« Enhancing Community Skills »

Opticon WP 11.1

(FP7 program)

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-Achievements during FP7

-Plans (improvement/development) for FP7-2

- Financial situation and work plan

Objectives of Enhancement for FP7
(before funding was known!)

Support to observing schools of various types

AND:

- More emphasis on life-long training (workshops)
- Better use of archives
- Organise more events in the East of Europe
  (e.g. data reduction schools, or « awareness » conferences)
- Organise instrumentation oriented schools/workshops
- Develop synergies
- Raise awareness to the great questions in astrophysics

In close link with the Telescope Director's Forum

WP11.1 Steering Committee

- NEON core : M. Dennefeld (Fr), R. Gredel (D), A. Pizzella (I), M. Ward (UK)
- + Community representation: T. Lago (P), T. Bonev (BG), M. Stavinschi (Ro), G. Tautvaisiene (Li)

  ESO representative (B. Leibundgut/ E. Emsellem)
- Link with the Telescope Director's Forum (J. Davies, or representative)
- 1st meeting in Feb. 09, then at Jenam 2010

Enhancement:
what remained after funding was known?

- **Difficult choice between « just do the same old stuff » (total budget just enough for one Neon school per year)**
  or develop the (much needed!) new activities!
- **We decided to concentrate on our « basic skills » :**
  - One Neon observing school every 2 years only (telescope time cannot be obtained for free!) Not paying all the students costs...
  -Start the awareness conferences in eastern EU countries, eventually in conjunction with local « archive schools »
  -Develop workshops on instrumentation and special techniques
- And do Networking to identify further needs

Actual timetable of schools/workshops

Type	2009	2010	2011	2012
• Observing schools*	(Part)	Yes	Yes	Yes
• Archive schools		X	(--)	X
• Training workshops on specific instruments		X	Astro	(AO)
• Instrumentation		X	Yes	(Post)
• Awareness Conf.	Yes	Yes	X	----
• LaCaille exchange Scheme	X	X	X	X

(IF additionnal resources from outside, (TDF)

- Had to fit within 200 kE
  - More would be possible if additionnal resources were available...

RED = Cancelled!

Actual timetable of schools/workshops

Type	2009	2010	2011	2012
• Observing schools*	10	40 (60)	40 (60)	40
• Archive schools		X	---	(X)
• Training workshops on specific instruments		X	15	25(AO)(40)
• Instrumentation		X	10	40 (60)
• Awareness Conf.	10 (25)	15(25)	X	15 (25)
• LaCaille exchange Scheme (would cost ~40 kE, not available)	X	X	X	(5)

- Gran Total 165 kE + 7% overheads = 176.6 kE,

Solar events not included

RED = Cancelled!

« Enhancement » activity within Opticon (2009-2012)

Summary of activities during early FP7

- First meeting of the Steering Committee in Garching in February 2009, to adjust to the new situation
- No NEON school in 2009 due to late arrival of funds
- A contribution to the Rozhen spectroscopic school in October 2009 (lecturers; no say in the program)
- First Awareness Conference in Sofia in October 2009

  (2 days, ~ 60 participants, 9 Opticon lecturers + 2 locals)

The Sofia Awareness Conference

- New questions in stellar astrophysics (B. Nordstroem)
- Extra-solar planets (A. Le Cavelier)
- Formation and evolution of galaxies (F. Hammer)
- Cosmology, Dark matter, Dark Energy (X. Barcons)
- What makes a galaxy active? (M. Ward)
- The highest energy Universe (St. Wagner)
- Observing tools, now and in the future
  -Ground based (B. Leibundgut) -Space (Z. Tsvetanov)
- Surveys and data bases (E. Gonzalez)
- + presentations of local science and instrumentation

The activity for 2010-2012

- Neon school in Calar Alto (June 16-27, 2010), 16 seats
  66 applicants (9 from Poland, 6 from Iran, 8 from Italy)
- Awareness conference for « technical issues in Astro. »
  during Jenam in Lisbon (Sept. 6, 2010)
- Observing school in Moletai in July 2011 (local telescope + NOT as remote observing), 20 seats, 16 nationalities!
- Instrumental school in Potsdam in June 2011 (Opto-Mechanical design in Astronomy) 36 participants
- Astrometry School in Antalya in Sept. 2011 (18 Students)
- NEON school Asiago (10-22 Sept. 2012)
  (64 applications; 20 selected, 13 nations)

Even some scientific results…

- **CBET 3227 SN 2012et in MCG +04-55-57**

  M. Dennefeld, Institute d'Astrophysique de Paris and Paris6 University; A. Pizzella, Padova University; M. Valentini, Liege University; L. Tomasella and S. Benetti, Istituto Nazionale di Astrofisica, Osservatorio Astronomico di Padova; **and the NEON school (cf. IAUC 7664) students** M. Cortes (Spain), N. Ozel (Belgium), and A. Rajpurohit (France), report that a spectrogram of PSN J23423882+2705315 = SN 2012et, obtained on Sept. 13.80 UT with the 1.82-m Copernico telescope (+ Afosc spectrograph; range 350-820 nm, resolution 1.3 nm), suggests that this is a type-Ia supernova. Adopting for the host galaxy (MCG +04-55-47) a redshift z = 0.024961 (Saintonge et al. 2008, A.J. 135, 588; via NED), a comparison with a library of supernova spectra via GELATO (Harutyuyan et al. 2008, A.Ap. 488, 383) shows that 2012et is a type-Ia event similar to several type-Ia supernovae at a few days before maximum light. The expansion velocity measured from the Si II 635.5-nm minimum is about 15000 km/s.
- **CBET 3229 Dwarf Nova in Pegasus**
- **CBET 3231 SN 2012eu in anonymous galaxy**

Cost issues...

- Reminder: average cost of a NEON student
  CAHA: 2522; OHP: 2546; Asiago: 2363 (50kE per school)
  La Palma: 3920; Archive school: 1500
- Awareness conference: 10-30 kE depending on size…(would be more efficient with many participants…)
- Initial WP11 proposal went down to 200 kE...
- To do just Neon schools, once a year, is already around 200kE for 4 years...
- We need to increase that to accomodate the other activities
- + need of administrative support

From 500 to 350 kE for 4 years ...

The plan for FP7-2 (I)

- NEON schools have built up a good reputation, and the demand is high...So we have to continue...

  but with regularity (yearly basis)!
- The scheme is attractive enough that other countries are developing it locally, with our help (Armenia, Bulgaria, Lituania, India, China ! and the IAU-ISYA!)
- Offer more seats at Archive Schools, with new concept
- Develop the La Caille scheme to allow individual students to go observing with a senior astronomer.
- BUT 2m class telescopes have to remain available with good instrumentation: implement a Network of telescopes to be used for training, with corresponding Matrix

The plan for FP7-2 (II)

- The challenge is to bring new users to the well developped observatories, to train them in modern techniques, and to bring young scientists to work on the forefront questions. And to convince senior astronomers that they have to invest in such tasks...
- For that, developp the Awareness conferences, eventually in conjunction with national gatherings

  + Special events related to VLT or E-ELT instrumentation
- Adress the concern about lack of instrumentalists (specialised instrumentation schools)
- Ease the management of the program (too much time spent by scientists on administrative matters! audits have become more “touchy” in FP7...less flexibility!)

Availability of Observatories for training…?

- The NEON core observatories can hardly host more than one school every 3-4 yrs….
- They need to have adequate instruments, and telescopes…(specialisation plays against that!)
- Some other observatories (not in Access) could help.

  Some are buying new telescopes (1.5m, etc…)

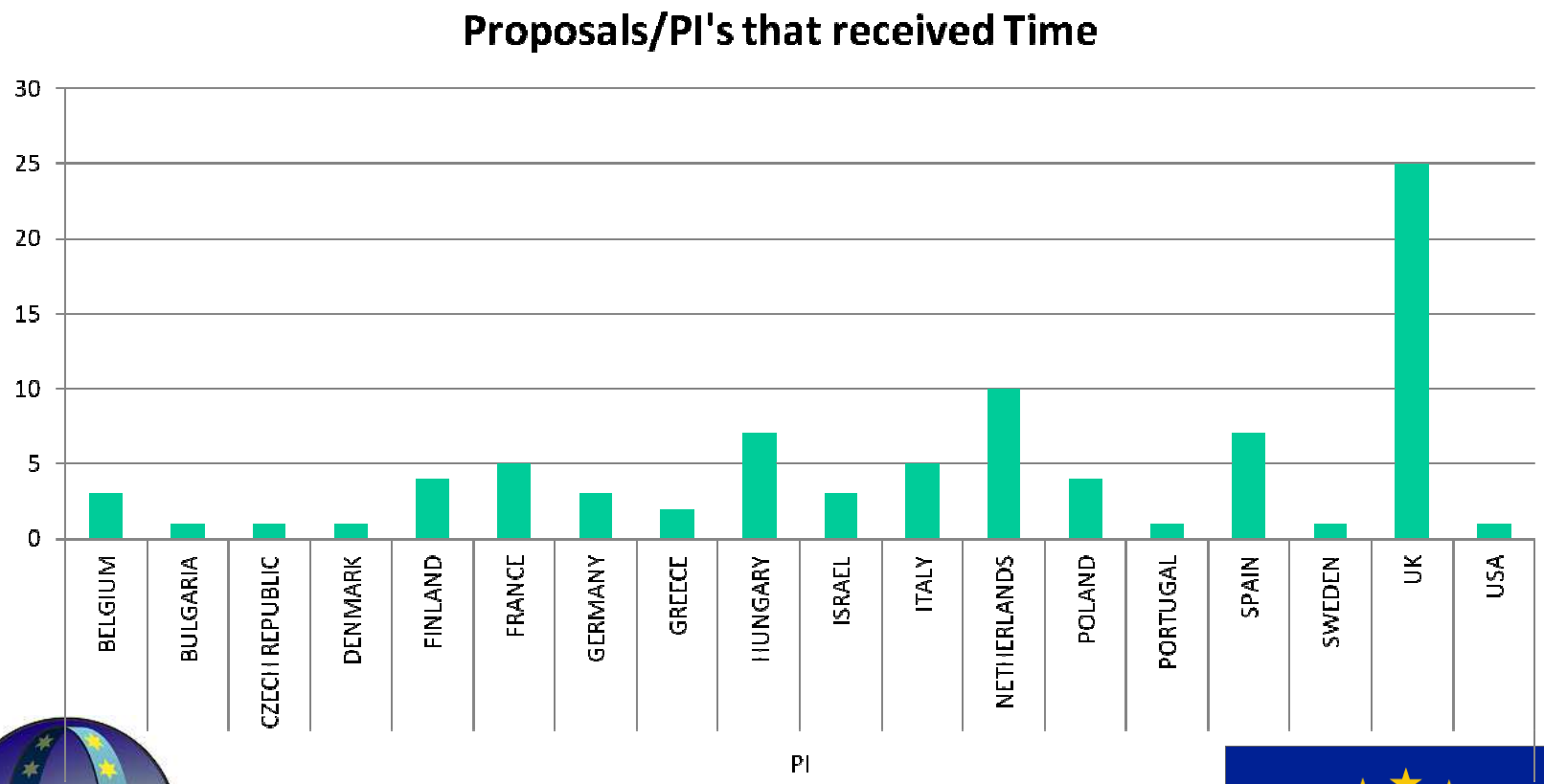
  We need to organise/coordinate them (hence the proposed Ex-TDF…)
- We should also have/add more remote-controlled telescopes (already NOT, Faulkes…)
- Add some video-link facilities (3 kE…)

  Use a small fraction of Opticon money for that?

  Incentive to design/built new instruments ?

How to adress this question ??

Semesters 10B-12A



Part of the answer…

- We have added lectures about « How to write a proposal » in the last NEON schools
- But you need practical work!
- During last school in Asiago, the students had to write a proposal, which was evaluated! But reaches only 20 students…
- Eastern EU countries require a training of that kind (request at last's week meeting)

  Organise specific, short duration schools?

  Organise refereeing before the actual deadlines?

  (to be discussed…, with the CTAC?)

Planned timetable for FP7- II

Type	2013	2014	2015	2016
• Observing schools	LP?	Yes	Yes	Yes
• Archive schools		Y	--	Y
• Training workshops on specific instruments		AO	Muse?	(?)
• Instrumentation	Y		Y?	Y?
• Awareness Conf.	Yes	Y?	Yes	Y?
• LaCaille exchange Scheme	Y	Y	Y	Y
• Meetings	Y	?	?	Y

- Has to fit within 350 kE (including Adm. help and 7% overheads)
  - More would be possible if additionnal resources were available... IAU ??

Enhancement: pending questions

- Relations between I3's and lower levels ?

  Awareness to Astronomy has to be raised much earlier!

  We can add lectures for teachers, when we have a school/Conference
- How to integrate astronomers from FSU? (Russia, Ukraine, etc… have an old tradition in astronomy!)

  Help from IAU/OFD ??
- How to recruit/train instrumentalists (ground or space) ?

  Sessions in engineering schools ? At Observatories ?
- We need to organise Observatories for training sessions

We need also more manpower!!

Thank you for your attention!

- Questions ?