Project acronym: **ELSA**
Project ID (6 digits): **033481**
Project Participant: National and Kapodistrian University of Athens

You			Your stay in the network				
NAME, first name	Nationality	Previous place of work/education	Start date	Duration (months)	Category ESR/ER	Place	Country
BELCHEVA, Maya	Bulgaria	Sofia University, Bulgaria	01/10/2007	36	ESR	Athens	Greece

I have obtained both my Bachelor and Master degree from Sofia University "St. Kliment Ohridski" in 2006 and 2007, respectively. The main goal of my Master thesis was to continue a systematic abundance analysis of a sample of 12 Am binaries in order to search for possible abundance anomalies driven by tidal interaction in these binary systems. Two articles had already been published concerning the chemical composition of 9 stars from the sample and basic stellar properties were determined. A synthetic spectrum analysis of CCD observations of the other 3 stars (HD155375, HD159560 and HD196544) in the spectral region 6400–6500ÅÅ was carried out. We also searched for possible observable abundance anomalies driven by tidal interaction in these binary systems. Possible dependencies of the abundance anomalies of Ca and Fe, as well as the [Ca/Fe] ratio, on the effective temperature, rotational velocity and eccentricity were identified.

Now I am an ESR (PhD student) at the National and Kapodistrian University of Athens, Greece. My thesis topic is "Spatial distribution of stellar populations for galaxies resolved in stars by Gaia". The main goals of this project are the modelling of resolved galaxies as seen by Gaia and obtaining the spatial distribution of stellar components such as star clusters, stellar associations, carbon stars. The results of this investigation will be introduced to the Gaia simulation algorithms, the Gaia Universe Model in particular.

During my stay in the network I attended both ELSA meetings:
- ELSA School on the Science of Gaia (Leiden, 2007)
- Workshop on Software Engineering and Numerics (Barcelona, 2008)

So far we have identified catalogues, which are useful for spatial distribution determinations and have produced isopleth/density maps of the Magellanic Clouds region. We have preliminary results, concerning the number density distribution of stellar populations in the Magellanic Clouds. In May 2008 I visited Besancon, France, where I was introduced to the model of stellar populations synthesis of the Galaxy, which is used in the Gaia Universe Model. I am also a co-author of an article with the title "Structure of the SMC Stellar component distribution from 2MASS data" by I. Gonidakis, E. Livanou, E. Kontizas, U. Klein, M. Kontizas, M. Belcheva, P. Tsalmantza, and A. Karampelas, which was accepted in *Astronomy & Astrophysics* in the fall of 2008.

In December 2007 I attended the DPAC CU8 meeting in Athens and I was also involved with its organization. In June 2008 I had the opportunity to attend a conference entitled "The Cosmic odyssey of the elements" in Aegina, Greece. It offered not only insight into the topics of chemodynamical evolution of galaxies and chemical enrichment of the Universe but I was also able to experience the organization of such an event, since our team from the University of Athens was a part of the organizing committee of the conference.