

Education and Public Outreach

@EGO/Virgo

Elena Cuoco

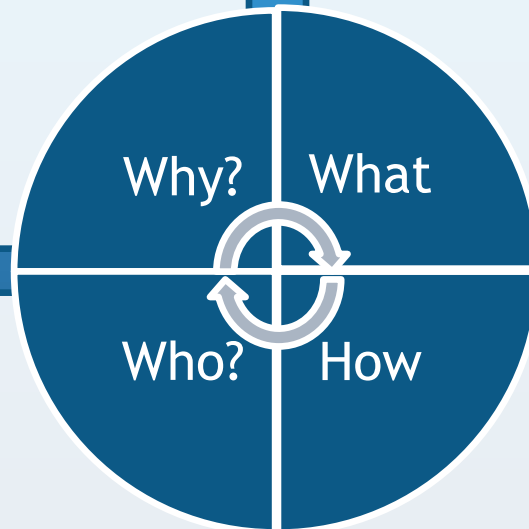
EGO and INFN Pisa

On behalf of EGO/Virgo Outreach Team

March 2015: Larger EPO team and new direction/organization

- The science phase of Advanced Virgo is approaching fast
- There will be need of a coordinated campaign of public outreach
- We should be prepared

- Already a long tradition of EPO activities
- Many visitors on the site
- Existing archive of various material (media, text, flyers, etc)



- Build a structured group of experts in EPO in the various countries
- Support from the Virgo collaboration (e.g spokesperson and EGO director)

- Discuss and plan new activities
- Work together to improve our impact on the public

**When?
ASAP!**

What are the key elements of
new public outreach strategy?

Virgo and the
Web

Virgo and
the press

Visit Virgo

Academic
impact

Virgo and
the external
world



Virgo and the web

The Virgo public outreach website

- Is different from the official Virgo website
- Upgrade the current one (outreach.ego-gw.it)
- Jointly present the EPO activities in our countries
- Disseminate contents (e.g. news, etc)

Be social

- Facebook, Twitter, etc...

Maintain an archive of material

- Contents for the web
- For public use (e.g. pics, videos)
- Show the history of Virgo

Create new material

- Images, videos, interviews

Visit Virgo

Already established tradition

- Prepare local exhibition
- Interact with local Institutes (Universities, city councils, etc)
- Update written materials (e.g. flyers, etc)
- Gadgets for visitors
- Reorganization from September 2015

Virgo on the road



Traveling exhibitions (e.g. build the mini-interferometer)

Show results at science communication conferences

Keep contacts with local partners (Institutions, schools, associations)

Activities in the schools (including kids)

Tools and materials for educations

Academic Impact outreach

- Promote the engagement of scientists with Virgo
- Develop science/education problems around Virgo
 - Be in contact with EPO of LIGO
 - Help the collaboration to support the promotion of grad students and postdoc
 - Help promoting our results to the scientific community
- Example: GraWIToN



1st GraWIToN school
GW Initial Training Network

Virgo and the press

Organize a structured office for relation with journalists

Keep mailing list for credited media

Prepare press releases
(and define a “standard” for Virgo)

Prepare an updated press kit

Provide a selection of media resources to journalists

European EPO network

outreachteam@ego-gw.it



Jerome Degalliaux, LMA, France



Loic Rolland, Lapp, France



Nicolas Arnoud, LAL, France



Sverine Perus, EGO, Italy



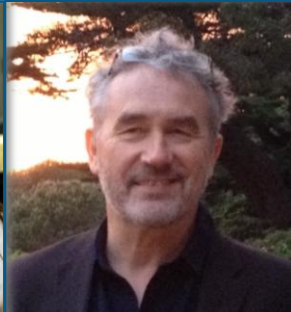
Franco Frasconi, INFN Pisa



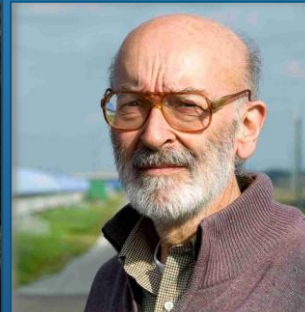
Thomas Adam, Lapp France



Elena Cuoco, EGO, Italy



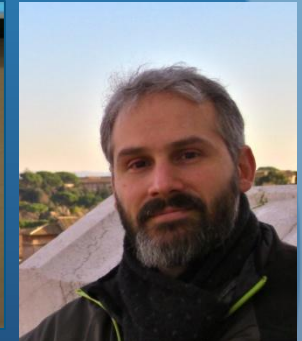
Gilles Bogaert, Nice, France



Carlo Bradaschia, INFN Pisa



Massimiliano Razzano, Pisa University



Helios Vocca, INFN Perugia

...Mathyas Vasuth, Unghery, Henkjan, Nikhef and Bejger, Poland...

A local EGO/Virgo group:

Technical supports for web and graphics: G. Di Biase, A. Matteini

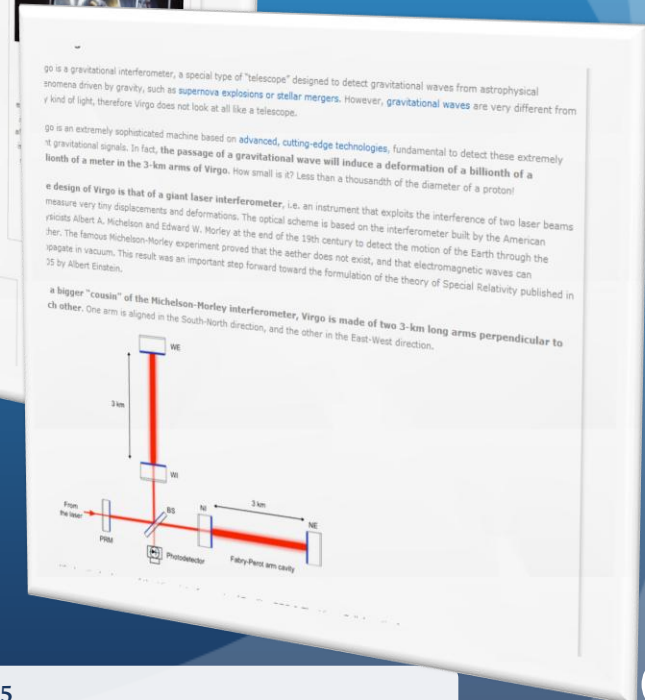
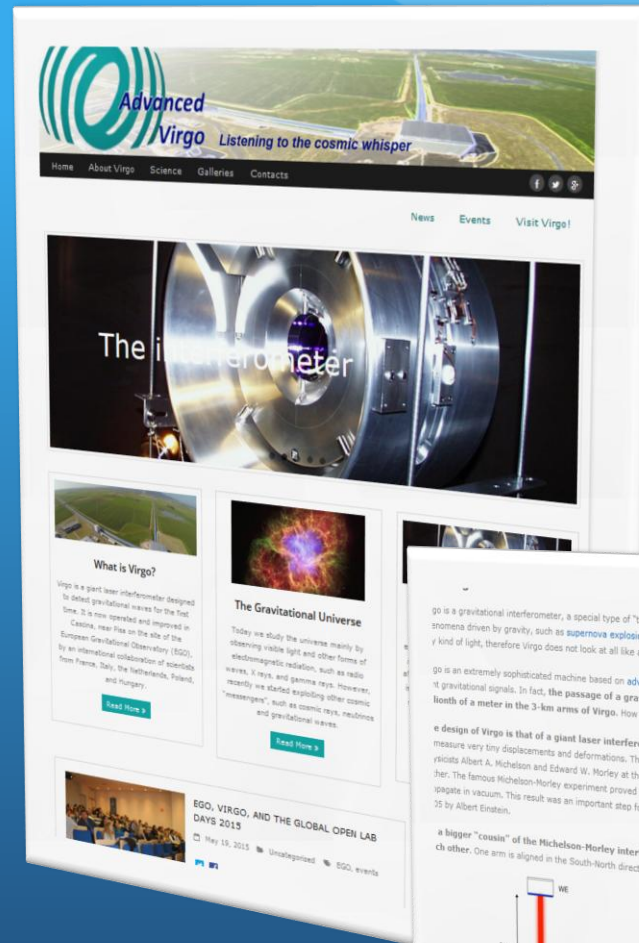
E-mail : comunicazione@ego-gw.it or
pressoffice@ego-gw.it

And many physicists help for Virgo visit and open lab day

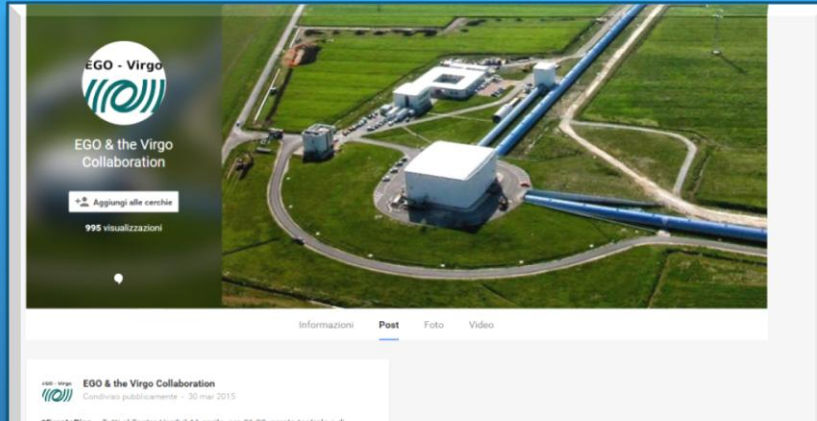
Website:

<http://public.virgo-gw.eu>

- Not the official Virgo website, but the EPO's one
- Contest for the slogan: "Listening to the cosmic whisper"
- A series of introductory papers to describe Virgo and its science
- Events preparation and report
- ...many more features we are working on (press kit, science for kids, booking visit via web)



Social: Facebook, Twitter and google+



Follow US

on Twitter: @ego_virgo

On Facebook: EGO & the Virgo Collaboration

On Google+: EGO & the VirgoCollaboration

Statistics: Website

Tutte le sessioni
100,00%

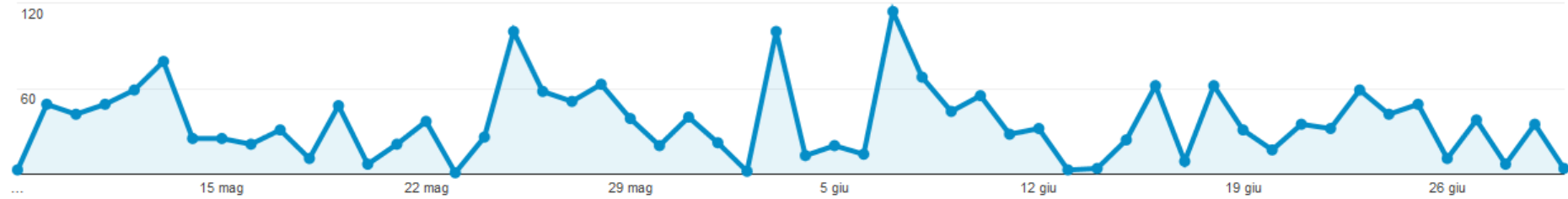
+ Aggiungi segmento

Panoramica

Sessioni e Seleziona una metrica

Ora **Giorno** Settimana Mese

Sessioni



Sessioni

1.941

Utenti

1.630

Visualizzazioni di pagina

3.021

Pagine/sessione

1,56

Durata sessione media

00:01:33

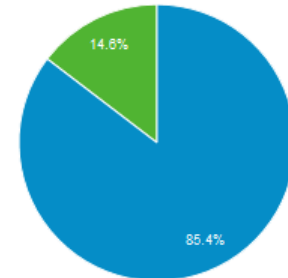
Frequenza di rimbalzo

77,64%

% nuove sessioni

83,93%

New Visitor Returning Visitor



Statistics: Facebook

I dati giornalieri vengono registrati con il fuso orario del Pacifico.

1 sett. 1 mese 1 trimestre



"Mi piace" totali della Pagina a oggi: 320



Benchmark
Confronta le tue prestazioni medie nel corso del tempo.

Numero totale di "Mi piace" della Pagina

Statistics: Twitter

Riepilogo degli ultimi 28 giorni con variazioni nel periodo precedente



giugno 2015 • 30 giorni

TWEET IN EVIDENZA

Tweet più popolare ricevuti 269 impressioni

"Marie Curie, una donna": scienza e teatro con [@ego_virgo](#) e [@TeatriResistenz](#) !
pic.twitter.com/qEgxbYMMis



↻ 5

[Visualizza interazioni Tweet complete](#)

[Visualizza dettagli Tweet](#)

Menzione più popolare ricevuti 23 interazioni

"Marie Curie, una donna": scienza e teatro con [@ego_virgo](#) e [@TeatriResistenz](#) !
pic.twitter.com/qEgxbYMMis



↻ 5

[Visualizza interazioni Tweet complete](#)

[Visualizza dettagli Tweet](#)

PUBBLICITÀ SU TWITTER

Fai arrivare i tuoi Tweet a un numero più vasto di persone



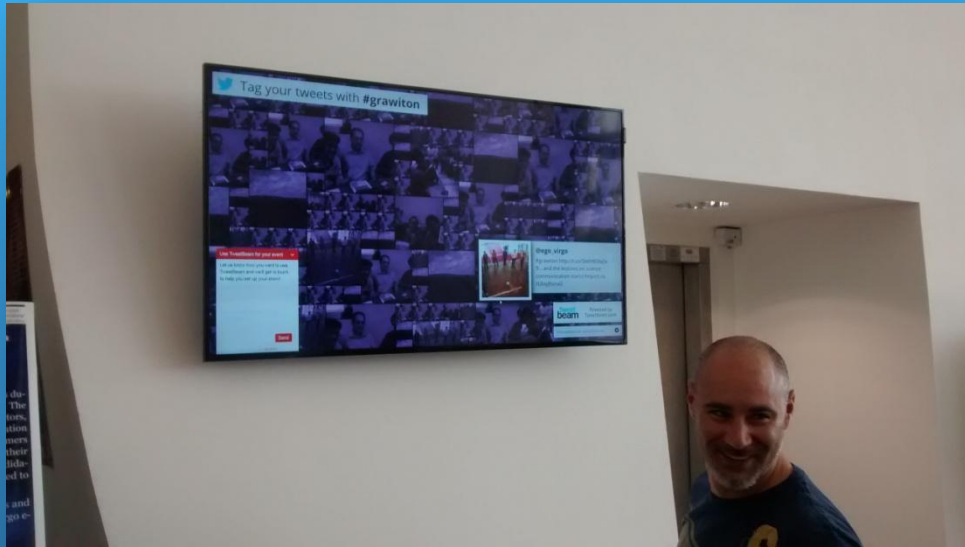
Promoted Tweet e contenuti Twitter Ads ti fanno raggiungere oltre 1,2 miliardi di persone su Twitter.

[Inizia](#)

RIEPILOGO DI GIUGNO 2015



Twitter Wall



<http://www.wallofsilver.net/>

Cite @ego_virgo and It will be on Wall



May 9th:

Global Open Lab Day

More than 120 visitors in the day and 150 in the evening



PORTE APERTE
all'Osservatorio Gravitazionale Europeo

Sabato 9 Maggio 2015

Nei Global Open Lab Days (GOLD), dal 9 al 25 Maggio 2015, i laboratori di tutto il mondo in cui si fa ricerca con la luce, sulla luce e sulle sue applicazioni, sono aperti per almeno un giorno al grande pubblico, per far conoscere le attività di frontiera portate avanti.

PROGRAMMA
alle ore 10:00, 15:00 e 17:00 Visite guidate al rivelatore di onde gravitazionali Virgo
dalle 20:30 alle 23:00
"Alla scoperta del cielo"
"Scienza all'angolo"
Osservazioni astronomiche

Dove? Via Amaldi
loc. Santo Stefano a Macerata
56021 Cascina (PI)

INGRESSO LIBERO
prenotazione necessaria
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GLOBAL OPEN LAB DAYS
cie
AA EGO Astrofili PISANI
COMUNE DI CASCINA
EGO



Academic impact

European Projects:

The GraWIToN experience



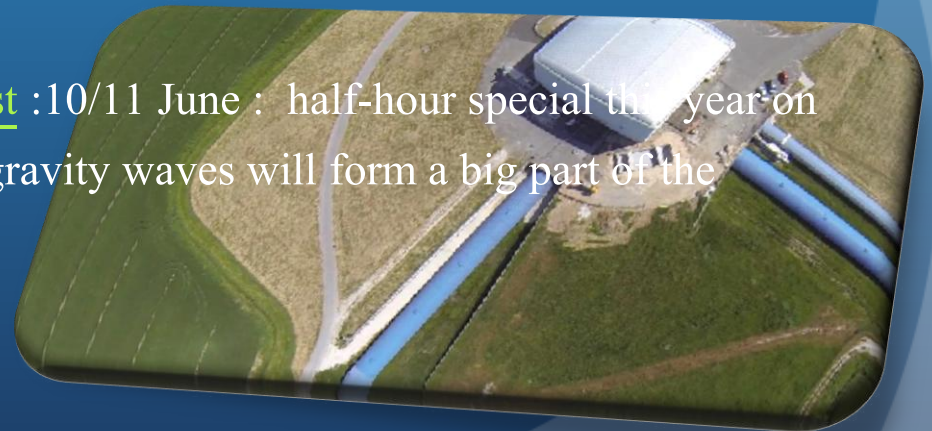
Marie Curie, una donna



Meet High School students
GraWIToN ESRs as MarieCurie
Ambassadors

Filming at EGO

- ARTE: for a series of documentaries about astronomy. It is called "Between heaven and earth", and 20 episodes of 26 minutes each will be broadcasted this year on Arte, the French-German cultural tv channel. One of the episode will be about Newton; in connection to that episode the ARTE team came for filming Virgo on February 26 and 27, 2015.
- Euronews broadcasted a short documentary including materials filmed at EGO. Check it out here (from min. 2:50): <http://www.euronews.com/2014/05/22/echoes-from-the-big-bang/>
- Graham Philips for www.abc.net.au/catalyst :10/11 June : half-hour special this year on the science of Einstein, and the search for gravity waves will form a big part of the documentary.



International Masterclasses: one of the most successful education & outreach

Typical structure

- Morning: lectures about particle physics, the CERN, the LHC
- Q&A sessions (scientific careers), visits (discovery of the host lab)
- Afternoon: computer-based exercises using real (simplified/pre-processed) LHC data
- 4pm - 5pm: a videoconference in English moderated from CERN

Great feedback

- Students like being researcher for a day'
- Teachers come back year after year with new students

Nicolas Arnaud (National Responsible For France)



A possible GW-based masterclass exercise

Lectures on:

- Matched filtering
- Noise and duty cycle
- Coincidence detection in a network of ITFs

Then they are given a chunk of real data and some software

At least one sine Gaussian signal injected

- Signal injected as well in the corresponding datasets from the other ITFs
- Suitable time delays between ITFs to locate the source
- SNR high enough for a threefold coincidence detection

Auxiliary channel » which « monitors » the ITF

- 1: good data; 0: bad data
- They choose their analysis SNR threshold

The « GW » is found during the videoconference by combining the individual ITF results

On going activities

Exhibits and open days

- Researcher night : September 25-26, in collaboration with Frascati Scienza and Toscana Bright 2015
- Isola di Einstein : September 4-6, with Perugia colleagues
- IAU exhibits with LIGO and LISA colleagues: August 3-14

Schools and academic activities

- Visits and schools: Reorganization starting from September
- Master Class: Started discussion in the group. Trying to setup for next year.

Archive and Outreach Material

- Still working on website: materials, press kit, science for kids, events booking
- Plan to have an outreach archive on disk , with codified document, photos, etc..

Press and WebSite

- Regular Posting on website and social
- Enforce the contacts with local and international press

Any collaboration and collaborator is welcome!