



# PEOPLE, PLACES & EVENTS

## IN MEMORIAM: AHMED ZEWAIL

**Ahmed Hassan Zewail**, a 1999 Nobel laureate in chemistry and a 1989 TWAS Fellow, passed away on 2 August 2016 at the age of 70. He was the first scientist of Egyptian and Arab origin to receive the Nobel Prize.

An accomplished scholar and a man of profound humanity, Zewail was a naturalized American citizen. Yet he never forgot Egypt and the Arab world. "Egypt lost one of its loyal citizens and a genius scientist who spared no effort to serve his country," said Egyptian President Abdel Fattah el-Sisi. "In the US, Professor Zewail was an American of Egyptian origin, in Egypt he was an Egyptian who went to the US and made an outstanding scientific breakthrough, but elsewhere he is a universal citizen who subscribes to science," recalled Mohamed M. El-Faham, who manages the TWAS Arab Regional Office in Alexandria, on behalf of Coordinator Ismail Serageldin. Based at Caltech in Pasadena, California, Zewail was the Linus Pauling

professor of chemistry, professor of physics, and the director of the Moore Foundation's Center for Physical Biology.

He was renowned worldwide as the "father of femtochemistry", an area of physical chemistry that studies chemical reactions on the femtosecond [ $10^{-15}$  seconds] time scale. His discoveries were based on the use of laser light to capture molecular movements, which allowed the analysis of transition states in chemical reactions and opened new ways to manipulate chemical and biological reactions.

But Zewail continued to champion science in Egypt and developing countries, promoting scientific education as an opportunity to attain good work and a dignified life.

An example of his effort to ignite an Egyptian renaissance in education and research – and to reduce brain drain from his country – is the foundation of the Zewail City of Science and Technology.

"After the Arab spring, Professor Zewail had a vision that human capital is paramount," said El-Faham, who is also a professor of engineering at the Arab Academy for Science and Technology, and scientific advisor at the library of Alexandria. In establishing the City of Science, his dream was "for Egypt to have centres of excellence where potential researchers could find the right medium for their contributions." The project was proposed in 1999 and

inaugurated on 1 November 2011, after a decree from the Egyptian Cabinet of Ministers established it as the National Project for Scientific Renaissance. Zewail served as the first chair of its Board of Trustees.

Born in 1946 in the Nile Delta city of Damanhour, Zewail as a child developed an early interest in the physical sciences, spending hours in his bedroom working on home-devised experiments using his mother's oil burner.

He earned his bachelor's and master's degrees at Alexandria University. Then he moved to the United States to join the University of California at Berkeley (1974) and in 1976 the California Institute of Technology, in Pasadena, where he spent four decades.

Zewail's vision prompted President Barack Obama to appoint him to the Presidential Council of Advisors on Science and Technology (2009).

In the same year, he was named the first U.S. science envoy to the Middle East. In 2013, United Nations Secretary-General Ban Ki-moon named him to the United Nations Scientific Advisory Board.

Zewail was decorated with the Order of the Grand Collar of the Nile (1995), Egypt's highest honour. Through his career, he received more than 100 prestigious recognitions, including the Albert Einstein World Award, the Benjamin Franklin Medal, the Leonardo da Vinci Award, and the 2005 TWAS Medal Lecture Award.

He authored or co-authored 600 scientific papers and 16 books.

- Cristina Serra

▼ Ahmed Zewail, a 1989 TWAS Fellow



**THOMSON NAMED OWSD PRESIDENT**

**Jennifer Thomson**, emeritus professor in the department of molecular and cell biology at the University of Cape Town, South Africa, is the new president of the Organization for Women in Science for the Developing World (OWSD). Her mandate will cover the years 2016–2020.

She was elected 16 May 2016 at the 5th OWSD General Assembly and International Conference in Kuwait City, Kuwait.

Thomson is a former associate professor at the University of the Witwatersrand and director of the laboratory for molecular and cell biology for the South African Council for Scientific and Industrial Research.

She is a leading expert in the development of genetically modified maize, which her lab has developed to become drought-tolerant and resistant to the African endemic maize streak.



In her role as OWSD president, Thomson plans to pursue several goals, including making OWSD a leading example of an international organization strongly committed to promoting the participation of women in global science and decision-making processes; increasing fundraising efforts; and mentoring young women scientists.

Thomson also serves as chair of the OWSD South Africa national chapter. She has won numerous awards, including the L’Oréal-UNESCO for Women in Science Award for Africa in 2004 and an honorary doctorate from the Sorbonne University, Paris, in 2005. She serves on the South African Ministry of Science and Technology’s National Advisory Council on Innovation.

**TEL AVIV UNIVERSITY HONOURS SEGENET KELEMU**

Influential African scientist **Segenet Kelemu**, director general of the International Centre of Insect Physiology and Ecology (icipe), has earned an honorary doctorate from Tel Aviv University in Israel.

Kelemu, elected to TWAS in 2015, is a Fellow of the African Academy of Sciences and a leading plant pathologist, renowned not only in Kenya but also worldwide. Her work has been focusing on novel strategies and potential solutions to fight plant disease with sustainable methods that do not employ chemicals.

Tel Aviv University honoured Kelemu in recognition of her pioneering role for women scientists in Africa; her leadership in the fight for providing new solutions for ecologically responsible food crop production, especially by local, small-scale farmers in Africa; and her commitment in directing a major effort, through international collaboration, to make African agriculture self-sustaining and able to feed Africa’s billion-plus people. Kelemu is also the winner of the TWAS Prize for agricultural sciences (2011) and the L’Oréal-UNESCO Award for Women in Science for the Africa region (2014).

She has also been an active force in the establishment of the Biosciences eastern and central Africa (BecA) Hub in Nairobi, Kenya, and in support of the Manna Center Program in food safety and security at Tel Aviv University.



**IN MEMORIAM: PHILIPPE RASOANAIVO**

**Philippe Rasoanaivo**, a leading African scientist and a 2005 TWAS Fellow, died on 13 July 2016. A native of Madagascar, Rasoanaivo was research

director at the Malagasy Institute of Applied Research.

In his investigations, he addressed a broad spectrum of topics, from natural product chemistry to bioprospecting (the discovery and commercialization of new products based on biological resources), ethnobotany (the scientific study of the traditional knowledge of plants and their medical, religious, and other uses) and drug discovery.



He also studied substances able to target malaria and brain diseases. A traditional Malagasy plant called hazolava, which showed promising therapeutic properties in the treatment of psychiatric and sleep disorders, convulsions and male sexual dysfunctions, was a recent focus of his research. He held several patents and manufactured eight phytomedicines. In 2015, Rasoanaivo was awarded the Olusegun Obasanjo Prize for his study of traditional medicine aimed at improving the efficacy of existing drugs for brain disorders and for treating male sexual problems.

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