



MasterClass for Girls and Women

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UN Resolution in 2016

United Nations General Assembly resolution

- A/RES/70/212 (draft A/70/474/Add.2)
- (<http://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/431/64/pdf/N1543164.pdf?OpenElement>)
- declaring 11 February as the International Day of Women and Girls in Science (IDWGS)
 - full and equal access to and participation in science for women and girls
 - achieve gender equality and the empowerment of women and girls

International Day of Women and Girls in Science 11 February ...

<http://www.un.org/en/events/women-and-girls-in-science-day/>

[\(http://www.un.org/en\)](http://www.un.org/en)

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**International Day of Women and Girls in Science
11 February**



Caption: Two women scientists, Amalia Meyer and Alison Bailey, at Norwegian Nansen Station in the Arctic Ocean. © UN Women / Arctic Council

Science and gender equality are both vital for the achievement of the internationally agreed development goals, including the [2030 Agenda for Sustainable Development](http://www.un.org/sustainabledevelopment/development-agenda) (<http://www.un.org/sustainabledevelopment/development-agenda>). Over the past 15 years, the global community has made a lot of effort in inspiring and engaging women and girls in science. Unfortunately, women and girls continued to be excluded from participating fully in science. According to a study conducted in 14 countries, the probability for female students of graduating with a Bachelor's degree, Master's degree and Doctor's degree in science-related field are 18%, 8% and 2% respectively, while the percentages of male students are 37%, 18% and 6%.

In order to achieve full and equal access to and participation in science for women and girls, and further achieve gender equality and the empowerment of women and girls, the United Nations General Assembly adopted resolution A/RES/70/212 (draft A/70/474/Add.2) (<http://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/431/64/pdf/N1543164.pdf?OpenElement>) declaring 11 February as the International Day of Women and Girls in Science.

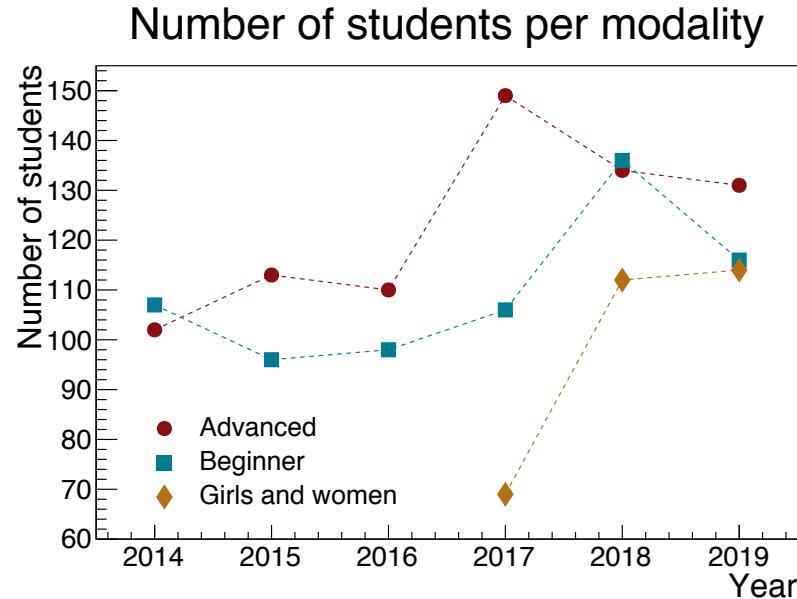
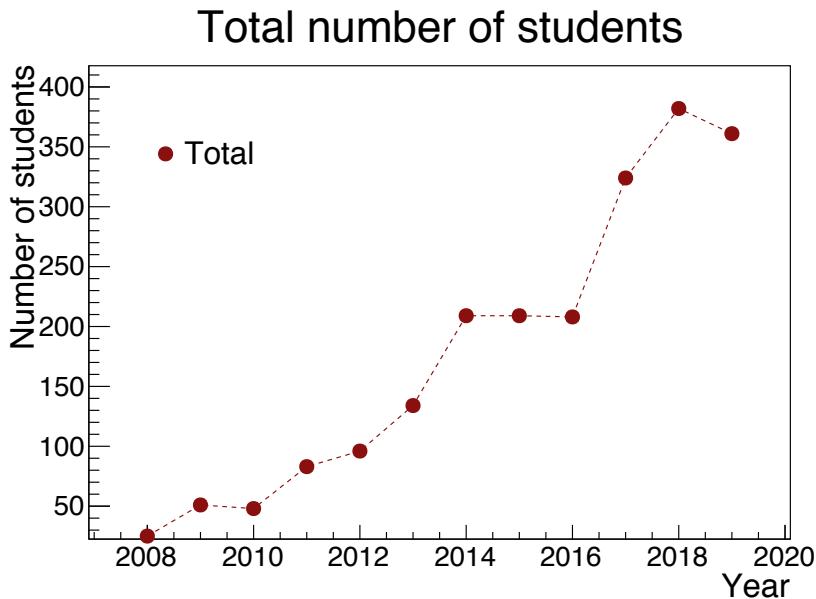
Organization of MasterClass at SPRACE – II

MasterClass for Women and Girls

- ❑ Two-day event – 1st day:
 - Morning: discussion panel 1 (virtual) with scientists and researchers
 - Introductory talks (to teachers and students)
 - Afternoon: discussion panel 2 (virtual) with scientists and researchers + demonstrations
- ❑ 2nd day:
 - Morning: Students Day: exercises and discussions
 - At noon: videoconference with CERN moderators
 - Afternoon: discussion panel 3 (virtual) & 4 (presential), with scientists and researchers
 - Educational Games (SPRACE game) & visit to GridUnesp & SPRACE-Tier2

Participation in the MasterClass since 2008

Total number of High School participants: 2098 students & 329 teachers



- Poster by Isabela Maietto Silvério

2019

- 3rd International MasterClass for Women & Girls
 - Celebrating the International Day of Women and Girls in Science (February/11)
 - High School Participants: 82 students e 15 teachers; 17 scientists (CERN, Denmark, Italy, Canary Islands, USA and Brazil)



MasterClass for Girls and Women @ SPRACE – 2020

Dates:

- February 10 and 11
 - Please add to your agenda!

- Fill this Google form up with you contact:

<https://forms.gle/MFcyaquPTfsmZuMT8>

- MasterClass events at SPRACE:
<https://sprace.org.br/index.php/education-outreach/masterclass/>

- Contact: Sandra S. Padula
sandra.s.padula@unesp.br

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Hands on Particle Physics Masterclasses
INTL. DAY OF WOMEN AND GIRLS IN SCIENCE

Masterclasses to celebrate the International Day of Women and Girls in Science will be held on February 11, 2020!

The United Nations General Assembly adopted a resolution in December 2015 and declared February 11th as the **International Day of Women and Girls in Science**. This date should be recognised as a global celebration on equal participation and the accomplishments of female scientists; see <http://www.un.org/en/events/women-and-girls-in-science-day>.

International Masterclasses are launching Masterclass activities on the International Day of Women and Girls in Science. Institutes are encouraged to arrange a special Masterclass event for girls only. With this event we plan to support and promote the access of women and girls to science education and research activities.

	Feb 11, 2020	Feb 11, 2020	Feb 11, 2020
	VC 1 ATLAS Z	VC 2 ATLAS W + CMS	VC 3 ALICE + LHCb
CTU Prague		Madrid CIEMAT (CMS) 	Cape Town iThemba 
Valencia		São Paulo SPRACE (CMS) 	Cagliari INFN (ALICE) 
Cosenza		Lund 	
Heidelberg		Mainz 	
Lancaster			

Moderators from 2019:

 Estel Codina (ATLAS)	 Perez	 Ina Carli (ATLAS)	 Adelina D'Onofrio (ATLAS)	 Jelena Jovicic (ATLAS)
 Rosa Simonello (ATLAS)	 Leonora Vesterbacka (CMS)	 Francesca Bellini (ALICE)	 Tara Nanut (LHCb)	

THANK YOU!!

Organization of MasterClass at SPRACE – I

Format of the traditional MasterClass

- ❑ Two-day event (Beginners Group)
 - 1st day:
 - Morning: 3 introductory talks for all (teachers + students)
 - Afternoon: Teachers Day + demonstrations to students (part 1)
 - 2nd day:
 - Morning: Students Day : MasterClass exercises and discussions
 - At noon: videoconference with moderators at CERN
 - Afternoon: educational games (SPRACE video game and others) + visit to GridUnesp & SPRACE-Tier2
- ❑ One-day event (Advanced Group)
 - Similar to 2nd day of the one day event (including demonstrations, visits & educational games)
 - Virtual guided visits to the CMS detector (underground) → added in 2015, 2016, 2017

Announcements: *press release*

- Communications department (Unesp, FAPESP, SBF e other news agencies)

MasterClass 2019



Traditional Format
3-day event

- 2 full days (tradicional format, 1 day forteachers):
140+ participantes
- 1 day event, after introductory activities in High Schools (coordinated by the teachers):
130+ participantes

Summary: events MasterClass no SPRACE

- **2008- 2009** – 1st MasterClass organized by SPRACE
 - 2 high schools in São Paulo (Capital)
- **2010** – new address: Unesp – campus of SP
 - 4 high schools in São Paulo (Capital)
- **2011** – including schools distant ~ 190 km from São Paulo
 - 8 high schools (Capital) + 2 from Guaratinguetá (CTIG + 1 private)
- **2012** – demonstrations added & workshop for high school teachers
 - 8 high schools + undergraduate students (future Physics teachers)
- **2013** – new format
 - 13 high school of the pilot project for full-day education – Secretary of State for Education (SEE)
- **2014** – 2 groups in 3 days of evento – gathering ~ 250 participants!
 - 1º group (Advanced): 1 day-event; preparatory lectures given by the teachers, in their own schools
 - 2º group (Beginners): 2 day-event – 1 for teachers, 1 for students
 - Successful format: adopted again in **2015, 2016**
- **2017, 2018 e 2019** – as in 2014, 2015, 2016; in addition: MasterClass for Women and Girls in Science



Organization of MasterClass at SPRACE – III

Participant schools (public and private): by invitation and teacher's initiative

- High school students and teachers
- Undergraduate students (Physics), **future teachers**
- Contacts: Secretary of State for Education in São Paulo (public schools), IFSP, partner teachers of private schools

Hands-on Workshops in Particle Physics

- 2012, 2015 e 2018
- Target audience: High school teachers and undergraduate students (future physics teachers)

Investigating impact of the MasterClass at SPRACE

- Two M.Sc. Dissertations concluded, one under way