Obituary: Professor Kwang-Sup Soh (1945-2021)

Professor Soh, Kwang-Sup (소광섭, 蘇光燮), a physicist, biologist, and philosopher, passed on November 10, 2021 at 76 years of age. Throughout his life, he was a pilgrim who pursued the truth of nature, life phenomena, and religion from the point of view of a physicist.

Professor Soh was born in Iksan, Korea in July 1945 as the eldest of four sons and three daughters of his father So Byung-Jun and mother Shin Jeong-Sun. Prof. Soh received a BSc in Physics from Seoul National University (SNU) in 1968 and a PhD in high-energy theoretical physics in 1974 from Brown University in the USA. He was a Professor in the Department of Physics and Astronomy at SNU from 1979 to 2011, where he led the Biomedical Physics Laboratory. In 1997, he served as the chairperson of the University Scholastic Ability Test of Korea. In 2003, Dr. Soh was recognized as a Person of Distinguished Service to Science and Technology by the Korean Academy of Science and Technology and was awarded the Order of Merit by the Korean Government in 2011. On retiring, Dr. Soh established the Nano Primo Research Center, Advanced Institute of Convergence Technology at SNU and directed the Center from 2011 to 2017. He published over 287 scientific papers in the fields of physics and biology from 1982 to 2018 (Supplementary Materials).

In the 1980s, as a physicist, he worked on the Grand Unified Theory in which, at high energies, the three-gauge interactions of the standard model comprising the electromagnetic, weak, and strong forces are merged into a single force. He published many scientific papers in this field, such as “Anomaly free condition and $SU(3)_c \times U(1)_{em}$ reality in grand unified theories” (Physics Letters B, 1983; Supplementary Materials). In 1986, he published Grand Unification Theory (1985, Mineum-sa, Korea), a book compiling these works. Since the late 1980s, he became deeply interested in quantum gravity, which is still an unsolved problem, and in this regard, he studied problems such as general theory of relativity, quantum black holes, and cosmology. In the 1990s, he became interested in nonlinear systems. Based on his understanding of nonlinear systems, he analyzed various phenomena such as *seodo-sori* (folk songs from the Seodo region, the Hwanghae and Pyeongan Provinces of the Korean Peninsula), the working principles of the Yin-Yang and five-element systems, black holes, and cosmology.

In 2000s, Professor Soh began his research on the primo

vascular system (PVS), which was first discovered by Dr. Bong-Han Kim, who reported that he discovered the anatomical structures corresponding to acupuncture meridians. The PVS is now considered the third circulatory system in vertebrates, in addition to the blood and the lymphatic systems. His initiative in the rediscovery of the PVS prompted many researchers in Korea and abroad to follow his path. He played a key role in launching the *Journal of Acupuncture and Meridian Studies* (published by the Medical Association of the Pharmacopuncture Institute) established in 2008 and served as its Editor-in-Chief until 2018. He organized the first international conference named “The International Symposium on the PVS” held in 2010 in Korea and edited the conference proceedings, published as a book entitled *The Primo Vascular System: Its Role in Cancer and Regeneration* by Springer in 2011. The 2nd ISPS was held online in 2021 and the selected papers of the 2nd ISPS2021 are published in this special issue of the Journal. He founded the Korean Society of PVS in 2010. Professor Soh authored or coauthored more than 80 journal papers on the PVS (Supplementary Materials) and gave numerous invited lectures nationally and internationally.

Professor Soh believed in Won Buddhism since 1976 and his Dharma-name was Kyung Tack (경택, 敬擇) and Dharma-protector was Sangsan (상산, 詳山). He served as an advisor to Seowonhoe (an association of Won Buddhist students at SNU) for 23 years. He was active in writing, lecturing, and

providing guidance on the doctrines and practices of Won Buddhism, and deeply reflected on Buddhist doctrines. Based on his philosophical thinking as a physicist, he wrote books such as *Physics and Awakening of the Mahayana Faith* (1999, SNU Press; Fig. 1), *Religion and Science* (2000, Minum-sa), and *Pilgrims of Time* (2013, m-Wonkwang Press; Fig. 2).

Professor Soh said in the book, *Physics and Awakening of the Mahayana Faith* (Fig. 1) that classical physics is centered on the laws of nature, and modern physics is centered on the laws of observation. The observer (sensor, artificial intelligence) of modern physics has no self-consciousness. Future physics will be centered on the law of perception of the recognizer. In other words, the will makes all objects and phenomena that are objects of perception appear.

His last book, *Pilgrims of Time* (Fig. 2), deals with the scientific, religious, and philosophical aspects of time. In other words, it discusses natural, social and humanistic approaches of time. Alternatively, objective, psychological, and transcendental meanings can be considered. Professor Soh said that in everyday life, it is difficult to experience a reality as definite and rigorous as time. Time appears to reign supreme in our lives as an unchanging and absolute existence. Nevertheless, this is not the truth. No matter how many people experience time and claim to prove its reality over a long time, the truth is not proven. This is because, unlike our daily experience, time can increase—even twins can have different ages—and there are areas of black holes where time has not even flowed. This is the secret of time revealed by the theory of relativity. However, the nature of time has not been fully elucidated. It is expected that questions such as the beginning of the universe and the origin of matter will be

revealed only when this issue is resolved.

Dr. Byung-Cheon Lee, who worked with Dr. Soh as a post-doctoral associate in the early 2000s, recalled: “In the express bus from Yuseong to Seoul after the meeting at KAIST, Professor Soh and I decided to pray for research on the Bonghan doctrine (PVS) at the same time every night. Since the day, I have worked with him together for 10 years. He was a visionary. I was grateful and proud to have such a person in Korea. This year marks the 20th year since he introduced the Bonghan theory (PVS) to the world. Not long ago, I saw him in heaven in a dream. He wrote “Flowers and Flower Seeds” on yellow paper. He seems to want us all to become flower seeds. I am reminded of what he said before. ‘If you don’t have a heart, you can’t see.’ ‘You can tell that autumn has come to the world by seeing a persimmon leaf falling dyed in your front yard.’ I miss him”.

Dr Jung Sun You, who was one of PhD students in Dr Soh’s lab, said, “Prof. Soh, Kwang-Sup was a great mentor for me and all other students. Sometimes we disputed over scientific issues and sometimes we had different views, however, he had been always caring his young students with sincere attitude and kindness. After I finished my PhD study and left his group, I realized that how incredible person he was as a brilliant scientist, a wonderful mentor, and most importantly a good person. Now I am a scientist and a mentor for my PhD students. If I have something to be a good scientist and a good mentor, that is all I learned from Prof. Soh. I will always appreciate him and do my best to follow his excellent vision in biological physics. Prof. Soh will be remembered as an admirable scientific pioneer and beloved person”.

The Society of Primo Vascular System (SPVS) founded

Fig. 1. *Physics and Awakening of the Mahayana Faith* (1999, Seoul National University Press).

Fig. 2. *Pilgrims of Time* (2013, m-Wonkwang Press).

by Professor Soh will last from generation to generation. Dr. Sang-Suk Lee, President of the SPVS, made the following promise: *"During his lifetime, Prof Soh always encouraged and watched over us so that we would not lose strength and courage in conducting research on the PVS. Now, the professor is no longer with us, but he seems to be encouraging us from heaven by approaching all the researchers of the PVS with peace of mind. As a reward for Professor Soh, we will do our best for PVS research to shine globally and open a new path to realizing the truth of life phenomena in the future"*.

During his tenure at SNU, Professor Soh produced 51 masters and 18 doctors in physics. The authors regret that due to limited space and time, we were unable to include all the tributes of his students and colleagues to Dr Soh.

Professor Soh is survived by his wife Hyeon-Sook Jeong, brothers Sam-Sup, Young-Sup, and sisters Kyeong-Soon, Kwang-Shim, and Kyeong-Mi. Professor Soh leaves behind a vast legacy in approaches to convergence among physics, biology, and religion, which have led to new progress in understanding the nature of life phenomena and time. He will be missed. We will remember his legacy while praying for his eternal peace.

SUPPLEMENTARY MATERIAL

Supplementary data to this article can be found online at <https://doi.org/10.51507/j.jams.2022.15.1.1>.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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