

GREAT: Gaia Research for European Astronomy Training

<http://www.great-esf.eu>

Research Network Programme de la European Science Foundation

Surgió a iniciativa del

- Gaia Science Team
- Data Processing and Analysis Consortium

Papel de GREAT-RNP en el entorno de Gaia

- **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**
 - Community network to increase knowledge and awareness of the **science** potential of Gaia
 - Increase the science impact of Gaia

La historia de GREAT

- Abr 2008: acuerdo en GST / DPACE
- Ago 2008: llamada a la comunidad (respuesta de 90 grupos en 17 países)
- Set 2008: definición de objetivos científicos
- Oct 2008: presentación solicitud a European Science Foundation
- Jul-Set 2009: evaluación por parte de las instituciones nacionales en ESF
- Ene 2010: aprobación oficial
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
- 18-Feb-2010: Kick-off meeting, inicio oficial de las actividades hasta Feb-2015

GREAT Budget Plan



GREAT ESF REVISED BUDGET

naw
16/02/10

all costs in k€

Topic/yr	Revised suggestion = equal spend per year					Topic/yr
	1	2	3	4	5	
sc meetings	8.7	8.7	8.7	8.7	8.7	sc meetings
confs	22	12	17	17	32	confs
workshops	30	30	30	30	25	workshops
exchanges	25	25	25	20	20	exchanges
training	10	20	20	20	10	training
publicity/web	15	15	10	15	15	publicity/web
database	0	0	0	0	0	database
admin	15	15	15	15	15	admin
proc coord	0	0	0	0	0	proc coord
Sums	125.7	125.7	125.7	125.7	125.7	Sums
ESF contrib	21.3	21.3	21.3	21.3	21.3	
	147	147	147	147	147	prog total
					735	prog grand total

Conferencias: > 50 participantes, aprox. 25 k€/año, 1-2 conf/año

Workshops: <50 participantes, aprox. 30 k€/año, 4-6 works/año

Exchanges: aprox. 25 k€/año, short: <15 días, 15días--4 meses

Training: aprox. 20 k€/año, 1-2 escuelas/año

Contribución española: 11 k€/año → 8,8%

Objetivos científicos ligados a la ciencia de Gaia

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

WGC2Relativity

WGC3ReferenceFrame

WGC4SolarSystem

co-facilitator

Céline Reylé

George Seabroke

Sofia Feltzing

Vasily Belokurov

Simon Hodgkin

Mary Kontizas

Will O'Mullane

Gisella Clementini

Alessandro Lanzafame

Joris De Ridder

Dimitri Pourbaix

Ulrike Heiter

Janet Drew

Duncan Fyfe

Alessandro Sozzetti

Francois Mignard

Paolo Tanga

co-facilitator

Daisuke Kawata

Arnaud Siebert

Nicholas Walton

Michele Bellazzini

Gerry Gilmore

Nicholas Walton

Xavier Luri & Enzo Brocato

Antonella Vallenari

Laurent Eyer

Frederic Arenou

Alex Lobel

Ronny Blomme

Stefan Jordan

Don Pollacco

MariaTeresa Crosta

Alberto Cellino

GREAT - RNP (ESF)

Organización en WG: Unos 230 miembros, 29 españoles

- WGA1 The Gaia Model Interface (35 – 10: **UB, IAC, UA**)
- WGA2 Census of Supporting Surveys (23 -3 **UB, IAC, UCM, CAB**)
- WGA3 Chemical Tagging (37 – 5: **UCM, IAC, CAB**)
- WGA4 Local Group, Dwarf Spheroidals and Tidal Streams (34 – 0)
- WGA5 Gaia Alerts (17 – 0)
- WGA6 Extragalactic Science from Gaia (16 -1 **UC**)
- WGA7 New Statistical Techniques (19 – 3: **UNED, UCA, UA**)
- WGA8 Distance Scales (26 – 4: **UB, UA**)

- WGB1 Gaia Science on Open Clusters and Young Associations (57 - 15: **CAB, UB, IAA, ESAC, UA, UNED, UCM**)
- WGB2 Stellar Variability (34 – 3: **IAC, CAB**)
- WGB3 Binaries and Multiple Systems (27 -5: **IAC, UCM, UA, UB**)
- WGB4 Stellar Atmospheres (25 – 5: **IAA, UCM, UB**)
- WGB5 Massive Stars and their Evolution, across the Galaxy (22 -3: **IAA, UA**)
- WGB6 End States of Stellar Evolution (12 -2: **IAC, UaC**)

- WGC1 ExoPlanets (14-5: **ESAC, UCM, CAB**)
- WGC2 Relativity and Fundamental Physics (9-0)
- WGC3 Reference Frame (9 – 1: **ROA**)
- WGC4 Solar System (11 -0)

29 españoles de 12 institutos

Actividades de GREAT en 2009

Kickoff Plenary meeting: Cambridge, Mar 2009

- — 65 Attendees
- Concept of programme mapped out
- Working group structure initiated
- <http://www.ast.cam.ac.uk/GREAT/events/cam-mar09/cam-mar09.html>

Second plenary: Nice, Nov 2009

- — 85 Attendees
- Working group activities updated, all co-facilitators in place
- Definition and focus of key science themes
- Spotlight on Wide Field Spectroscopy
- <http://www.ast.cam.ac.uk/GREAT/events/nice-nov09/nice-nov09.html>

- 1. Open Clusters and Young Associations WG, Padova, Oct 2009
- 2. Chemical Tagging WG: High-resolution spectrosc, Cambridge, Jul/09

Planificación de GREAT en 2010

- 4 Ene: 1ª. llamada para la organización de workshops
- 18 Feb: Steering Committee Kick-off
1ª. selección de workshops con financiación ESF
- 26 Feb: anuncio a todas las comunidades nacionales
- 8 Mar: 2ª. llamada para organización de workshops, conferencias y visitas de intercambio (2010-2011), recogida de ideas para escuelas
- 7 Jun: fecha límite recepción de propuestas
- 22 Jun: 2ª. Reunión Steering Committee y selección de propuestas
colección de ideas para la organización de escuelas en 2011
propuesta de GREAT/Gaia Symp en IAU GA 2012
- Oct: 3ª. llamada para organización de workshops, conferencias y visitas de intercambio (2011-2012)

Actividades de GREAT en 2010

- 10-11 Feb: Chemical Tagging WG, High-resolution spectrosc (Lund)
- 29-31 Mar: Chemo-Dynamical Survey Programme (UK)
- 22 Mar: William Herschel Telescope (Cambridge)
- 27 Abr: Chemo-Dynamical Survey Programme (Paris)
- 13-14 May: Ground-based observations and theoretical analysis for the Gaia Science on Open Clusters and Young Associations (Catania) **ESF**
- 17-18 May: Binaries and Multiple Systems WG Kick-Off meeting
- 14-16 Jun: Gaia workshop EGSG 2010 (Paris)
- 23-24 Jun: Science alerts (Cambridge) **ESF**
- 28 Jun (tarde): Chemo-Dynamical Survey Programme (ESTEC)
- 29-30 Jun: GREAT third plenary meeting (ESTEC)
- 23-24 Ago: Stellar modelling (Viena) **ESF**

Propuestas españolas 2010-2011

- Conferencia: “Associations and Star Clusters in the Era of the 8-10m telescopes”

- Granada, 23-27 Mayo de 2011
- Coordina a nivell español: Emilio Alfaro, IAA

- Escuela “Statistical Techniques, Computation and Data Mining for the Scientific Exploitation of the Large Astronomical Data Bases”

Co-organized by: UNED, ESAC, UB, Univ. A. Coruña, IAC
Pre- and Post-doctoral school (~60 participants), Junio 2011, Canarias
Escuela + workshop
Coordina: Luís Sarro.

- 1 visita 16 semanas

Participación española 2010-2011

- Conferencia: “Assembling the puzzle of the Milky Way”
 - Le Grand-Bornand, France 18-22 abril de 2011
- Conferencia: “The Fundamental Cosmic Distance Scale: State of the Art and the Gaia Perspective”
 - Naples, Italy, 3-6 mayo de 2011
- Conferencia: “IAU Symposium 276 - The Astrophysics of Planetary Systems: Formation, Structure, and Dynamical Evolution”
 - Torino, Italia, 11-15 oct 2010

Propuestas españolas

- “Stellar Streams: origin and evolution”
 - Workshop (~60 participants), Barcelona, 2011-2012
 - Co-organized by: UB, UCM, IAC, Leiden, ...
- “Massive Stars as signposts for Gaia ”
 - Workshop (~60 participants), TBC (Alicante?), 2011 - 2012
 - Co-organized by: IAA, Univ. Alicante, ...
- “Stellar Fundamental Parameters and eclipsing binaries”
 - Workshop (~60 participants), TBC, 2012
 - Co-organized by: UB, CAB (Madrid), ...
- The Galaxy: structure and dynamics
 - Plenary meeting (~300 participants), TBC, 2010-2011
 - Organized by Besançon (UB proposes to cooperate)

Resumen

GREAT ofrece oportunidades para:

- reuniones, conferencias, escuelas
- visitas cortas y largas

Retorno a España de la financiación invertida

Resumen

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Retorno a España de la financiación invertida

¡ Aprovechad las oportunidades !

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