

MEMORIAL RESOLUTION Lucy Cherbas

Lucy Cherbas, a senior research scientist in the Department of Biology, Indiana University Bloomington, passed away after a long illness on October 10, 2022. Lucy retired in June 2016 after 31 years of service. She obtained her B.A. in biology from Swarthmore College in 1964. During undergraduate summers, Lucy worked at Case Western with Howard Schneiderman and Drew Schwartz; her first paper with Drew concerned a maize protein analyzed by electrophoresis. Howard recognized Lucy's talents and recommended that she apply to Harvard for graduate work and pointed her toward the laboratory of Carroll Williams, a renowned expert in insect physiology and hormones.

Lucy's graduate work was partly focused on the insect molting hormone ecdysone and partly on the injury activation of insect blood cells called hemocytes. As a graduate student, Lucy's duties included teaching in developmental biology. In that capacity, she met her future husband Peter whom she characterized as her "star student." It was at that time that Lucy introduced Peter to ecdysone and, a few years later, he introduced her to tissue culture cells.

After obtaining her Ph.D., she studied briefly as a postdoc at Harvard with Fotis Kafatos on RNA-polymerases. Subsequently, she and Peter migrated to the University of Cambridge where she worked with R. J. Jackson and Tim Hunt on hemoglobin synthesis. It was during their stint in the UK that their daughter Kathy was born. On their return to the United States, Lucy worked with Irving M. London at MIT and published two important papers on the regulation of hemoglobin synthesis.

During her time at MIT, Peter was setting up his lab at Harvard as a newly minted assistant professor and Lucy proposed that she join his lab and that they combine their scientific efforts and collaborate. She made this decision despite the strongly worded reservations of their colleague Ruth Hubbard, George Wald's wife and collaborator. Ruth warned Lucy that this kind of professional/personal relationship usually does not work out because all husbands eventually become intolerable pains in the neck. While Ruth's characterization may be generally correct, in the case of Lucy and Peter, the collaboration flourished and as a team they were enormously productive. Their collaboration focused on determining the underlying action of steroid hormones, particularly ecdysone, using *Drosophila* tissue culture cells as a model. Together, they developed tools and culture conditions for these cells, as well as developing protocols that are in common use by the scientific community. Lucy's expertise was first recognized during her tenure at Harvard where she was sought for advice on cloning, cell culture techniques and DNA sequencing.

In 1985, Lucy and Peter moved to IU and continued their research, working with cell lines and their interest in hormonal regulation of gene expression. Lucy is author or co-author of many key articles on cell methods. She participated in the founding of the *Drosophila* Genomic Resource Center (DGRC) and, using her expertise, built up a unique and extremely valuable collection of 135 diverse cell lines. She was also instrumental in publicizing these materials and maintaining this widely used resource for the research community. When someone needed expert scientific advice on tissue culture, they invariably came to the DGRC and Lucy for help.

In addition to her research and the DGRC, Lucy was also intimately involved in the modENCODE project. One part of this community-wide effort was designed to completely define all transcribed (expressed) genes in the *Drosophila* genome. The source material for this analysis included tissue culture cells and again Lucy's expertise came to the fore. She selected 25 different cell lines from diverse tissue types, supervised the growth of the cells, the collection of RNAs, and participated in the analyses of the resultant data. The results of this monumental effort were made available to the community and informed us in fine detail of the genetic expression pattern of this model organism.

Lucy and Peter decided to move to IU because it offered excellence in genetics for them and excellence in music for their then 11-year-old cellist daughter Kathy. Kathy flourished and is now a successful freelance cellist in New York. What many don't know about Lucy is that, in addition to her scientific prowess, she was also a professional vocal accompanist. She accompanied classes and recital students at the Longy School and later recitals in England. With the pressure of both work and raising a young child, this part of her life had unfortunately gradually disappeared. However, it did resurface here at IU. Lucy attended a pre-college cello master class given by Janos Starker, intending to accompany Kathy. Unfortunately, time ran out before Kathy had a chance to play. Instead, she found herself sight-reading an accompaniment for one of Kathy's friends, whose accompanist had to leave for a class. Before the class ended, she found herself accompanying Starker in front of an audience full of professional musicians. She lived to tell the tale.

I will close this remembrance with a quote from Lucy. I do this because it really provides the reader with insight into Lucy as well as highlights that things are hopefully changing for the better.

"When I entered graduate school, women were a small minority of my class at Harvard and there were no women on the biology faculty; female graduate students were expected to perform special duties like making cookies for the lab and taking on research projects suitable for our gender and were the subject of frequent verbal slights. I am delighted that as I retire, things have changed: The emeritus faculty in IU's biology department are 95% male (not so different from that of Harvard when I was a graduate student), but the current tenure-track faculty here is almost 1/3 female, and since graduate school, I cannot recall ever being singled out to make cookies for my colleagues. I was never active as a feminist, but I very much appreciate the change in climate."

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