

CAS Paleogeneticist Awarded UNESCO Prize

FU Qiaomei, a paleogeneticist at the Institute of Vertebrate Paleontology and Paleoanthropology (IVPP) of the Chinese Academy of Sciences (CAS), received the UNESCO–Al Fozan International Prize for the Promotion of Young Scientists in Science, Technology, Engineering and Mathematics (STEM) on June 19 in Paris, France, for her “seminal work on the history of early humans in Eurasia, based on genetic lineage studies, which provides new insights on the early human history of Eurasia and perspectives on the evolution of human health.”

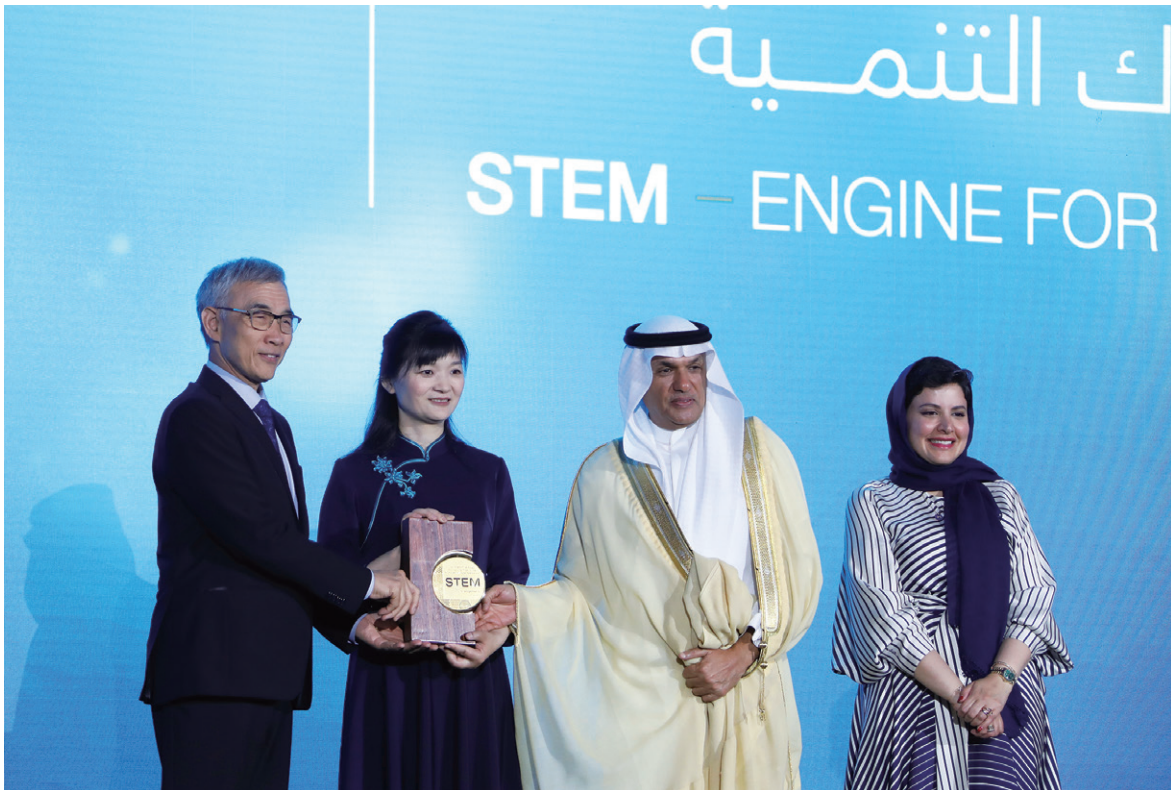
FU was one of the five young scientists from around the world to receive the prize this time, alongside

with Federico Ariel from Argentina, Abdou Atangana from Cameroon, Hesham Omran from Egypt, and Jelena Vladic from Serbia. The laureates, respectively working in the fields of agricultural biotechnology, mathematics, semiconductor chip, microelectronics and green engineering, were selected from 2,500 candidates worldwide.

The UNESCO–Al Fozan International Prize for the Promotion of Young Scientists is financially supported by the Al Fozan Foundation in Saudi Arabia. This is the first time the biennial prize has been awarded. It recognizes achievements that support capacity building, the development of scientific careers, and socioeconomic



FU addresses the awarding ceremony. (Image: IVPP)



FU at the awarding ceremony. (Image: IVPP)



FU poses with other four laureates. (Image: IVPP)

development at the national, regional, and global levels.

The prize is awarded to five laureates from the five geographic regions of UNESCO, to encourage youth participation in STEM, in particular women and girls. It is launched to strengthen research and international cooperation in STEM fields in order to confront the global challenges addressed by the United Nations Sustainable Development Goals (SDGs).

Born in 1983, FU is now a professor and director of the Molecular Paleontology Laboratory at IVPP in Beijing. Her research focuses on the genetic history of humans, including who lived when and where, and how they moved and interacted over time.

“Past humans shaped the genetic patterns of humans today, influencing our health and adaptation to diverse environments,” said FU. “I was a curious child, fascinated by mysteries of the past and how they shape our present and future. That curiosity led me to pursue a career in genetics, in the field of ancient DNA.”

Her dedication to evolutionary genetics and population genetics has yielded significant insights into the history and biology of humans in Eurasia and innovative developments in related research methodologies.

Among her achievements, FU has retrieved ancient DNA from past human remains and sediments to construct an evolutionary map of Eurasian (especially East Asian) populations over the past 100,000 years.

FU also led a team that decoded the world’s and East Asia’s earliest modern human genomes, shedding new light on the genetic exchange between archaic and modern humans, and deeply elucidated the dynamics of East Asians over the past 40,000 years. In so doing,



FU works at the lab. (Image: IVPP)

FU and her team have filled important gaps in human history and pioneered new methods for expanding the geographic and temporal scope of ancient DNA acquisition worldwide.

Some of FU’s research has investigated population changes and adaptations during the Ice Age in Eurasia. For example, the widely distributed population related to the Tianyuan Cave individual was found to have disappeared by the end of the Last Glacial Maximum (19,000 years ago). Subsequently, mutations in a gene (the *EDAR* gene) emerged that are associated with typical features unique to East Asia such as thicker hair and more sweat glands, reflecting the influence of genetic selection in low ultraviolet environments.

“Ancient DNA research has provided insight into our biological makeup, with important implications,” said FU. “With ancient DNA, we can study the genetic makeup of past populations to better understand the origins of diseases and motivate development of new treatments.”

FU also discovered many unique, unknown human lineages whose ancestries are not found today. In addition, she showed how some other ancestral lineages, such as northern and southern East Asians, greatly



FU works at the lab. (Image: IVPP)



FU preparing samples for the auto pipeline. (Image: IVPP)

contributed to the genetic makeup of present-day East Asians, Austronesians and Native Americans.

These results reveal Eurasia's unique and unknown human diversity and illuminate how different ancestries have shaped the genetic makeup and adaptative traits of humans today.

"Our past guides how we face the challenges of the future," said FU.

To date, FU has authored 63 publications in international SCI journals, among which 36 were published as the first or corresponding author including

three in *Nature*, four in *Science* and three in *Cell*.

FU has also won a series of other recognitions in her career. She was selected as one of "Ten Science Stars of China" by *Nature* magazine for her success in promoting the understanding of human evolution. She also received "the 17th Award for Young Women in Science" from the National Commission of The People's Republic of China for UNESCO as well as the "Tan Kah Kee Young Scientist Award in Life Sciences 2022" from the Tan Kah Kee Science Award Foundation, among other honors.

(IVPP)