Professor Eric WIESCHAUS

Citation

Born in Indiana, the US, Professor Eric WIESCHAUS jointly won the 1995 Nobel Prize in Physiology or Medicine with his collaborator for their pioneering research into the genetic control of embryonic development. The groundbreaking discoveries have given medical doctors a much clearer understanding of the causes of birth defects and cancer, opening up new avenues for potential treatments. His steadfast dedication to nurturing the next generation of scientists has had a profound impact on aspiring scholars worldwide.

A shy child who grew up collecting frogs, turtles, and crayfish from local streams, the future Nobel Laureate was more interested in becoming an artist than a biologist. His passion for science was ignited during high school when he learned dissection after being invited to attend two National Science Foundation-funded programs. Encouraged to interact with kids who were less introverted than he was, the professor grew in confidence. Soon, he was mastering more intricate procedures such as removing vagus nerves from larger creatures whose digestion, heart rate, and immune system these nerves also control in humans.

In 1965, Prof. Wieschaus began studying Biology at the University of Notre Dame where he deepened his understanding of genetics, cell behavior, and rearrangement. After his graduation, he enrolled at Yale University, learning in vivo and experimental science techniques under Prof. Walter GEHRING. As one of his most influential mentors, the Swiss professor took his young protege with him when he returned to Basel in the early 1970s. It was a sliding doors moment that marked the beginning of a 10-year journey of scientific and personal discovery that was to positively impact every corner of the young scientist's life.

Collaboration has always been a cornerstone of the scientific process for Prof. Wieschaus. While in Switzerland, he met and began working with his future Nobel Laureate partner, Prof. Christiane NÜSSLEIN-VOLHARD, as well as his fellow biologist and future wife, Prof. Trudi SCHÜPBACH.

Between 1978 and 1981, Prof. Wieschaus was based at the European Molecular Biology Laboratory in Heidelberg; a period he fondly recalls as "the most exciting and intellectually stimulating of his entire scientific career". By studying fruit fly (Drosophila) whose genetic structure is similar to that of humans, Prof. Wieschaus and Prof. Nüsslein-Volhard examined mutations in 40,000 fruit fly families. Their groundbreaking research, published in the authoritative scientific journal *Nature* in 1980, generated the widely accepted model that three sets of genes control the subdivision in the developing embryo.

In 1995, Professors Wieschaus and Nüsslein-Volhard were jointly awarded the Nobel Prize in Physiology or Medicine with Prof. Edward B. LEWIS, whose earlier Drosophila research they had built on. Together, they have achieved a breakthrough that helps explain congenital malformations in humans, paving the way for further research on birth defects, cancer, and potential treatments.

Prof. Wieschaus has subsequently received numerous other prestigious accolades and honorary degrees. In addition to memberships of the National Academy of Sciences (US), and the Max Planck Society (Germany), they include fellowship of the American Academy of Arts and Sciences and the Squibb Professorship of Molecular Biology at Princeton University. In 2018, the professor was honored with the Society for Developmental Biology Lifetime Achievement Award in recognition of his outstanding and sustained contributions to the field, exceptional mentoring, and service to the scientific community.

With a distinguished teaching career spanning over 40 years at Princeton University, Prof. Wieschaus has left an indelible mark on countless students from around the world, including Prof. Yan YAN, Associate Professor of Life Science at HKUST, who was his former student. She extols him as a visionary who is always at the forefront of discovery, fueled by an insatiable curiosity and an unwavering passion for experimentation. His interdisciplinary laboratory, which integrates developmental biology, mathematics, physics, computational science, and even material science, has fostered an environment of collaboration and innovation vital for the pursuit of groundbreaking discoveries.

When not engrossed in his research, Prof. Wieschaus indulges in his love for painting and playing the piano. He credits his understanding of visual aesthetics to be instrumental in his successful career, emphasizing the importance of whole-person education that values the integration of different disciplines. This holistic approach to learning, which HKUST highly values, has allowed him to cultivate a unique perspective that has been invaluable in his scientific pursuits.

Council Chairman, on behalf of the Council of the Hong Kong University of Science and Technology, I have the high honor of presenting to you, Prof. Eric Wieschaus, Nobel Laureate and Professor Emeritus of Molecular Biology at Princeton University, for the award of Doctor of Science *honoris causa*.