

# INTERNATIONAL MASTERCLASSES HANDS ON PARTICLE PHYSICS

International Day of Women and Girls in Science

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IMC SG meeting Lisbon  
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# Background

- UN: gender equality is a core issue
- Dec 2015: General assembly adopted a resolution → establish an International Day to recognize the critical role women and girls play in science and technology communities
- Several UN organisations proclaimed Feb 11<sup>th</sup> of each year the International Day of Women and Girls in Science [www.un.org/en/events/women-and-girls-in-science-day/](http://www.un.org/en/events/women-and-girls-in-science-day/)
- Aim: Support and promote the access of women and girls to science education and research activities

# Activities by IPPOG

- Decision at Nov16 meeting: launch MCs for girls on 10./11.2. (Fri/Sat) [http://physicsmasterclasses.org/index.php?cat=women\\_in\\_science](http://physicsmasterclasses.org/index.php?cat=women_in_science)
- 9.12.: circular to all IMC institutes [http://www.physicsmasterclasses.org/downloads/Circular2016\\_12\\_09.pdf](http://www.physicsmasterclasses.org/downloads/Circular2016_12_09.pdf)
- 11 signed up, 1 cancelled on short notice
- → 10 MC, 3 videoconferences

Fri, 10.2., VC1	Fri, 10.2., VC2	Sat, 11.2., VC1
U. Paris Diderot	Madrid CIEMAT	Rio de Janeiro
Cosenza	Rio de Janeiro	Heidelberg
Czech TU Prague	Cagliari	Sao Paulo
IFAE Barcelona		

- ATLAS W
- ATLAS Z
- LHCb
- CMS

- Webpage: [http://physicsmasterclasses.org/index.php?cat=women\\_in\\_science](http://physicsmasterclasses.org/index.php?cat=women_in_science)

# Focus on Women and Girls

- all Videoconferences with female moderators

## Moderators:








- Female lecturers and tutors, as much as possible
- ~ 320 girls (between 7 and 98 per institute)

# Program in Barcelona

- 40 girls
- Visit to the tier-1 data center PIC
- On Saturday: astroparticle Masterclass (Gamma Ray Hunters) for girls
- <http://girlsinscience.ifae.es/> (Catalan)



Moltes dones han fet contribucions crucials a la física fonamental

 <p><b>Jocelyn Bell Burnell</b> 1943</p> <p><b>Astròfísica</b></p> <p>Merline analitzava dades d'una radioastronomia va descobrir el que ara coneixem com a pulsars: estrelles de neutrons rotatives que emeten feixos de radiació.</p>	 <p><b>Wang Zhenyi</b> 1768</p> <p><b>Astrònoma</b></p> <p>En un món feutal on les dones no tenien accés a l'educació, va crear un mètode per calcular astronomia, coneixent com a publicar catàlegs de nebuloses rotatives que emeten feixos de radiació.</p>	 <p><b>Lise Meitner</b> 1878</p> <p><b>Física Nuclear</b></p> <p>Va ser la primera dona científica a aconseguir una posició com a professora de física i va tenir una gran contribució en el descobriment de la fissió de l'urani.</p>	 <p><b>Katharine Way</b> 1902</p> <p><b>Física</b></p> <p>Va formar part de l'equip del Projecte Manhattan, on al dissenyar reactors i el processament de còdols, va contribuir a la fórmula d'energia de Einstein, però també va aconseguir situar un roig de llum momentàniament, tot això va ser gràcies a fís d'un cop d'ull.</p>	 <p><b>Lene Hau</b> 1959</p> <p><b>Física</b></p> <p>Amò un equip de la Universitat de Harvard, va aconseguir reduir la velocitat d'un raig de llum a 17 metres per segon i van aconseguir aturar un raig de llum momentàniament, tot això va ser gràcies a fís d'un cop d'ull.</p>
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A l'IFAE les investigadores fan recerca en els temes més candents de la física, des de les partícules fins al cosmos

 <p><b>Martine Bosman</b></p> <p>Investigadora a l'IFAE</p> <p>Investiga a l'experiment ATLAS de l'LHC.</p>	 <p><b>Jelena Aleksic</b></p> <p>Investigadora postdoctoral</p> <p>Investiga al grup de Coordinació de l'IFAE.</p>	 <p><b>Stefania Bartoni</b></p> <p>Fellow al CERN, treballa a la Neutrino Platform</p> <p>Va ser Post Doc a l'IFAE al grup de Neutrins.</p>	 <p><b>Pilar Casado</b></p> <p>Professora associada IAS</p> <p>Investiga a l'observatori ATLAS de físic.</p>	 <p><b>Leyre Nogués</b></p> <p>Estudiant de doctorat</p> <p>Desenvolupa el seu treball a la grup d'astropartícules de físic.</p>
				

# ... in Cosenza

- 30 girls from high-schools plus few young university students
- All presentations by female scientists
- Extra talk: Le donne nella ricerca (information on situation of women and girls in science in Italy and around the world)
- „*It was a fantastic day!*“ <https://agenda.infn.it/conferenceDisplay.py?confId=12775>
- Council of Physics acknowledged 11 February as a special day of the Physics Department dedicated to girls, in agreement with the UN Resolution, for the next years



# Impressions from APC Paris

- 24 high-school students
- 2 young female researchers (PhD student/engineer) introduced themselves to the girls, told about their professional path and joined us for lunch to discuss informally with the participants
- „*The girls were enthusiastic*”
- „*hope to have a chance to participate again in the future*”
- <https://indico.in2p3.fr/event/14122/>



# ... and from CTU Prague

- No general understanding in Czech republic that we need to make special action for women or girls → difficult to announce and promote event
- 14 girls from high-schools + 5 girls from first year of university studying particle physics
- Discussion about gender issues in science
- Visit at silicon detectors laboratory
- Unexpected great attention from media
  - 2 long articles in Czech newspapers
  - Czech public television sent a reporter with a team (TV news at 17:00)
- <https://mc.casticova-fyzika.cz/13-2017/30-2017-masterclasses-pro-studentky-strednich-skol>





# Conclusions

- Pilot with 10 institutes and 320 girls
  - Participating institutes very satisfied
  - Gender issues were covered locally
- Successful, repeat in 2018
- Organisation should start earlier (but avoid mixing up with IMC18)
- More publicity would be nice, e.g. webpage resuming CERN activities or a more general webpage