



Interview with Fred Kavli

Interviewer: Hitoshi Murayama

Grew Up Beneath the Northern Lights of Norway

Murayama: Thank you again for this wonderful generous gift to IPMU, and we are very happy to be joining the Kavli Family Institutes and having met the directors from other institutes over the last several days. I am so happy to be a part of this incredible family. It's an excellent...the research institutions, very powerful and collegial relationship among them. In addition to, of course, the endowment joining this family, it looks like really wonderful benefit of being Kavli IMPU now. So thank you again for this.

Kavli: Well, thank you. We are

Fred Kavli is founder and chairman of The Kavli Foundation. A Norwegian-born U.S. citizen, he is a physicist, entrepreneur, business leader, innovator and philanthropist. His many honors include receiving the Royal Norwegian Order of Merit for Outstanding Service and in 2008 he was awarded an honorary doctorate, Doctor Honoris Causa, by the Norwegian University of Science and Technology. In 2009, he received an honorary Doctor of Science degree from Northwestern University. In 2011 he received the Bower Award for Business Leadership from the Franklin Institute, and the Carnegie Medal of Philanthropy. In 2011, he was also conferred the degree of Doctor Honoris Causa by the University of Oslo.

all very excited about it and delighted that IPMU is now part of our family of institutes.

Murayama: Can you tell us a little bit about your upbringing and what got you interested in supporting science?

Kavli: Well, I think it started early. It's because I grew up so close to nature, maybe that had something to do with it. There were such tremendous forces of nature and such beauty. And when the northern lights practically hit you on the head, you wake up.

Murayama: I actually have never seen the northern lights so far. I'd love to see that.

Kavli: When they are strong, they dance all over the sky. It's really quite a sight. Then, of course, where I grew up, you didn't have any lights at night reducing your sight of the sky, and the air used to be very, very clear, so you would see all the stars, along with shooting stars all the time.

Murayama: Did you have a telescope?

Kavli: No telescope I'm afraid. But we had the beauty of the evenings, the stillness and quietness, and sometimes we would walk through the

mountains at night because we took long trips. That was exciting and sometimes dangerous.

Murayama: What made those walks dangerous?

Kavli: For example, one time during World War II I was carrying some guns over from my grandfather's place to our place to hide them. We were walking when some German planes came over. The guns were sticking out of my rucksack but we decided we would just stay put and not move, rather than run to hide by a big boulder, which was a good decision. Another time, we were walking below a very steep mountain during winter when there was an avalanche. That was extremely dangerous.

Murayama: I read that you and your brother had been running a business already in high school days.

Started First Business in His Youth

Kavli: I had a brother who was seven years older than I am and we did two things. The very first business we started was to cut trees down, and then he set up a little sawmill to make

planks that could be sold to furniture manufacturers. It wasn't a big business, but we made a profit. And then the war came, and we made these briquettes for the gas generators that would be mounted on the back of the cars and buses and trucks to produce the syngas, which was used instead of gasoline during the war. It was a good experience, as it gave me confidence later that I could run a business and make a go of it — and make a profit.

Murayama: Then, you went to university and chose physics. Why was that?

Kavli: I was interested in many different things; even interested in psychology and philosophy. I was even thinking about studying medicine, but I didn't because I found physics the most interesting. It's the basis of science in many ways. Physics and mathematics always came easily to me. We had only seven students in our class, so we had a good time.

Murayama: You decided to leave for the United States after this?

Hitoshi Murayama is Director of Kavli IPMU. He is also Professor at the University of California, Berkeley.



Kavli: Yes. My father had lived in San Francisco for 13 years before coming back to Norway, marrying my mother and taking over her farm. So he got stuck (laughs).

Murayama: I see. But you were free.

Kavli: I was, but of course a lot of people traveled and worked in America and settled down in America at that time. My father's sister went to the United States and came back. She didn't stay there permanently. His brother passed away just before I came along. But really, it probably wasn't so much because of that that I came to the U.S. There were a couple of other reasons why I came to America, one being physics where, at that time, the opportunity obviously was in America and the best climate was in California so that's...

Murayama: ...so that's a killer combination.

Kavli: Yes.

Murayama: You had a long career in physics — in business, of course, and it was extremely successful, as I understand. Then, you decided to build the foundation. Can you tell me a little bit more

about this transition, and what motivated you to do so?

Wanted to Do Something of Long-Range Benefit to Humanity

Kavli: I had thought about that for a very long time actually. I wanted to do something more than just starting a business and making a lot of money. I wanted to do something of a more long-range benefit. If I was very successful, I had a plan to start a foundation for a number of years. Then, in 2000, I sold my business and that gave me the opportunity to follow my early dream. I had started some charitable activities before that, but it was after selling my business that the foundation really materialized.

Murayama: Many foundations sort of try to support things that have more immediate impact, but your foundation is quite different in that aspect.

Kavli: I always thought that it's harder to get attention to the long-range — the good things that matter far into the future. That's what we are doing basically. That's why we are supporting basic science.

Murayama: That is really laudable about this

foundation.

Kavli: Right. We have patience.

Murayama: Excellent. I am also a little curious to know why you chose these four fields to support: astrophysics, nanoscience, neuroscience, and theoretical physics.

Kavli: It's simply because I think these are the most exciting fields. These are the fields where you are going to see the most revolutionary discoveries and benefits in many ways. But these benefits are hard to know in advance because we are never good at predicting the future, but I am confident many, many benefits to humanity will come. The history of human beings is to strive to understand nature and the universe. And physics, of course, is the foundation, I think, for most of science.

Murayama: That's what I believe! (laughs). Could you tell us a bit about the Kavli Prizes?

Kavli: The Kavli Prizes are awarded in three fields: astrophysics, nanoscience, and neuroscience. It goes from the largest to the smallest to the most complex. When it comes to nanoscience, it's a very new field, but I think it has

incredible potential. Of course to understand the brain, you know, it's one of the most complex of things, but we are making progress and it's very, very exciting, and we're going to see great benefits from that. And also, to learn more about the universe and how it operates, and its origins and future — that is exciting.

Murayama: I also know you have this philosophy that you don't want to micromanage the Institutes.

Kavli: Yes, I absolutely believe we cannot tell them what to do. What we can do is support them as they grow, become successful and do the best research. Of course, getting visibility is also an important factor because if you get good visibility — and good visibility for doing good work, of course — that helps enable you to attract the best scientists.

Murayama: I completely agree, yeah.

Kavli: That's one of the reasons we are trying to give visibility to scientists in general because we support science and we believe in its track record in increasing the standard of living and our health and well being. We



want to support the institutes and help them on their way to excellence.

Murayama: Coming back to this week's event, what has been the most important thing? Meeting the Prime Minister?

Greatly Enjoyed the Kavli IPMU Week

Kavli: It was delightful to meet the Prime Minister. We were certainly extremely honored that he would receive us, and he showed an interest in science, and an interest in what we are doing. And of course, this is also extremely important because let's face it, most of the funding for science comes from government.

Murayama: Did you also enjoy the symposium we went to

afterwards?

Kavli: It was excellent. And I think bringing together the Kavli institutes was very important. As you talk to people, you get ideas — something you may not have thought about. We are trying to do this across different disciplines too. Certainly with nanoscience and neuroscience, there has been quite a bit of work in between the institutes. And all the Institutes are interested in the problem of computing power and things like that, which is common certainly to astrophysics as well.

Murayama: Yeah, I completely agree. Meeting people with different ideas, maybe even different opinions of the same thing, or totally different approaches, that

really stimulates me and really thinking about the same problem in different ways and different approaches — so meeting people in symposia and meetings of course is incredibly important for us. And we had the ceremony. A lot of people actually told me after the ceremony that they were moved by your speech.

Kavli: Well, thank you.

Murayama: The way you actually spoke was not only eloquent but also poetic; it moved a lot of people. The same was said about your speech at the public lectures in the afternoon. I got several emails afterwards telling me how they appreciated your speech. Your vigor and emotion all came out, and that was wonderful.

Kavli: Thank you. It's very kind

of you.

Murayama: Okay, I am getting a signal now that we should close. I thank you again for making this trip and all the generous trips you have made. I am really looking forward to a very long relationship between you, the foundation, and our institute, and it looks like it's going to be a wonderful time to work together.

Kavli: And thank you. It certainly has been a delightful visit. I especially want to thank you. You are an incredible leader here, and a dynamo, and you get things done. I expect and I am sure I will see great things under your leadership.

Murayama: Thank you so much.