

# Nanoscale Organisation and Dynamics Group

University of Western Sydney



## Dark Side of the Universe

### Lecture 2: Inflation, Dark Energy, Dark Matter and New Cosmology

**Professor Sergey V. Ketov**

**Tokyo Metropolitan University, Kavli Institute for the Physics and  
Mathematics of the Universe, The University of Tokyo, Japan**

#### **Abstract**

In the second lecture I am going to introduce the notions of inflation in the early universe, and dark energy and dark matter in the current universe. The possible theoretical solutions to these problems will be discussed, as well as their relation to high-energy particle physics. I will conclude with a discussion of unsolved problems in the new cosmology.

Prof. Sergey Ketov, head of the Theoretical High-Energy Physics Lab at Tokyo Metropolitan University, and associate member of the Kavli Institute for Physics and Mathematics of the Universe at the University of Tokyo, Japan. He obtained his PhD in Moscow in 1986 at the Ginzburg Lab of theoretical physics at the Physical Institute of the Soviet Academy of Sciences in the USSR. Prior to his current appointment in Japan, he worked at various teaching and research positions at the University of Hannover, Germany, and the University of Maryland at College Park in the USA. His research interests are centred on quantum field theory, supersymmetry and supergravity, string theory and theoretical cosmology.

Staff and students at all levels are welcome to attend.

#### **Venue and Time:**

This talk will be held on Tuesday August 21 at 3 pm at the Campbelltown Campus in Building 21 Lecture Theatre 5 (CA-21.G.03).

#### **Enquiries:**

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