

Short description written by each ESR and ER

Project acronym: **ELSA**
Project ID (6 digits): **033481**
Project Participant: **Université Libre de Bruxelles**

| You | | | Your stay in the network | | | | |
|---------------------|-------------|--|--------------------------|----------------------|--------------------|----------|---------|
| NAME, first name | Nationality | Previous place of work/education | Start date | Duration (months) | Category ESR/ER | Place | Country |
| PASQUATO Ester | Italian | Padova (Italy) | 1 Oct 2007 | 36 | ESR | Brussels | Belgium |

I graduated in physics in September 2007 at the University of Padova. My final master thesis dealt with baryonic acoustic oscillations in the Universe, a branch of cosmology. My supervisor was prof. S. Matarrese.

In October 2007 I started my PhD at the Brussels University as part of the ELSA network. The subject of my ongoing work is the impact of stellar brightness asymmetries on Gaia astrometry. As part of my training I participated in various meetings and conferences. Among them:

I presented my PhD project at the CU7 meeting in Lisbon (P), I participated in the ELSA School on the Science of Gaia in Leiden (NL), I presented my first results from my simulations at the CU4 meeting in Liege (B), I attended the Scientific Writing for Young Astronomers school in Blankenberge (B), I participated in the Gaia JAVA Workshop at ESAC in Madrid (SP) and in the ELSA Workshop on Software Engineering and Numerics in Barcelona (SP).

Moreover I spent one week at the Lund Observatory during which I collaborated with the ELSA ESR Berry Holl and prof. Lennart Lindegren. This joint work yielded the elaboration and implementation of a new model of photocenter motion due to asymmetries on the star brightness.

In my present work I am performing sets of simulations with JAVA codes to study the effects of brightness asymmetries on the surface of stars in view of the implementation of a portion of the Gaia reduction pipeline.