



# European Week of Astronomy and Space Science 3-6 April 2018- Liverpool

## Three Decades of the OGLE Sky Survey

📅 05.04.2018 ⌚ 11:00 - 11:30 📍 Hall 1A 🗨️ Plenary

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The largest observing program in the history of the Polish astronomy – The Optical Gravitational Lensing Experiment (OGLE) celebrated in 2017 its silver anniversary. It is conducted by the astronomers from the Warsaw University Astronomical Observatory and since its beginning in 1992 it has always belonged to the largest sky surveys worldwide.

Throughout its almost three-decade history the OGLE survey has been continuously bringing scientific discoveries of the highest level. The OGLE project set the new research fields in modern astronomy by pioneering new ways of conducting observations – long-term monitoring of large areas of the sky and developing so called time domain astrophysics.

The most important results of the OGLE survey include the first detection of gravitational microlensing events and the development of this new field of research in astronomy. The phenomenon of gravitational microlensing was used, among others, to study the dark matter in the Milky Way and the analysis of its structure, as well as to a search for extrasolar planets.

Another breakthrough discoveries have been made in the search for exoplanets. For the first time, the OGLE project successfully implemented two new techniques of exoplanet detection: the method of transits, and gravitational microlensing. So far, over 70 extrasolar planets have been discovered.

The OGLE project created the world's largest collection of well characterized periodic variable stars – consisting currently of about one million objects. It contains many unique objects including new, previously unknown types of variable stars. The project regularly discovers eruptive objects – novae, dwarf novae, supernovae and other types of transient objects.

Many new, interesting objects are found both in our Solar system and at cosmological distances. The former include a number of large objects, candidates for dwarf planets, orbiting in the so-called Kuiper belt, the latter – distant quasars, galaxies and gravitational lenses.

During the lecture the main achievements and contribution to modern astrophysics of the OGLE survey will be presented.