

Short description written by each ESR and ER

Project acronym: **ELSA**
 Project ID (6 digits): **033481**
 Project Participant: **Department of Astronomy and Meteorology,
 University of Barcelona**

You			Your stay in the network				
NAME, first name	Nationality	Previous place of work/education	Start date	Duration (months)	Category ESR/ER	Place	Country
Fries, Aidan	Irish	Previous work: SITA Previous University: Dublin City University	9 th Sept 2008	10.25	ESR	Barcelona	Spain

I am undertaking a PhD in High Performance aspects of the Gaia data processing within the DPCB (Data Processing Centre Barcelona). My B.Sc. and M.Sc. are in computer science, I worked as a computer programmer for 4 years. I am particularly interested in algorithm design and object oriented software design.

I joined the Gaia team in Barcelona on 1st September 2008 and I joined the ELSA Network on 9th September 2008. I am a member of CU1, CU2, and CU3. Since joining the Gaia team in Barcelona I have been becoming familiar with the work which is ongoing within these three CUs and in particular the work being carried out in Barcelona.

In relation to CU1 I am involved with the work to bring the DPCB in line with Gaia requirements for a data processing centre (DPC). One of the responsibilities which I have been given is the creation of a set of documents for the DPCB. The objective of these documents is to define exactly how the DPCB will operate, what its responsibilities are, what will be tested and what software will run at the DPC, etc. Each DPC must produce these documents; these documents should bring a certain level of standardization across all the DPCs. I am also working with CU1 colleagues in other DPC to begin the use of the GTS (Gaia Transfer System) to allow the easy transfer of data between DPCs.

My involvement with CU2 is quite small as CU2 software development was already at an advanced stage when I joined the project. My involvement with CU2 is related to the monitoring of the CU2 simulations which run on the DPCB hardware. At the moment there are practically no software tools in place at MareNostrum (the supercomputer at DPCB) to monitor the execution of Java based applications, therefore some work needs to be done to allow the monitoring of Gaia software which is all written in Java.

I think the main focus of my work within the next few years will be within CU3. IDU is currently in the development stage and there are still many technical challenges to be solved and decisions that need to be answered. These challenges and decisions are mainly related to how we design IDU in such a way

that we make best use of the available hardware and how to manage the huge amount of data that IDU will have to handle. I think IDU represents an interesting piece of software development and I hope to be involved as much as possible in its design, development, configuration, execution, etc. at the DPCB.

I have not experienced any major problems since I joined the project and it's been a very positive experience for me. One problem that I have had is that I have found it a little difficult to focus on the core topic of my PhD. I have been spending time on various CU1, CU2, CU3, DPCB issues, but I feel that some of these issues are not really related to the topic of my research. And although I have enjoyed working on these issues and I have learned a lot about the Gaia project from these tasks I don't think I have spent enough time on the research topic of my PhD. I feel that I need to define more precisely what exactly the topic of my PhD is, rather than just becoming involved with various computing aspects of Gaia.