceptions. He did not have to push us because he inspired us to push ourselves. And like co-workers, rather than leaving us in the lab while he presented our work, Winslow often gave us the opportunities to not only attend meetings with him, but to give the talks and field the questions on our work. He gladly introduced us to other members of the community without regard to their prominence or to the “sexiness” of their work, and when walking through poster sessions, he made a point of stopping at posters that had had few visits and asked, to the delight of the lonely student, “Take me through it.” In the same vein, when sitting in the audience listening to others’ presentations, he would invariably whisper enthusiastic and positive appraisals of each talk. He made his own joy for scientific exploration contagious, and in so doing was widely respected and revered across the community. In fact, after presenting new and unpublished data, attendees would often point out to us that larger labs would never try to “scoop” us because his peers held Winslow in such high regard. Indeed it will be interesting to watch the field and attitudes within it in Winslow’s absence; we hope his legacy of collegial interaction and respect will continue to live on.

Winslow’s guidance did not end when we left his lab. He served as a principled mentor, leading by example. Both of us have commented frequently on how we strive to lead our laboratory groups in the manner exemplified by Winslow: providing criticism respectfully but clearly, maintaining high scientific and ethical standards, supporting resourcefulness in our students, and treating the lab members as scientific associates in ways that encourage them to take ownership of their projects. Whether initiating a local gathering of plant photobiologists that he slyly



Winslow Briggs with Mannie Liscum, preparing for his keynote address at his 90th birthday celebration symposium in April 2018 at CIW-Plant Biology.

dubbed the Bay Area Regional Photomorphogenesis (BARPH) meeting, or at the annual Carnegie Institution hog roast; on a lab hike at Henry Coe State Park, where he and his wife Ann were honored for their extensive conservation efforts, research, and volunteer work that was instrumental to saving the park from closure, or at one of the many Chinese banquets he (often aided by one or more of his daughters) prepared for as many of the extended lab family and visiting scientists as he could gather; sharing his love of art and for nature, or demonstrating his exceptional talent as a pianist, he made us feel we were part of his life, and we saw him as part of ours. And, of course, many of his former students, including both of us, still adhere to the “Briggs Rule,” stipulating that under no circumstances should a meeting last more than an hour!

His mentoring also included a fearless and unwavering advocacy for his students and colleagues. He called out the academic administration that had unjustly denied advancement to one of his former students

based on gender, and he worked hard to ensure fair treatment of not only his mentees, but of faculty and staff with whom he worked. He fought to protect and expand the “Carnegie model” that allowed exploration of innovative ideas and interdisciplinary research, collaborations with labs across the globe, and funding to support graduate students and postdocs built into the institution’s budget. Yet, despite all the difficult decisions and complications of heading one of the most distinguished institutions for plant biology, he always made time for lunch in the Carnegie woods or a cup of tea to talk science or to help with a personal issue—and he never missed an opportunity to make us laugh.

Although we grieve with his wife Ann, and their daughters Caroline, Lucia, and Marion, we also celebrate the scientific and personal legacy that will hold Winslow in our memories and propagate in his scientific family for generations. Winslow was a devoted scientist, an incomparable mentor, and a dear friend. We believe we speak for so many whose lives were touched by Winslow: we were blessed to have crossed paths with such a unique, accomplished, humble and gracious humans beings to have walked this Earth. We will miss him enormously.

Donations in memoriam can be made to support the ASPB-Carnegie Winslow Briggs Mentorship Award at <https://carnegiescience.edu/WinslowBriggs>.

- *Timothy W. Short and Emmanuel Liscum*