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Remembering Professor Prasanna K. Mohanty (April 1, 1934 – March 9, 2013)

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ABSTRACT

On March 9, 2018, 5 years had passed since Prasanna K. Mohanty, an extraordinary student of photosynthesis, plant biologist par excellence, a pioneer of *Light Regulation of Photosynthesis*, a renowned mentor, and a friend of a vast international community of scientists left us. Many of us, who knew him, miss him dearly and cherish his fond memories. Here we include some of the late responses we have received from many friends of Prasanna Mohanty and announce the launch of Prasanna K. Mohanty fellowship for young researchers working in the area of photosynthesis by the International Society of Photosynthesis Research.

Prasanna Mohanty was born on April 1, 1934 in Keshpur, a small village in Odisha, India. He obtained his Bachelor's and Master's degrees in Science from Utkal University, and his Ph.D. from the University of Illinois at Urbana-Champaign (UIUC), USA under the supervision of one of us (Govindjee) in 1972. After a brief postdoc at the University of Western Ontario, Canada, he joined, in 1973, the School of Life Sciences, Jawaharlal Nehru University (JNU), New Delhi, India as an Associate Professor, where he was promoted to be a full Professor of Bioenergetics. Until his retirement in 1999, he taught and trained many students and postdocs at JNU, and established several national and international collaborations. He continued his teaching and research interests for another decade while serving as an emeritus scientist or a visiting faculty at various institutes in Indore, Hyderabad and Bhubaneshwar.

Much of Prasanna Mohanty's scientific contributions are in the area of photosynthesis. He was a pioneer in the field of photobiology and photochemistry, especially photosynthesis, exploring the use of chlorophyll *a* fluorescence in monitoring the regulation of photosynthesis. His contributions are enormous and wide-ranging. He had published in many journals including Biochimica et Biophysica Acta; Current Science; FEBS Letters; Journal of Photochemistry and Photobiology; Nature; Photochemistry and Photobiology; Photosynthesis Research; Physiologia Plantarum; Plant Cell Physiology; Plant Physiology; and Science, among others. In addition, he also served as Editor or Co-editor of various journals and books and received several awards and honors including: Founder Fellow of the National Academy of Agricultural Sciences (India); Founder Member of the Society for Scientific Values; Fellow of the National Academy of Sciences (India), Allahabad; Gold Medal of the National Academy of Sciences (India); the Robert Emersion Fellowship of the University of Illinois at Urbana-Champaign, to name just a few.

Prasanna Mohanty inspired many young researchers in his laboratory and in the broader scientific community. He was always keen on research questions, and spent a great deal of time talking with young researchers at conferences or at casual sittings. His academic approach was student-centered and he viewed scientific research as a selfless enterprise. He had a great collaborative spirit and enthusiasm for doing research and inspired countless graduate students and postdocs to do the same in spite of challenging circumstances. His lab was a refuge for many scientists working across India in small colleges or universities where research facilities were inadequate and financial resources were meager. He trained many informally, and often helped them to procure expensive chemicals or reagents or antibodies or probes, using his national / international connections. He himself remained mostly underfunded, but produced great work as evident from a long list of his outstanding publications.

In his last years before retirement, Prasanna Mohanty also served as the Dean of the School of Life Sciences at JNU. The power associated with such an administrative post neither shadowed his humanity, nor his research interests. Whenever he walked on the JNU campus, he greeted all fourth-class employees, canteen boys, students or fellow professors with the same enthusiasm and love. He valued everyone as his equal irrespective of his or her status, age or origin, or gender or physical (dis)abilities.

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Fig. 1. Left to right: George C. Papageorgiou (1968 Ph.D.) with Prasanna K. Mohanty (1972 Ph.D.). Date and source: unknown. From Govindjee's collection.

Two of Mohanty's Ph.D. students (Swati Tiwari and Baisnab Tripathy), his teacher & mentor (Govindjee), one of his post-doc advisors (Norio Murata), and two of his contemporaries (Raj Sane and A. B. Das) have presented a detailed Tribute to his life and his career (see Tiwari et al. [1] ; also see: Prakash and Tiwari [2]). In addition, George Papageorgiou, a contemporary of Prasanna (see Fig. 1), wrote a beautiful memoir on him with a quote "Burning bright, in the forests of the light" [3]. The Tribute [1] contains wonderful reminiscences from more than thirty international scientists from many countries including Canada; Germany; Greece: Hungary; India; Japan; Poland; South Korea; and the USA (Fig. 2 shows Mohanty with his mentor Govindjee and 3 contemporaries

Fig. 2. A 1995 group photograph. Left to right: (front row): Julian J. Eaton-Rye (1987 Ph.D.); Govindjee; Thomas T. Wydrzynski (1977 Ph.D.); Prasanna K. Mohanty (1972 Ph.D.) ; (second row): Danny J. Blubaugh (1987 Ph.D.); George C. Papageorgiou (1968 Ph.D.). From Govindjee's collection (used previously as Figure 4 in J.J. Eaton- Rye (see Ref. [4]).

from UIUC). Yet, beyond his close associates many of his friends in the plant research community didn't learn about his demise immediately. Every day we learn more about his associations and influence on several researchers beyond those whom he directly supervised or published his research with. Here are some of those heartening responses, which mirror the impressions that many of us share:

Animesh Ray, Keck Graduate Institute, California, USA:
"I didn't realize Dr. Mohanty had passed away many years ago. I was a student at JNU, the first cohort of M.Sc. in the School of Life Sciences in 1975. I spent innumerable hours with him, both in and out of classrooms and laboratories, in 'dhabas' and walking around with him. Once my wife and I were walking to the laboratory in the summer of 1978, there was a storm (an Aandhi). Dr. Mohanty came running down the street from his home and escorted us into his home, because he thought we, both rather thin at the time, would be blown away by the storm! He was a humble human being, with a great heart."

Sushma Naithani, one of the authors, added:

"I had known Professor Prasanna Mohanty since 1990, when I was a M.Sc. student at Maharaja Sayajirao University (MSU) of Baroda. I met him for the first time by a coincidence while visiting the main library of the Jawaharlal Nehru University to gather some research articles. He was heading for lunch and instantly invited me to join him in the library canteen. He enquired about my research project, Center for Biotechnology at MSU, and my journey from a small Himalayan village Bistana, Pauri Garhwal to Baroda (Gujarat). I was working on the mechanisms that help bacteria to survive under osmotic stress. I learned that Mohanty's group was studying the effects of various abiotic stress conditions (e.g., heat, salinity, low temperature, and metal toxicity) on photosynthesis. As a first-generation college student, I had little opportunity for a casual conversation with any scientist of such eminence. The generosity and kindness in his manners encouraged a shy student like me to speak freely and discuss few ideas about my research without worrying about my inadequacy in English. He narrated his own journey from a small town in Odisha to JNU. He talked about random jobs he had held before joining post-graduation – including a cashier's job in a construction project; his inclination towards biology, photosynthesis, the uniqueness of each organism, and why biology has no simple and unequivocal answers for a process or problem, gave me remarkable insights. This brief meeting inspired me to become a plant biologist and set inkling for an academic career. It also gave me the personal courage to withstand snobbery that is so prevalent in the system of higher education, especially at elite institutions.

After graduating from MSU in 1992, I joined the Ph.D. program at the National Botanical Research Institute (NBRI), Lucknow, and worked on the sequencing and characterization of the Photosystem II genes. I talked to Prasanna Mohanty from time to time about my research, visited his laboratory a few times, and published two papers in journals where he served as a guest editor. He edited each manuscript with great detail and brought out the life in them, and helped me highlight the major points. Professor Mohanty also served as an external examiner for my Ph.D. thesis at University of Lucknow, India (see Fig. 3). He appreciated the volume of my work and my efforts, but also offered constructive criticisms without any hesitation. Even today, he inspires me to excel and to take an initiative.