INTEGRAL looks AHEAD to multimessenger astrophysics
Final Remarks

Carlo Ferrigno
Geneva 11-15 February 2019
Many thanks to ...
A Swiss symbol as a memory

Find refills all around the world ... do not throw away when you finish the first refill!
You might not know that our speakers ...

FOR TIME, MARICA BRANCHESI IS AMONG THE 100 MOST INFLUENTIAL PEOPLE

There is the Italian researcher Marica Branchesi in TIME's annual list of the world's 100 most influential people. A new recognition, therefore, for the work done by Branchesi, researcher at GSSI – Gran Sasso Science Institute – and INFN, with the historical observation of the collision of two neutron stars: an event that introduced a new way of studying our universe, opening the era of multi-messenger astronomy. As a member of the LIGO/VIRGO collaboration, Marica Branchesi's task was to coordinate the two scientific communities respectively observing gravitational waves and electromagnetic radiation. A coordination which has thus allowed for the extraordinary scientific result on the first observation of this astrophysical cataclysm with the study of different cosmic messengers: gravitational waves and photons. Branchesi was amongst the speakers of the conference that was held live in Washington D.C. in sync with many other conferences all over the world, on 16 October 2017, during which the discovery was announced to the world.

The award is given once a year to “an Italian eminent scientist who, in performing research abroad, has made a remarkable contribution to the advancement of technology.” Very happy to see my work appreciated in my home country.
INTEGRAL in Multi-Messenger

**PICsIT GRB Spectral Capabilities**

- With 8 energy channels, can make spectra
- Started with possible-kilonova GRB 150101B
- Low count-rate and ~26 deg off-axis
- Can compare to Fermi/GBM and Swift/BAT
Twin GW Candidates from GBM?

Twins of GRB 170817A - GRBs with likely BNS

Main question: "How do you define similarity based on one event?"

- 1 "gold plated" event: GRB 170817A
- 1 BNS - candidate: GRB 150101B kilonova(?), z~0.13, 'regular' GRB
- Hard peak + soft tail
- **13 (11+2) candidates**, rate: 1+ /yr

Neutrinos

“Neutrino flare” 2014/2015

- IceCube archival search found 3.5sigma excess positionally consistent with the same blazar

IC coll. 2018

INTEGRAL transient dashboard
Quantum gravity with nano satellites!

Sending 100+ satellites with Elon Musk
Prof. Thierry Courvoisier

• ... blood on walls and tiers in the eyes ... 
• ... and of all fights, only a dry document which says ESA should provide “this” to ISDC and ISDC should provide “that” ... 
• ... one billion in 20 years is peanuts compared to the expenses politicians make for irrelevant projects, while we investigate the Universe ...
Heidi – a street performance by YongSoon Cho Jaquet

YoungSoon Cho Jaquet nous (re)plonge dans les alpages suisses avec «Heidi»

En 2015, la chorégraphe et danseuse YoungSoon Cho Jaquet et la chanteuse Héloïse Fracheboud ont créé «Heidi», une performance
Growing at INTEGRAL conferences

Chama Brandt turned 18 in Geneva
Mike Revnivtsev Prize Award Ceremony

Thomas Siegert for his scientific achievements with INTEGRAL
Thanks for your presence!
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• Nice Photos by Peter Kretschmar
• Bad photos by me....
• WWW pages

....and let’s look forward together to may more exciting years with INTEGRAL and the multi-messenger Astrophysics!