

Force of Nature

Director of Kavli IPMU

Hitoshi Murayama

We have watched the enormous force of Hurricane Sandy, the largest Atlantic hurricane on record that killed nearly two hundred people. Many from Kavli IPMU were stranded on the way to Princeton for the meeting of the SuMIRe/PFS project. My flight from California to New York was cancelled, too. It was one of those rare moments in the modern civilized world to understand Mother Nature is far bigger than any of us. My heartfelt condolences go to those who have lost their loved ones, homes, or jobs.

This issue of Kavli IPMU News highlights the great tradition of research in Japan: neutrino astronomy. It was established by Masatoshi Koshihara, whose work made the discovery of supernova neutrinos and real-time detection of solar neutrinos possible. He was awarded the 2002 Nobel Prize in Physics for this pioneering work. Our Prof. Mark Vagins plans to extend the reach in supernova neutrinos from 160,000 light years detected by Koshihara to billions of light years. His idea to mix gadolinium into Super-Kamiokande is now under vigorous feasibility tests to demonstrate that it will not jeopardize its current excellent performance.

Meanwhile, Hyper Superime-Cam, a new digital camera on Subaru telescope with 900 million pixels with more than three tons of weight and is the first half of the SuMIRe project, is now ready to start a major five-year campaign! It will observe hundreds of millions of far-away galaxies, and produce an unprecedented wide and deep map of dark matter

distribution in the cosmos, telling us about its evolution history driven by the competition between dark matter and dark energy.

Another news is that I attended the ceremony of 2012 Kavli Prize awards in Oslo, Norway. I was very much inspired by the accomplishments of awardees. In the presence of King Harald V of Norway, I had to do what I had never done in my life before: wear a tux in its complete set! It was a memorable occasion, complete with a productive business meeting with other Kavli institute directors in astrophysics.

The WPI program committee meeting in late October preoccupied my mind recently. Together with other five WPI center directors, I presented our progress since the last year and made a strong pitch that they should make a decision on the five-year extension as soon as possible. Meanwhile, I've been meeting faculty members at Kavli IPMU one by one to reassure them that it is not a sinking Titanic. As the end of the current funding in March 2017 nears, it is understandable that our members become antsy. I believe Kavli IPMU has become a true jewel of the University of Tokyo and the national policy on academia in Japan. I trust those in power that we will have a bright future.

(Manuscript received 12 November 2012)

