



MAX-PLANCK-GESellschaft

## **Max Planck Forum Berlin Hosted by the Embassy of Japan**

DATE	19. April 2018   6 p.m. to 9 p.m.
VENUE	Residence of the Embassy of Japan in Berlin Hiroshimastraße 6, 10785 Berlin
FORMAT	Keynotes, Panel discussion & questions from the floor, 90 minutes Reception app. 90 minutes
TARGET GROUP	Members and employees of the Bundestag, heads of the relevant ministries and authorities, representatives of the research sector and associations, people interested in German-Japanese and international research and economic affairs, the media and students. An audience of around 150 guests.
INVITATION	by invitation card to a selected mailing list and email, registration required.

## **Cosmic enigmas**

### **What do we know about dark matter and energy?**

How did the universe begin? Why did stars, planets, and galaxies form? The Big Bang theory is now recognized as the leading explanation, but it is still fraught with many mysteries. Also, the question of how the cosmos has evolved has not yet been answered. Astrophysicists know at least that the universe appears to be expanding at an accelerating rate. But what are the forces behind it? Dark matter and dark energy occupy a key role in all theories currently under discussion — this mysterious substance is suspected of making up 96 percent of the entire universe.

There is hardly any other subject that so preoccupies cosmology as the question of its physical composition. However, some researchers have now cast doubt on the very existence of dark matter, as promising new experimental methods have so far failed to provide any evidence of a single particle of dark matter. High energy or gamma-ray astronomy promises help in the search for this unknown substance.

The forum will discuss current positions of astrophysics on dark matter and dark energy — driving forces in the evolution of the universe or yesterday's theory?

**Eiichiro Komatsu** is Director at the Max Planck Institute for Astrophysics. He is an expert for cosmic microwave background, theories of the early universe and inflation. He obtained his doctoral degree from Tohoku University in Japan and afterwards joined Princeton University and the University of Texas at Austin.

**Masahiro Teshima** is Director at the Max Planck Institute for Physics. His field of research is high-energy cosmic radiation, gamma-ray astronomy and the telescope observatory projects Magic and H.E.S.S. He was Professor at Tokyo University and visiting researcher at the University of Utah, USA. Until 2002 he was Director of the Akeno Observatory, ICRR of the University of Tokyo.

**Moderator:** Ralf Krauter, Science Journalist (Deutschlandfunk)



MAX-PLANCK-GESELLSCHAFT

**Language:** English

**Schedule**

17.15 h	Arrival of the speakers (Entrance Hiroshimastr. 6, 10785 Berlin) Get-together, technic-check
18.00 -18.10 h	Welcome addresses  Excellency Yagi, Ambassador of Japan  Prof. Dr. Dr. h.c. Angela D. Friederici, Vice-President of the Max Planck Society
	Introductory moderation: Ralf Krauter
18.10 – 18.25	Prof. Komatsu, introductory note What do we know about dark energy and dark matter?
18.25 – 18.40 h	Prof. Teshima, introductory note Which new perspectives and answers about the nature and existence of dark matter could we expect from current projects?
18.40 – 19.20 h	Discussion
19.20 – 19.35 h	Questions from the floor
19.40 h	Reception
21.00 h	End of the event

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