There exist many types of stars that change their brightness in time. These changes are caused by the phenomena occurring inside the star, but they can also be the result of various external factors, e.g., interactions with other stars or planets in the gravitationally bound systems. Variable stars play a key role in modern astronomy and for decades have been used as "tools" to study the structure of the Milky Way, other galaxies and the Universe. In addition, variability of stars allows us to study their internal structure and evolution.

Magnetically active stars are a type of variable objects. Their variability is caused by the magnetic field generated in their interiors, which leads to several observable phenomena, e.g., spots on their surfaces, prominences, flares or coronal mass ejection. The closest magnetically active star is the Sun. Spots on the Suns' surface have been observed for hundreds of years, but the discovery of the 11-year solar cycle in the mid-nineteenth century aroused particular interest in the stellar activity. Until now, magnetic activity has been analyzed for a small number of objects because long and precise observations for a large number of stars were lacking. This changed with the beginning of the OGLE (*Optical Gravitational Lensing Experiment*) project.

The OGLE project has been operating continuously since 1992 and it is one of the most important sky surveys in the history of both Polish and world astronomy. Using the telescope that is located in one of the best places for the sky observations, in the Atacama Desert in Chile, Polish astronomers have been monitoring the brightness of billions of stars for almost three decades. These observations have contributed to many scientific discoveries and set the standard for world astronomy. One of the most important results is the catalog of periodic variable stars, containing over a million objects of various types. The OGLE team members are world-class experts in the field of variable stars, and they discovered, classified, and analyzed more variable stars than any other groups in the world.

Quasi-periodic variable stars, such as stars with magnetic activity are not as well-studied as their periodic counterparts. Our latest analysis of almost 13 000 spotted stars showed many previously unknown facts about these objects. The main goal of the proposed project is to extend this analysis by three additional tasks. In the first task of the project, we will look for chemically peculiar stars (with unusual chemical composition) in the Milky Way. The chemically peculiar stars are characterized by very stable magnetic fields (which do not change even on a scale of decades), and therefore they are excellent astrophysical laboratories that bring us closer to understanding stellar magnetism. The second task of the project will be devoted to searching for and measuring the time scales of the activity cycles for hundreds of stars, which is possible thanks to almost three-decade-long observations of the OGLE project. In the final step of the proposed grant, we will create the catalog of spotted stars that will contain all information about such stars and the whole available photometry will be made public. We are convinced that the results of this project will be the basis for future studies of stellar magnetic activity, conducted with the newly built ground-based and space telescopes.