

Message



Hiroshi Komiya

President of the University of Tokyo

The Institute for the Physics and Mathematics of the Universe (IPMU) at the University of Tokyo was recently selected as a World Premier International Research Center. I am very pleased that the work of the Institute is now underway. Japan's universities are already in the thick of international competition. If all the personnel who make up the university –the faculty, students, and staff– are not of the highest caliber, we cannot prevail in this competition. I believe that an important key to success is internationalization of the university. The IPMU is located on the Kashiwa International Campus which is positioned as our model campus for pursuing internationalization. We have already established the Kashiwa International Office on the Kashiwa International Campus to provide information for daily living, Japanese lessons and other services to people from overseas. We also plan to build the Kashiwa International Lodge as residential accommodation for visiting researchers. It is in this environment that the IPMU is located as a place for world premier researchers to come together. Leading researchers in physics and mathematics from around the world will gather here under the youthful leadership of the Director, Hitoshi Murayama, invited from America.

The universe is said to have been created with the Big Bang. We entertain great hopes that the IPMU, rooted in the Kashiwa International Campus, will be the Big Bang that internationalizes Japan's universities.



Kisaburo Tokai

Minister of Education, Culture, Sports, Science and Technology

Recent years have seen fierce international competition to acquire the world's best brains. To sustain and raise the level of its science and technology amidst such competition, Japan must position itself within the global flow of intellectual mobility. To do so, it will be necessary to build research centers of a sufficiently high caliber of excellence to attract outstanding researchers to Japan from around the world.

Cognizant of this urgent need, this fiscal year MEXT established the program "World Premier International Research Center Initiative." It derives its impetus from the government's third S&T Basic Plan and the "Comprehensive Strategy for Fostering Innovation" formulated by the Council for Science and Technology Policy.

The WPI Program, as it is called for short, provides concentrated support for projects to establish and operate research centers that have at their core a cadre of very high-level investigators. These centers are to create a research environment of a high enough standard to give them a radiantly visible presence within the global scientific community—that is, to create a vibrant environment that will be of strong incentive to frontline researchers around the

world to want to come and work at these centers. This fiscal year, five WPI center projects were selected for funding.

The University of Tokyo's center "Institute for the Physics and Mathematics of the Universe (IPMU)" seeks to elucidate the origin and evolution of the universe by generating and integrating mathematical, physical and cosmological knowledge in research on dark energy and matter, neutrinos, and physics beyond the standard model of elementary particles (e.g., string theory, quantum gravity) in an effort to shed light upon the forces acting on particles and the relationship between the origin of gravity and space-time structure.

Under center director Dr. Hitoshi Murayama's youthful and vigorous leadership, the research capacity amassed by the University of Tokyo will be merged with expertise possessed by the world's top researchers in this field. As his team's work progresses in establishing a top-caliber international research center with high global visibility, great expectation will be placed in both its scientific impact and its role in vanguarding the reform of Japan's S&T system.

Message

Sir Michael Atiyah

Mathematics and Physics in the 21st century

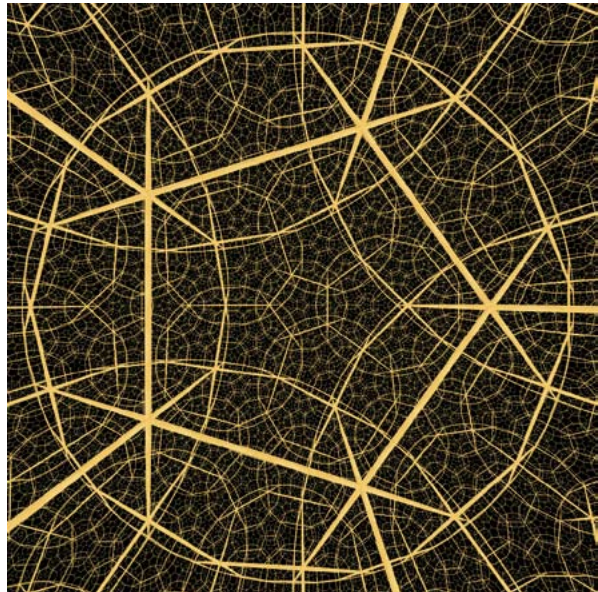
Over the past thirty years there has been a remarkable interaction between the most advanced areas of mathematics. Geometry in the broadest sense has become involved with the latest developments of quantum theory. So far the benefits have been seen on both sides and a whole new generation of young researchers have learnt a common language and are working together.

This joint activity is still in full flow and seems set to continue for some time. What will eventually emerge is uncertain. It may bring about a fundamental change in our view of the universe and it is certain to produce new perspectives in mathematics.

This is an exciting time for both physicists and mathematicians. These old disciplines are being revitalized and there are great challenges ahead for the next generation.



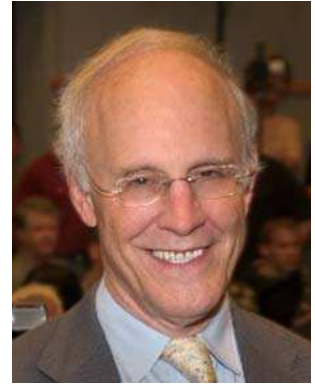
Sir Michael Atiyah has been Professor at Edinburgh, Cambridge, Oxford, and the Institute for Advanced Study at Princeton. He has also been the Master of Trinity College in Cambridge, the President of the Royal Society, and the Founding Director of the Newton Institute for Mathematical Sciences. Among numerous honors for his revolutionary contributions to mathematics are the Fields Medal in 1966 and the Abel Prize in 2004.



David Gross

I am delighted at the recent establishment of the Institute for the Physics and Mathematics of the Universe (IPMU) at the University of Tokyo. The decision to concentrate on some of the most exciting questions facing science and to integrate mathematics with experimental and theoretical particle physics and cosmology, the excellent and dynamic leadership of the Institute and the generous support of the Japanese government, all auger well for the success of this bold initiative.

I and all the members of the Kavli Institute for Theoretical Physics extend congratulations to the IPMU on its establishment and look forward to fruitful collaboration and healthy competition.



David Gross is the Director of the Kavli Institute for Theoretical Physics at the University of California, Santa Barbara. He was awarded the 2004 Nobel Prize in Physics jointly with David Politzer and Frank Wilczek for the discovery of asymptotic freedom in the theory of the strong interaction.

Saul Perlmutter

It is wonderful to hear about the establishment of the Institute for the Physics and Mathematics of the Universe at the University of Tokyo. This is a perfect time to dedicate a center to study the fundamental physics of our universe, with such wonderful new mysteries as dark energy and dark matter to explore.

It is great to have an institute that can showcase the leadership roles that Japanese scientists are playing in this exciting field. The international nature of IPMU will also foster the international collaborative work that has played such an important role in developing this field.

As a collaborator myself for many years with Tokyo experts in cosmology and supernovae, I look forward to an exciting decade of opportunities and discoveries at the IPMU, as the Universe offers us new surprises and insights. My best wishes on the occasion of the establishment of the new Institute!



Saul Perlmutter is a Professor at Lawrence Berkeley National Laboratory. He organized Supernova Cosmology Project and clarified the accelerating universe in 1999. He won the Department of Energy's 2002 E. O. Lawrence Award in the physics category.

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