

INAUGURAL REMARKS
Executive Vice President and Provost Nicholas P. Jones

Institute for Gravitation and the Cosmos Conference:
(IGC@25: The Multimessenger Universe)

Monday, June 24, 2019
Berg Auditorium, 100 Life Sciences Building

Thank you, Abhay, for that kind introduction, and good morning, everyone. On behalf of Penn State, I welcome all of you to this conference presented by our Institute for Gravitation and the Cosmos, which is celebrating 25 years of research and discovery.

To begin, I want to thank Abhay, Director of the Institute, for inviting me to say a few words this morning, including the word “congratulations.”

Abhay has been the Director of this Institute since its inception in 1993 as the Institute for Gravitational Physics and Geometry at Penn State. In 2007, the Institute’s scope was widened to include Particle Astrophysics and Cosmology, and so the Institute adopted its current name.

Abhay’s tenacity and commitment to discovery have enabled the Institute to flourish, growing from 12 members to more than 100 accomplished researchers.

Abhay also has received many honors and awards for his teaching and research over the years, including – as you may know – being elected in 2016 as a member of the National Academy of Sciences.

In the past year, Abhay has earned two particularly prestigious honors. Here at Penn State, he was named an Evan Pugh Professor, a distinction conferred by the University on only 75 faculty members since the designation was established in 1960. It is the highest honor the University bestows on its faculty.

And, late last year, the American Physics Society awarded Abhay its 2019 Einstein Prize, which recognizes outstanding accomplishments in the field of gravitational physics.

Penn State is understandably proud and honored to have Abhay on its faculty. Please join me in a round of applause to thank him for his service, including his work on this conference, and to congratulate him on his many achievements and honors.

<<lead brief applause>>

I also want to take a moment to thank everyone involved in organizing this event and to this week's speakers, panelists, and instructors, including experts and thought leaders from Penn State and other institutions. I know you will learn a lot from them – and from each other – during the next several days.

The Institute for Gravitation and the Cosmos fosters the highest quality education and research in cosmology, general relativity, gravitational wave astronomy, particle astrophysics, quantum gravity, and string theory. It focuses on the highest energy phenomena and fundamental issues in the science of the cosmos.

Through its three research Centers – the Center for Fundamental Theory, the Center for Theoretical and Observational Cosmology, and the Center for Particle and Gravitational Astrophysics – the Institute drives cutting-edge, interdisciplinary research about the fundamental structure and constituents of the universe.

The three Centers interact synergistically to pursue and engage in new intellectual opportunities. As a result, we are well-positioned to build bridges across disciplines. For example, string theory has had a great influence on contemporary mathematics. Our work in cosmology sits at the interface of fundamental physics, astronomy, computational science, mathematics, and philosophy.

The past two-and-a-half decades have seen tremendous advances in our understanding of our cosmos. By making full use of the opportunities unleashed by these discoveries, the Institute has established itself as an international leader at the forefront of the physical sciences.

The Institute has gained so much momentum that it is hosting another major international conference on campus this week: “*Loops19*,” a biannual event on Loop Quantum Gravity. The Institute helped to fund, develop, and advance that field of study, and now it has research groups around the world.

During this conference, you’ll be focusing on the “Multimessenger Universe.” Some have called the universe “the ultimate laboratory,” and we now can explore it through several windows, including electromagnetic waves, high-energy particles, and gravitational waves. Each window provides a different view, and together they provide a detailed picture of the universe that will allow us to study matter, energy, and the cosmos in new ways.

At Penn State, we’re continuing to develop a program known as “AMON” – the Astrophysical Multimessenger Observatory Network. It is the United States’ first multimessenger effort focused on combining data brought to us by “cosmic messengers” associated with all four fundamental forces of nature.

Now, observatories around the world – from IceCube at the South Pole and the Pierre Auger Cosmic Ray Observatory in Argentina to ANTARES in the Mediterranean Sea – are members of AMON, as are the Swift and Fermi satellites.

Thanks to the synergy between advanced scientific studies at Penn State and priorities set by our Research office, the program was in development before the importance of multimessenger astrophysics became widely recognized. Now, however, it is one of the National Science Foundation’s top priorities, making it a salient area of focus for this year’s conference.

Ultimately, this event is all about discovery, which is a core value at Penn State. I believe strongly in discovery and the University's ongoing commitment to research and advanced learning opportunities in all areas of study.

Albert Einstein once said, "I have no special talent. I am only passionately curious."

Nevertheless, many call his discovery of General Relativity the greatest intellectual achievement by a single scientist. And it was fueled by his keen interest in discovery.

Now, 105 years later, scholars worldwide remain eager to share knowledge, ideas, and the promise of meaningful discovery. This week, attendees from at least 15 countries will discuss the current status of the field in broad terms, as well as future directions. Hosting this conference represents Penn State's commitment to and support of your exploration and collaboration.

Research in the science of the cosmos – from cosmology and gravitational wave astronomy to particle astrophysics – is rapidly evolving. But much more remains to be done, which is why you all are here.

This week, you will explore and push boundaries at the cutting edge of knowledge that many could not have envisioned 25 years ago.

The work you are all doing, and your quest for knowledge about things many people can't even fathom, will lead to future discoveries. And that will engender a spirit of curiosity and wonder in individuals for generations to come.

I hope you benefit immensely from your activities this week, and that you will leave here highly motivated to continue your vital research. Ultimately, society will benefit from what you discover and share with the world.

It is a privilege having you at Penn State. Thank you for allowing me to join you this morning.