

The Emilio Segre Distinguished  
Lectures in Physics of the Raymond  
and Beverly Sackler Foundation

ההרצאות המיוחדות בפיזיקה  
ע"ש אמיליו סגרה, מיסודה  
של קרן ריימונד ובברלי סאקלר

Professor Yaron Oz, Co-ordinator

פרופ' ירון עוז, מתאם

TEL AVIV UNIVERSITY



אוניברסיטת תל-אביב

**The John Bahcall**  
**Lecture in Astrophysics – 2014/2015**

**הרצאה באסטרופיזיקה**  
**ע"ש ג'ון בקל – 2014/2015**

*Introductory Remarks: Prof. Dan Maoz*  
*Astronomy & Astrophysics Department*

*דברי פתיחה: פרופ' דן מעוז*  
*החוג לאסטרונומיה ולאסטרופיזיקה*

*Presentation: The John Bahcall Fellowship to*  
*Mr. Ofer Doron, undergraduate Physics student*

*הענקת המלגה ע"ש ג'ון בקל*  
*למר עופר דורון, תלמיד לתואר ראשון*

**Prof. Tim de Zeeuw**  
**Director General**  
**European Southern Observatory**  
**Garching, Germany**

**פרופסור טים דה זאו**  
**מנהל כללי**  
**המצפה הדרומי האירופאי**  
**גרשינג, גרמניה**

## "THE ROLE OF ESO IN ASTROPHYSICS"

### Abstract:

ESO is an intergovernmental organization for astronomy founded in 1962 by five countries. It currently has 14 Member States in Europe with Brazil and Poland poised to join. Together these countries represent approximately 30 percent of the world's astronomers. ESO operates optical/infrared observatories on La Silla and Paranal in Chile, partners in the sub-millimetre radio observatories APEX and ALMA on Chajnantor and has started construction of the Extremely Large Telescope on Armazones near Paranal. La Silla hosts robotic and national telescopes as well as the NTT and the venerable 3.6m telescope. The former had a key role in the discovery of the accelerating expansion of the Universe and the latter hosts the ultra-stable spectrograph HARPS which is responsible for the discovery of many of the confirmed exoplanets with masses below that of Neptune. On Paranal the four 8.2m units of the Very Large Telescope, the Interferometer and the survey telescopes VISTA and VST together constitute a unique integrated system which supports 16 powerful facility instruments, including adaptive-optics-assisted imagers and integral-field spectrographs, with half a dozen more on the way and the Extremely Large Telescope with its suite of instruments to be added in about ten years' time. Scientific highlights include the characterization of the supermassive black hole in the Galactic Centre, the first image of an exoplanet, studies of gamma-ray bursts enabled by the Rapid Response Mode and milliarcsec imaging of evolved stars and active galactic nuclei. The single dish APEX antenna, equipped with spectrometers and wide-field cameras, contributes strongly to the study of high-redshift galaxies and of star- and planet-formation. Early results obtained with ALMA demonstrate its transformational potential for high-resolution, high-sensitivity observations of the cold Universe, near and far.

The lecture will provide an overview of ESO's current program, with emphasis on recent increases in observing capabilities, will consider ESO's role in the broader context of astrophysics, and will briefly touch on opportunities for the future.

The lecture will take place on Sunday,  
25 January 2015, at 16:10, in Melamed  
Hall (No. 6), Shenkar Physics Building,  
Tel Aviv University, Ramat Aviv.

ההרצאה תתקיים ביום ראשון, 25  
בינואר 2015, בשעה 16:10, באולם  
מלמד (מס' 6), בניין שנקר לפיזיקה,  
אוניברסיטת תל אביב, רמת אביב.

Light refreshments will be served  
at 15:45 before the lecture

כיבוד קל יוגש בשעה 15:45  
לפני ההרצאה