

**GREAT: Gaia Research for European Astronomy Training**  
<http://www.great-esf.eu>

Research Network Programme of European Science Foundation



An initiative of

- Gaia Science Team
- Data Processing and Analysis Consortium

<http://www.ast.cam.ac.uk/GREAT/assets/GREAT-brochure-FINAL.pdf>

# Role of GREAT in Gaia framework

- **ESA** – charged with **delivering the mission**
- **DPAC** – community contribution to Gaia
  - develop the data analysis and processing system
  - run that system & **generate the Gaia data products**
- **ELSA** – EU FP6 RTN
  - Training PhDs / PDRAs/
  - Building **technical** expertise of Gaia
- **GREAT** – ESF RNP
  - Community network to increase knowledge and awareness of the **science** potential of Gaia
  - Increase the science impact of Gaia
- **GREAT** – EU FP7 ITN
  - PhD students focussed on Gaia **scientific exploitation**

## Preparation for Gaia scientific exploitation

2010-2014  
**GREAT-ESF**

European Science Foundation  
(17 países, 90 grupos)  
14 institutos españoles  
España invierte: 11K € /año  
(8.8%)

2011-2014  
**GREAT-FP7**

Initial Training Network (ITN)  
32 instituciones, 4.1 M€ concedidos  
España: (UB, IAC, IAA) :  
2/17 pre-doc ESR + 3 secondments

2010-2011 ...  
**REG-MICINN**

**Red Española de Explotación  
Científica de Gaia**  
AACC 40K€  
106 miembros

# Scientific items

1. Origin, structure, evolution of the Milky Way
2. Stellar Astrophysics
3. Galactic Dynamics
4. Galactic Archaeology
5. Star formation and evolution
6. Fundamental physics and the reference frame
7. Extrasolar planets and non single stars
8. Solar system
9. The IT data challenge

## **Workgroup**

[WGA1GaiaModel](#)

[WGA2SurveyCensus](#)

[WGA3ChemicalTagging](#)

[WGA4LocalGroup](#)

[WGA5GaiaAlerts](#)

[WGA6GaiaExtragal](#)

[WGA7NewStats](#)

[WGA8DistanceScales](#)

[WGB1OpenClusterYoungAssociation](#)

[WGB2StellarVariability](#)

[WGB3BinariesAndMultipleSystems](#)

[WGB4StellarAtmospheres](#)

[WGB5MassiveStars](#)

[WGB6EndStatesOfStellarEvolution](#)

[WGC1ExoPlanets](#)

[WGC2AstrometryReferenceFrame](#)

[WGC3Quasars](#)

[WGC4SolarSystem](#)

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## GREAT's road

- Apr 2008: GST / DPACE agreement
- Jan 2010: approval 125 keuros/yr; 5 yrs  
Austria ([FWF](#)), Belgium ([FNRS](#) & [FWO](#)), Czech Republic ([ASCR](#) & [GACR](#)),  
Finland ([Finlands Akademi](#)), France ([CNRS](#)), Germany ([DFG](#)), Italy ([INAF](#)),  
Netherlands ([NWO](#)), Portugal ([FCT](#)), Spain ([MICINN](#) & [CSIC](#)), Sweden ([VR](#)),  
Switzerland ([SNF](#)), United Kingdom ([STFC](#))  
*The RNP is supported by all MO except ET, GR, PL, SL*
- Feb-2010: Kick-off meeting (official starting date)

Funds for workshops, schools, conferences, short and long term exchange visits  
Two calls per year

Spain contributes with 11 keuros/yr → 9%  
48 researchers in Spain amount to 14% of total members

## **GREAT activities in 2009**

- Kickoff Plenary meeting: Cambridge, Mar 2009 (65 attendees)
- Second plenary: Nice, Nov 2009 (85 attendees)

Workshops organized by the WGs:

- Chemical Tagging WG: Meeting in Cambridge (Jul/09)
- Open Clusters WG: Meeting in Padua (Oct/09)

# GREAT activities in 2010

**Workshop** *Gaia Chemo-Dynamical Survey: Survey Science*, 2 – 4 Nov 2010, Nice

**Workshop** *Comparative Stellar Spectrum Modelling*, 23 – 24 Aug 2010, Vienna

**GREAT PLENARY** *3th Great Plenary Meeting*, 29-30 Jun, ESTEC

**Workshop** *Gaia Science Alerts Workshop*: 23 – 25 Jun 2010, Institute of Astronomy, Cambridge

**Workshop** *Ground-based observations and theoretical analysis for the Gaia Science on Open Clusters and Young Associations*, 13 – 14 May 2010, Catania

Workshops organized by the WGs

- Chemical Tagging WG: Meeting in Lund (Feb/10)
- Gaia Modelling WG: Meeting in MSSL (Mar/10)

+ exchange visits



## **GREAT activities in 2011 (I)**

**Workshop** *Gaia and the End States of Stellar Evolution*, 11-14 Apr, The University of Leicester, UK

**CONFERENCE** *Assembling the puzzle of the Milky Way*, 17–22 April, Le Grand-Bornand, France

**CONFERENCE** *The Fundamental Cosmic Distance Scale: State of the Art and the Gaia Perspective*, 3–6 May, Osservatorio Astronomico di Capodimonte, Italy

**Workshop** *Asteroid dynamic and physical studies during and after the Gaia mission*, 4-6 May, Pisa, Italy

**Summer School and Workshop** *Astrostatistics and Data Mining in Astronomical Databases*, 30 May-3 Jun, La Palma, Spain

**Workshop** *QSO Astrophysics, Fundamental physics, and Astrometric Cosmology in the Gaia era*, 6-9 Jun, University of Porto, Portugal

**GREAT PLENARY** *4th Great Plenary Meeting*, 21-23 June, Brussels, Belgium

## **GREAT activities in 2011 (II)**

**Workshop** *Stellar Atmospheres in the Gaia Era: Quantitative Spectroscopy and Comparative Spectrum Modelling*, 23-24 Jun, Free University Brussels, Belgium

**Workshop** *The Interstellar Medium in Three Dimensions with Gaia*, 11-14 Jul, Leiden University, NL

**Workshop** *The UVES Analysis of the Gaia-ESO Survey: tests, tools, and survey implementation*, 26 - 27 Sep 2011, ESO, Garching, Germany

**Workshop** *Orbiting couples: "pas de deux" in the Solar System and the Milky Way*, 10-12 Oct, Paris Observatory, France

+ exchange visits

# GREAT activities in 2012

**Workshop** *Gaia Model workshop: Galaxy modelling with a Gaia mock catalogue*, 29 Feb – 02 Mar 2012, Barcelona

**Workshop** *Stars without borders, radial migration in spiral galaxies*, 21 - 24 May 2012, Medana, Slovenia

**GREAT Plenary** *proposal for the EAS EWASS Jul 2012*

+ exchange short & long visits

# Recordatorio

**Octubre 2011: 5ª. llamada** para organización de conferencias, workshops, visitas de intercambio

Fecha límite Dic-2011

1. *Workshop modelos evolución estelar*
2. *Workshop/conferencia determinación de edades*
3. ....

Visitas cortas: convocatoria siempre abierta

Retorno a España de la financiación invertida

¡ Aprovechad las oportunidades !

<http://www.ast.cam.ac.uk/GREAT/index.html>