

Helga Ninnemann, 1938-2003

A long-time *Neurospora* photobiologist, Dr. Helga Ninnemann, died this past May, 2 days after her 65th birthday in Tübingen, Germany. She was known for her work on light-induced conidiation and the role of nitrate reductase in this process. At the time of her death, she led an institute on plant biochemistry at the University of Tübingen, Germany. She attended the Asilomar conferences for 20 or 30 years with great enthusiasm and was known to the photobiology community and the *Neurospora* community.

Born 1938 in the former Königsberg, Ostpreussen, her family escaped in 1945 during the collapse of the German war machinery to Luckau, Brandenburg and settled later in Frankfurt/Main. During her university studies on biology and chemistry she was selected from the German Studienstiftung as one of the brightest students and visited the laboratory of Antoscha Lang at Caltech, Pasadena, for a full year, where she worked on synthesis of gibberellic acid and published her first three papers. During her thesis work in Frankfurt, she got fascinated with light-regulated photomorphogenesis of liverworts. As a postdoc (1966-1969) she returned to California and joined the lab of H. Stern and Warren Butler in La Jolla at the University of California San Diego. She did research on blue-light inhibition of respiration in yeast and started investigations with *Neurospora* – a relation which lasted until her last days. She established a new home in California and after an adventurous journey back to Germany via India and Afghanistan she went back to California as often as possible. She came often to visit the Borrego desert to see the spring flowers bloom there. In Tübingen she joined the Institute of Chemical Plant Physiology, later renamed Institute of Plant Biochemistry by herself, and established her own laboratory. After investigating several different blue-light dependent phenomena she focused her work on nitrate reductase and its participation in light-regulated conidiation in *Neurospora*. The postulated pteridine in nitrate reductase initiated her research on pteridine biosynthesis and the investigation of the role of nitric oxide for fungal photomorphogenesis. Based on her work on light-enhanced conidiation in *Neurospora*, she postulated additional photoreceptors beside the *wc-1/wc-2* complex in *Neurospora*, which were recently revealed in the *Neurospora* genome project.

A second line of research was initiated by a cooperation with Georg Melchers at the MPI in Tübingen on plant protoplast cell fusion followed by plant regeneration. She developed assays to select somatic hybrids between tomatoes and potatoes. During many years she was interested in establishing pathogen-resistant potatoes by cell fusion techniques using resistant wild potato species. Together with her coworker Lieselotte Schilde she succeeded in attracting several potato research grants. She investigated the involvement of phytoalexins in resistance and extended her research to alternative oxidase and mitochondrial function during pollen ripening in potato flowers. Several PhD students from South America joined her potato lab, during this time.

For 15 years Helga Ninnemann supervised bright students selected by the German Studienstiftung and organized excursions in art and culture for them. She was also eager to proliferate science education in schools and often invited interested pupils for laboratory courses. She encouraged many female students to join life sciences and to survive in the career path despite hard competition.

Her friends and colleagues will remember a warm-hearted, energetic woman with enthusiasm for her multiple scientific and cultural interests, who followed her aims with a straight-forward approach not fearing controversies. She was a dedicated photographer and loved classical music. Despite her long illness she never stopped intense travelling and studying the world until her very last days.

Josef Maier and Stuart Brody