ELSI RISING

地球生命研究所
ことのはじまり

WRITTEN BY MARC KAUFMAN
PHOTOGRAPHY NERISSA ESCANLAR

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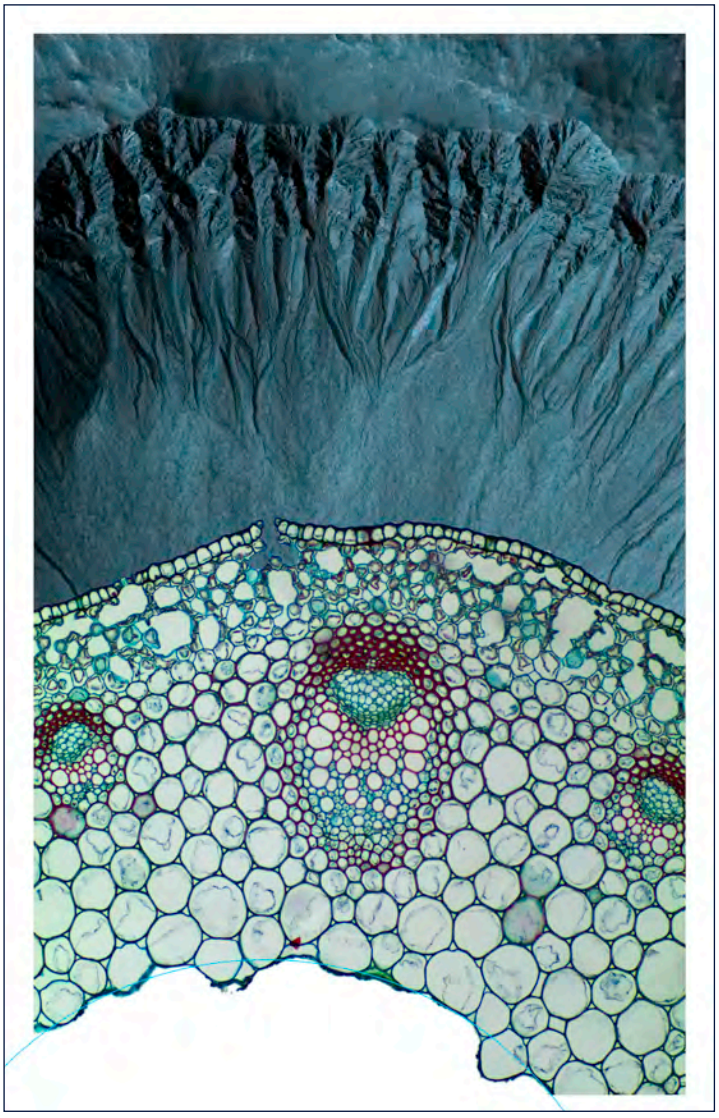

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Hitoshi Murayama

Director of Kavli Institute for the Physics and Mathematics of the Universe

When ELSI was born, we rejoiced. We were granted a younger brother to play with!

ELSI proposed to study the origin of life. My institute, the Kavli Institute for the Physics and Mathematics of the Universe, or IPMU, proposed to study the origin of the universe. Why do we care? It is not that solving these mysteries will help us eat healthier, get rich, become immortal, or reduce carbon emissions. But these questions speak to our core, to who we are. For some reason, we humans want to know where we came from, what are our origins. These questions are what make us humans. With ELSI, we can seek our origins together.

I must have been hallucinating when I signed up to be the founding director of Kavli IPMU back in 2007. It was one of the first five centers funded by the same program that funds ELSI. The program is called the World Premier International Research Center Initiative (WPI), and it has very ambitious goals. Under this program, the Japanese government wants to create world-class research centers with broad international membership and wide recognition. New research fields must be created within interdisciplinary environments. One goal is to make the rest of Japan's universities so inspired by our success that they want to change their ways and emulate the WPI centers. We are supposed to become competitive with places like the Max Planck Institutes in Germany or the Institute for Advanced Study in Princeton, centers with long and impressive histories. All in less than ten years.

We had to move mountains, and it has been a huge challenge to realize the ambitions of the WPI program. Right after the launch in 2007, I and my colleagues literally went around the world to advertise the concept of the institute and its new open positions, and by now we have recruited nearly 200 scientists. We designed our building on the University of Tokyo campus and we created a new scientific culture to make it easier for people in different disciplines to mingle informally. The University of Tokyo had to write new rules and policies to accommodate our needs to create an international institute, so that we could make offers competitive with Harvard or Cambridge, for example. And we set up a support system for international members who do not speak Japanese.

We had to keep justifying our existence. Why do we deserve to receive $130 million of taxpayers' money to study subjects with no apparent direct applications? What can we give back to the people who paid for this? We listed five big questions as our mission: how did the Universe begin? What is its fate? What is it made of? What are its fundamental laws? Why do we exist in it? We hoped anybody could relate to these questions

Courtesy of EMP, The University of Tokyo

and support them. We engaged in active outreach to inspire young students to study math and science. We argued that this kind of basic research is what leads to quantum leaps in knowledge and technological innovations. Remember Euclid realized around 400 B.C. that any integer number can be written as a product of prime numbers. This seemingly useless observation is now the cornerstone of Internet communication!

Five years later, ELSI started to follow our path. We have our brother who shares all the struggles and challenges with us. We are now in the same boat on a long journey.

The world took notice. Together with the seven other centers, we apparently managed to establish the WPI program as a real success at the funding agency. It became a role model to the universities not only in Japan but also in many other countries. WPI centers achieved excellent impact factors in terms of citation counts and number of highly cited papers. As a result, the Japanese government decided to establish even more WPI centers.

What may be most important, though, is that we are having great fun trying to solve deep mysteries as if they were detective stories. There are many twists and turns, dead ends, and serendipitous discoveries. We feel enormous joy when we make just one small step toward a resolution. And we are not going alone; we now go hand in hand.

This monograph is about the fascinating story of how ELSI was conceived, how it was launched, who were behind it, how it struggled, why it attracted great scientists, and how it landed on a successful trajectory. I can relate to every aspect of the story.

And hopefully, together we will uncover the origin of life and of the Universe one day.