



FUJIO EGAMI

IN MEMORIAM

FUJIO EGAMI

1910–1982

It is with profoundest sorrow that I announce the death of Professor Egami, president of ISSOL. Egami, 72, died on July 17 after an eight month battle with lung cancer.

Egami devoted himself to ISSOL and was anxious to participate in the upcoming ISSOL meeting in Mainz, Germany, in 1983, even after he had been hospitalized.

Egami, born on November 21, 1910, graduated from the University of Tokyo's Department of Chemistry in 1933. He then began to research sulfatases under the supervision of Professor T. Soda. In 1942, he was appointed associate professor of Nagoya University and became a full professor the following year. When the Department of Biophysics and Biochemistry was initiated at the University of Tokyo in 1959, Egami was invited to join the department in which he worked for the next 12 years.

Retiring from the University of Tokyo in 1971, Egami founded the Mitsubishi-Kasei Institute of Life Sciences that same year. The institute, sponsored by Mitsubishi Chemical Company, allowed researchers to pursue basic studies and guaranteed the freedom to determine research themes and to publish. As the institute's first director, Egami assembled a wide spectrum of researchers. He also stimulated studies on interdisciplinary problems. He headed his own laboratory even after retiring and became honorary director of the institute in 1980.

During his 49 years research life, Egami participated in a variety of research projects. He studies sulfatases and sulfate esters, found new ribonucleases and glycosidases, and was one of the pioneers in the field of biochemistry of halophily.

His discovery of ribonuclease T₁ is well-known in the biochemistry field. He suggested that the sequencing of RNA be done by using base specific ribonucleases such as ribonuclease T₁, and T₂, and A (*Nature* **185**,¹1960,² pp. 462–463). His idea and the ribonucleases he discovered supported the progress of molecular biology and nucleic acid chemistry throughout the 1960s and 1970s since ribonucleases are considered the most useful and fundamental tool for researchers engaged in the structural analyses of RNA

One of Egami's major interests was the origin and early evolution of life. In the late 1950s, he proposed the concept of 'nitrate respiration', based on his research on nitrogen metabolism. This concept proposed that nitrate be used instead of molecular oxygen as the terminal hydrogen acceptor (cf. *Origins of Life* **5**, 1974, pp. 405–413). The main sequence of the evolution of energy yielding metabolism is, according to Egami's theory, fermentation – fermentation with H₂ release – nitrate fermentation – nitrate respiration – oxygen respiration.

At the Mitsubishi-Kasei Institute of Life Science, Egami launched a new project on chemical evolution. He studied the possible catalytic roles of transition elements in the primordial ocean (*J. Mol. Evol.* **4**, 1974, pp. 113–120). He carried out primitive Earth experiments in the presence of six transition elements which are abundant in the sea

medium, and propagated the formation of polypeptides and protocell-like structures called 'marigranules' from simple compounds (*J. Biochem.* 87, pp. 855–867).

More recently, he proposed a new idea on the origins of genetic code based partly on his experiments using the modified sea mediums (*Origins of Life* 11, 1981, pp. 197–202).

Professor Egami also took an avid interest in young researchers. He always took a positive and optimistic approach in guiding them and was always encouraging. One of his precepts was "Be glad even if the results observed are not those you expected, because the unexpected, unpredictable data may lead you to a really great discovery no one ever suspected".

Egami was an active scientist until the very end of his life. After his recovery from the operation that removed his entire left lung, he appeared in his laboratory until he was re-hospitalized in June, 1982.

When I visited him at the hospital the night before he died he asked me to convey some directions to his research group. We discussed his research projects and a few other things. When I was leaving he said "thank you".

These were his last words and these are the words that ISSOL members should give him for his contribution to the society as president for the past five years.

All of us at ISSOL express our deepest sympathies to Mrs. Egami and her two daughters, and join them in mourning the departure of a great scientist.

Mitsubishi-Kasei Institute of Life Sciences

TAIRO OSHIMA