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Subject: Colloquium and Cosmology Mini Course By Professor Alexei Starobinsky
At the Physics Department,
Ben Gurion University of the Negev

הפקולטה למדעי הטבע
המחלקה לפיסיקה

Dear Colleagues,

During his visit here Professor Starobinsky will interact with the Particles and Fields Group and the Astrophysics group on the very hot issue that concerns what exactly is the dark energy that drives the accelerated expansion of the universe now as well as what was the vacuum energy density that was responsible for the inflation in the early universe. This is the present area of activity of Professor Starobinsky who is also going to deliver a mini course on the approach he has developed in recent years to understand the dark energy problem, which is based on the understanding of the consequences of non linear theories of gravity, the so called $f(R)$ theories. In 1979, studies of a similar kind lead to Professor Starobinsky's discovery of the first inflationary scenario for the early universe. It may very well be that this kind of approach will produce corresponding breakthroughs for the present regime of the universe, the so called "late universe ". We anxiously await learning about these matters from Professor Alexei Starobinsky during his visit here, from March 28, 2014 until April 9, 2014.

In addition to this, Prof. Starobinsky will deliver a

Colloquium on the hot subject (given the recent reported findings of gravity waves evidence in the CMB): "Primordial gravitational waves from inflation"
Which will take place on Monday March 31 at 2pm

Here is an outline of the mini course to be delivered by Professor Starobinsky:

Title: Primordial and present dark energy with $f(R)$ gravity

Lecture 1. Why modified gravity? $f(R)$ gravity.

Lecture 2. Viability conditions for cosmological models based on $f(R)$ gravity.

Lectures 1 and 2 will take place on Wednesday April 2, from 11AM to 12:45

Lecture 3. Inflationary models in $f(R)$ gravity and their comparison with recent observational data.

Lecture 4. Present DE models in $f(R)$ gravity. Models with normal and sterile neutrinos.

Lectures 3 and 4 will take place on Monday April 7 from 2pm to 3:45 pm

Lecture 5. Combined models of primordial and present DE in $f(R)$ gravity.

Lecture 5 will take place on Wednesday April 9, from 11am to 12.00

THE COLLOQUIUM AND ALL THE LECTURES OF THE COURSE WILL TAKE PLACE AT THE PHYSICS
LECTURE ROOM, Physics building (#54) room 207

