

## GREAT plenary 29th-30th June 2010

### Nic Walton: context

- Shape of GREAT working groups confirmed with significant networking now underway
- Decisions for the 2<sup>nd</sup> call for funding of conferences & workshops will be advertised in the coming days
- GREAT ITN currently in negotiation phase with the EC

### Sofia Feltzing: Gaia Chemo-Dynamical Survey (GCDS)

- Aim to wide-field spectroscopy follow up of Gaia: coordinate the community, lobby for spectrographs on 4m telescopes, **answer to ESO call for Public Surveys**
- Letter already sent to ESO, draft white book already available for GCDS
- Organization focused around four Science Experiments; subgroups active
  - SE1: mass distribution of the Galaxy
  - SE2: galaxy formation and evolution traced by chemistry
  - SE3: clusters and star formation and evolution
  - SE4: additional and legacy science
- Three modes of observation of particular interest
  - Radial velocities (any R)
  - Chemical labeling (R=20000)
  - Chemical tagging (R=40000)
- Presently focusing on getting ready to answer ESO call for public surveys. Work and efforts to enable MOSes for 4m telescopes also taking places
- Long term activities include homogenization of elemental abundance work, coordination of activities around Europe for follow up, ensure that dynamical modeling is an integrated part of GCDS

### Daisuke Kawata: WGA1 (Gaia Modelling)

- Review of results and presentation from group meetings (including several results from Barcelona)
- Workshop “Breaking the Milky Way Code”: build up a common platform to compare different galaxy models, consulting both theorists and observers
- Conference “Assembling the puzzle of the Milky Way”, le grand Bornand, France, April 18-22 2011

### **Ulrike Heiter: WGB4 “Stellar atmospheres”**

- Science themes – stellar atmospheres key challenges
  - Improve the accuracy of atomic and molecular data
  - Develop reliable atmospheric models for cool and hot stars
  - Evaluate methods for atmospheric parameter determination
  - Implement methods for hydrodynamic modeling of atmospheres
  - ...
- First workshop scheduled for August 2010 “comparative stellar spectrum modeling” focus on cool giant stars (Vienna). Includes “spectrum modeling experiment”.
- Second workshop proposed with focus on hot star spectra

### **Alessandro Sozetti: WGC1 “Extrasolar planets”**

- Key science challenges
  - Statistical properties of exoplanets
  - Modeling planetary systems
  - Screening nearby stars and targets for searches and spectroscopic characterization of them
- Gaia synergies: THESIS, Plato, SPHERE/EPIC, RV surveys, ground based astrometry
  - Gaia can provide the PLATO input catalog
  - Gaia detections could be used as inputs for SPHERE/EPICS
- Early science with Gaia: inclination angle for RV candidates, candidate selection for RV follow-up
- Future activities: participation in IAUS 276, a workshop for 2011, short term visits in 2011

### **Alessandro: WGB1 “Open clusters and young associations”**

- Meeting held in Catania May 2010
- Proposal for major conference in Granada May 2011 “Stellar clusters and associations”
- White book in preparation
- Science cases on themes of interest
  - Star formation
  - Stellar structure and evolution including evolution of angular momentum
  - Internal dynamics
  - Thin disk formation and evolution
- Considerations on science drivers:
  - Gaia will provide unprecedented data for all known OCYA and more. However, in many cases data will not have enough precision to accurately place stars in the HR diagram
  - Also, detailed abundances for stars brighter than 12

- Limited wavelength range of RVS limits its use for abundance studies
- Stellar structure and evolution: determining ages of young stars is really challenging!
- Preparation for a very large spectroscopic survey
- Conclusions
  - Large interest in the community for OCYA science
  - First version of white book July 2010
  - Focusing on the ground-based very large spectroscopic survey
  - Major conference in Granada

### **Rene Hudec: wide field low resolution spectroscopy for Gaia**

- Discusses the use of Low Dispersion Spectra from Schmidt plates to complement Gaia data

### **Nic Walton: on-ground follow-ups**

- Astronet:
  - 2-4m draft published; main recommendation was for WFMOS options in North and South. Suggested WHT (N) and VISTA/HERMES (S). Community inputs provided from draft May 2010. Final version submitted in June, now approved.
  - WF spectroscopy WG report circulated to observatory directors. Input from GREAT community still welcome
- GYES
  - New MOS design for CFHT (PI Piercarlo Bonifacio, Paris)
  - Currently in phase A (completion Oct 2010)
  - Baseline configuration sees R up to ~30000 and about 500 fibers
- MOS @ WHT
  - Concept led by Marc Balcells
  - Study currently underway
  - Science team established
  - Baseline design paper submitted to SPIE; presentation in SPIE-San Diego this week
- HERMES
  - Exploration of collaborations underway through the GCDS initiative
- VISTA
  - Some indication that ESO is considering the possibility of issuing a community AO
  - GREAT should get involved in a bid

### **R. Blomme: WGB5 "Massive stars"**

- Working on the group white paper
- Goals
  - Test of stellar evolution of Massive Stars

- Improve census of massive stars
- Position stars in the HR diagram
- Determine surface abundances (R=60000)
- Need optical spectroscopy and near-IR spectroscopy for obscured stars

#### **Simon Hodgkin: WGA5 “Science Alerts”**

- Currently writing the white book
- Talks during last meeting
  - Transient phenomena
  - Ongoing surveys
  - Autonomy and alerts
  - Outreach opportunities
- Questions arising
  - How does the scanning law + downlink limit impact on galactic plane photometry (important for transients and microlensing)
  - Who exactly are the consumers of alerts
  - Should the alert system be verified before making it live? Or validation should be a collaborative effort?
  - What is the acceptable contamination level for the alert stream?
  - Which classes of objects should go to the alert list?
  - How do we ensure follow-up?
- Some highlights
  - Significant interest from communities outside Gaia
  - Particular excitement over the uniform nature of the survey
  - Excitement from the microlensing community about the follow up
  - Good ideas about outreach (e.g. amateur coordination, education-based follow-up, ...)
- Future plans
  - Circulate white book
  - Plan for future meetings
  - Need for focus groups

#### **Binaries in the solar system**

- Upcoming meeting in Poland

#### **George Seabrook: WGA2 “Census of supporting surveys”**

- Building the wiki pages with the census of surveys. Contributions welcome.

#### **Gisella Clementini: WGA8 “Distance scale”**

- Conference to be held in 2011 in Naples

**Joris de Ridder: “Variable stars”**

- Kick-off meeting announced for September 2010
- Goals
  - Use of Variable stars to learn about stellar structure and evolution
  - Use of Variable stars to learn about MW structure and formation

**Breakout session group C**

- Administrative issues
- Discussion of workshops: relativity, extragalactic objects
- Workshops on SSOs