



INTERNATIONAL
ASTRONOMICAL
UNION

Women in Astronomy and the IAU

Daniela Lazzaro
Observatório Nacional & IAU



Women in Astronomy and the IAU

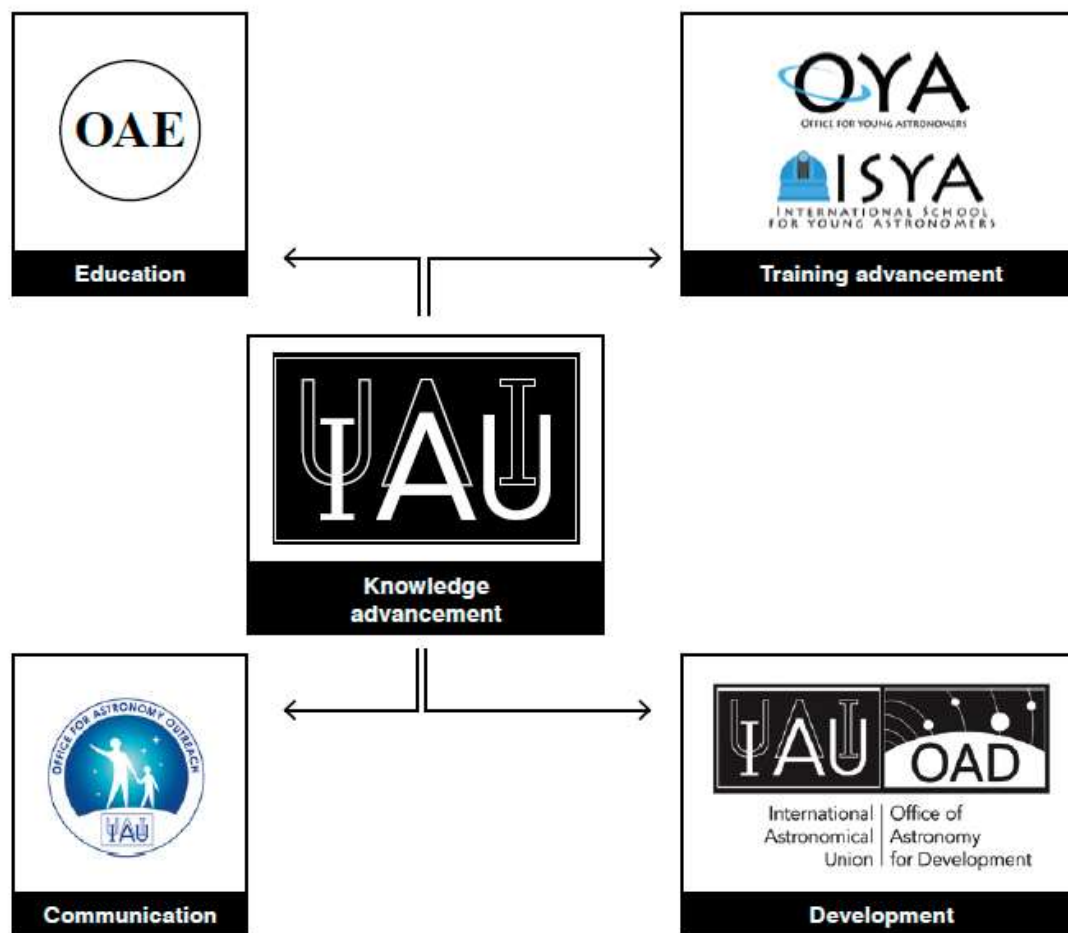
IAU – International Astronomical Union

- **Founded**: 1919 → **100 years this year!**
- **Mission**: promote and safeguard the science of astronomy in all aspects through international collaboration
- **Members**: 82 national members with 13,682 individual members from 107 countries (interim or observer) with PhD level, active in professional research and education in astronomy
- **Scientific bodies**: 9 Divisions, 35 Commissions & 54 Working Groups
- **Executive bodies**: EC, 4 Committees (Special Nominating, Membership, Finance, Resolution) & 4 Offices



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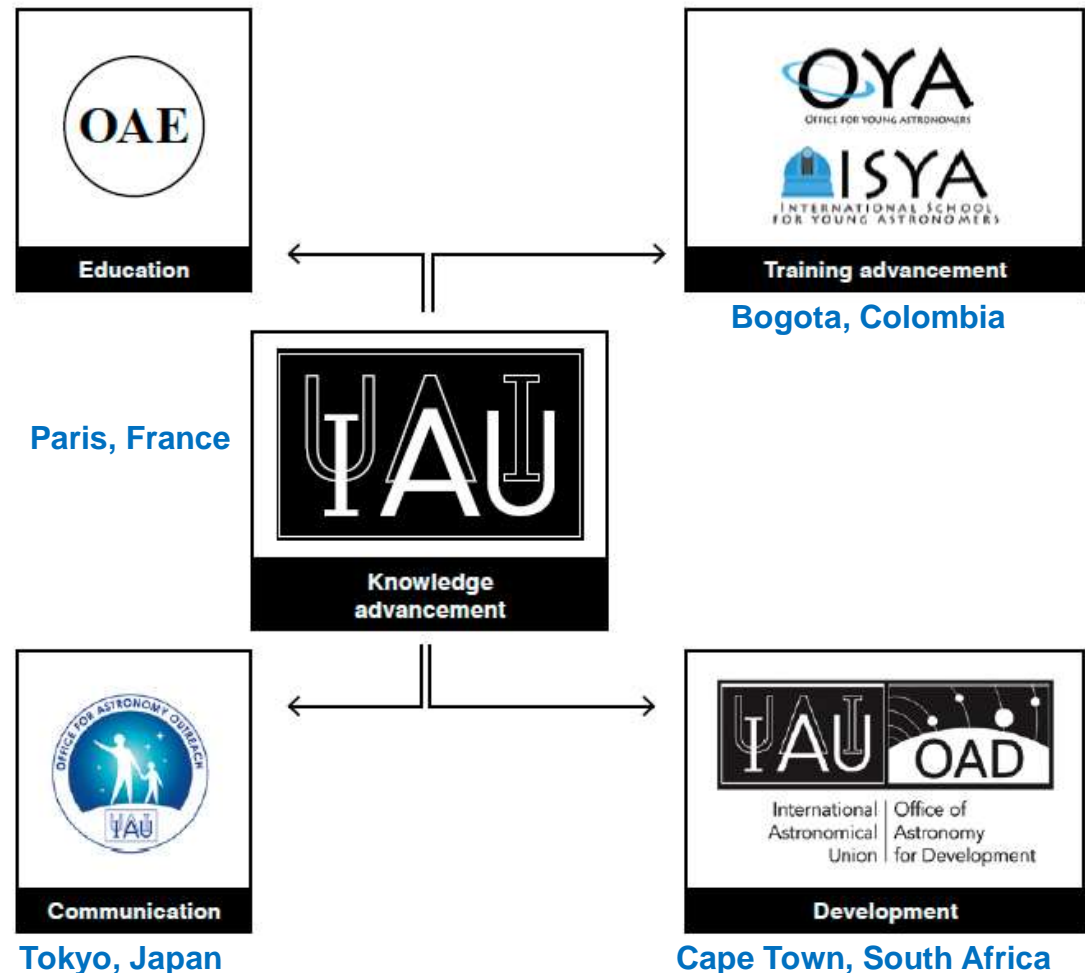
IAU Strategic plane 2020-2030





Women in Astronomy and the IAU

IAU Strategic plane 2020-2030





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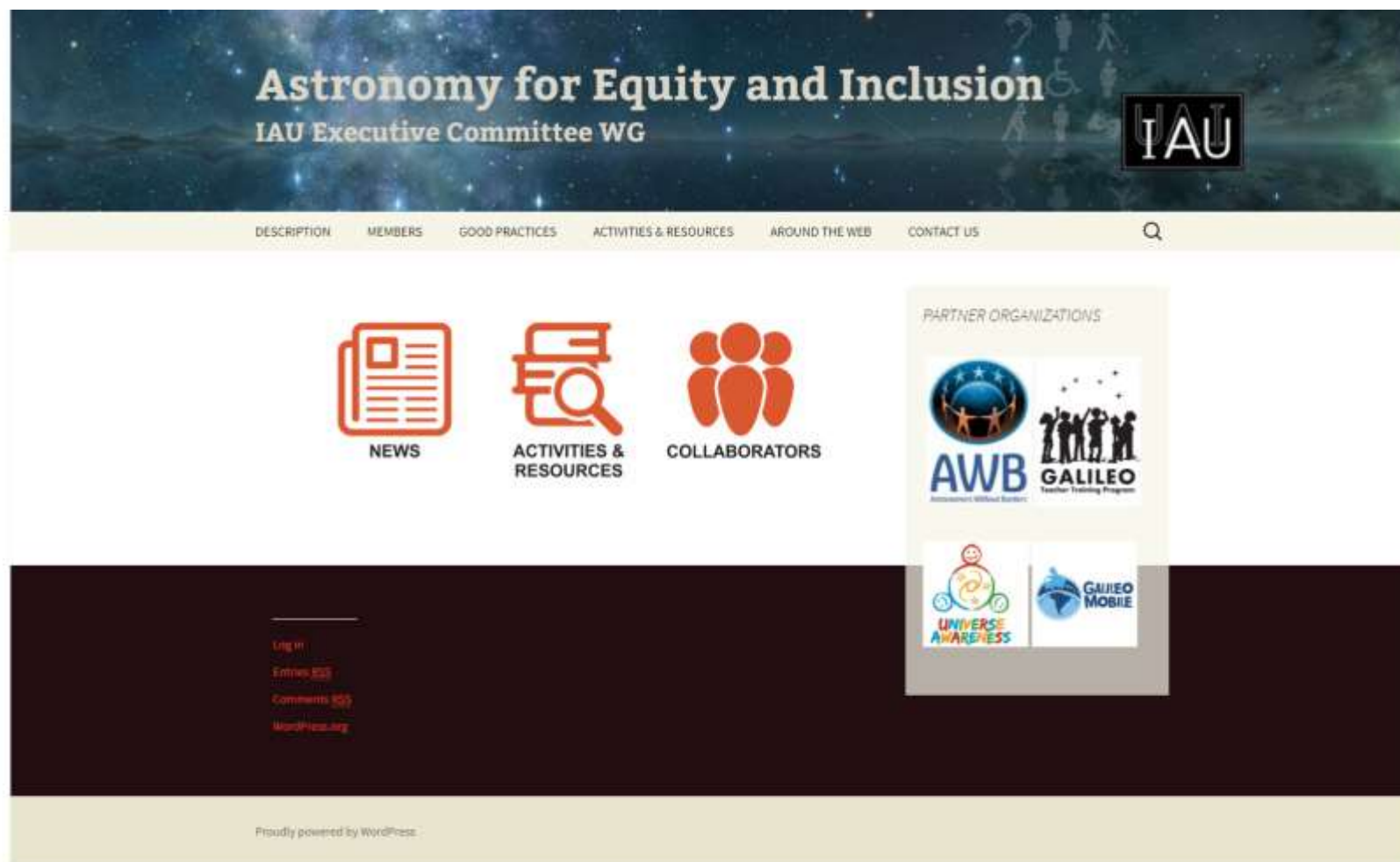


EC Working Groups:
Women in Astronomy (2003)
Astronomy for Equity and Inclusion (2015)



Women in Astronomy and the IAU

<http://sion.frm.utn.edu.ar/iau-inclusion/>





Women in Astronomy and the IAU

Astronomy for Equity and Inclusion

IAU Executive Committee WG



DESCRIPTIONMEMBERSGOOD PRACTICESACTIVITIES & RESOURCESAROUND THE WEBCONTACT US

ACTIVITIES & RESOURCES

[Astronomy for Blind or Visually Impaired](#)

[Astronomy for Deaf and Hard-of-Hearing](#)

[Astronomy for people with Motor Impairments](#)

PARTNER ORGANIZATIONS



AWB
Astronomers Without Borders



GALILEO
Teacher Training Program



UNIVERSE AWARENESS



GALILEO MOBILE

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Astronomy for Blind or Visually Impaired

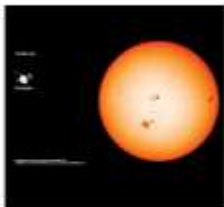
1. A Touch of the Universe



2. The Sky at your Fingertips



3. From Earth to the Universe



4. Meet our Neighbours!



Astronomy for Deaf and Hard-of-Hearing

1. Vodcasts: The Incredible Two-Inch Universe



2. Dictionary of Astronomy Sign Language



English

Handicapped Access to Astronomy for the Deaf (HARD IN THE STARS)



French

LES MAINS DANS LES ÉTOILES



Spanish

LAS MANOS EN LAS ESTRELLAS

Astronomy for People with Motor Impairments

1. Your weight in other worlds



2. Surface of Mars



3. Astroadapt

Astroadapt is a free open source software for people with motor impairments.

4. HATTS Program

Handicapped Access To The Sky - is a program that gives Free Mounting systems to organizations that support public Star parties which include handicapped access.

[\[back to Activities & Resources Page\]](#)



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<https://www.iau-100.org/inspiring-stars>



INTERNATIONAL
ASTRONOMICAL
UNION
1919 - 2019



ABOUT

NEWS

PROJECTS

EVENTS

IN YOUR COUNTRY

RESOURCES

CONTACT



PROJECTS

Global Projects

Einstein Schools

Above and Beyond

Dark Skies for All

Inspiring Stars

Inspiring Stars is an itinerant international exhibition promoted by the International Astronomical Union (IAU) to highlight world initiatives that address the concept of inclusion at (but not limited) outreach, didactic, and professional aspect, using astronomy.

Inspiring Stars is a collaborative initiative in which resources related to astronomy research, communication and development are collected via an open call around the world and combined in a unique interactive exhibition. Inspiring Stars intends to broaden the horizons of children, parents, teachers and astronomers by showcasing assistive research tools and inclusive practices inspiring the love for science and the possibility

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Astronomy

a universal science that celebrates, reinforces, promotes and addresses diversity.



International organizations, like the International Astronomical Union (IAU), promote and safeguard the science of astronomy through international collaboration. International collaboration includes everyone, and so diversity and inclusion plays a crucial role in realizing this mission.



"Diversity: the art of thinking independently together." — Benjamin Franklin



INSPIRING STARS

the IAU inclusive world exhibition

ABOUT INSPIRING STARS

"Inspiring Stars" is an itinerant international exhibition promoted by the International Astronomical Union (IAU) to highlight world initiatives that address the concept of "inclusion" at (but not limited) outreach, didactic, and professional aspect, using astronomy.



08/2018: Austria (IAU-GA)

01/2019: Ethiopia

02/2019: Italy

07/2019: Argentina

07/2019: Thailand

11/2019: Japan

10/2018: Chile

02/2019: Belgium

05/2019: UK

07/2019: France

08/2019: Colombia

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Inspiring

Top science needs true diversity.



Top science is the process of discovery that allows you to understand the universe and a better way of life. It is not just about the science, and welcome participants from diverse backgrounds and abilities. It is a process that can no longer be modeled by the narrow, traditional, degree of the human condition for exploration.

"It is time for parents to teach young people early on that in diversity there is beauty and there is strength."



inspiring

Action



Diligent Dynamic Constant



- Diligent Action:** Included off and online for each individual.
- Dynamic Action:** Astronomers engage with people, taking the time to see the manifestation of our shared creativity.
- Constant action:** Because people are not, and are not, the same. They are linked to new technologies and exploration methods. People do not stop at their own maximum.



gsta

In need of change

Children and adolescents are a healthy, growing body of people, primarily in different educational contexts, that non-disabled counterparts, despite a limited, at best, level of education.

Gender diversity for cultural perception is much wider in the public, largely in diversity, as compared to the past.

Not all campaigns, academic departments, or disability support within high to achieve some students with disabilities.

Participation by people with disabilities in contemporary education has traditionally been low when compared to free representation.



Get the percentage of people with disabilities engaged?

The results are close to zero. The results indicate that the numbers of engaged people with disabilities are not only small, but also are not growing.



ars

Beyond astronomy

Wendy Minkler: "One specialist told my mother that I was not worth it to spend a penny on my education."

In defiance, my parents supported me through the Massachusetts public school system. Teachers did not allow me to approach my education, and learning was often a struggle. Toward the end of high school, I began to realize something about my own potential that I was different from what society expects from a blind individual. I began taking advanced classes and surprised everyone—myself included—with my success."

www.minkler.com






Women in Astronomy and the IAU

WiA: Women in Astronomy

- **Founded:** 2003 – IAU-GA, Sidney (Australia)
- **Mandate:** *collect information, propose measures, and initiate actions in support of, or to advance equality of opportunity for achievement between women and men in astronomy, in the IAU and in the world at large.*
- **Structure:**
 - ***Organizing Committee:*** chair Dara Norman (NOAO, US), co-chair Lydia Sonia Cidale (Argentina) + 12 members from 11 countries (**14% male**)
 - ***Members (since 2018):*** 162 (**10% male**)



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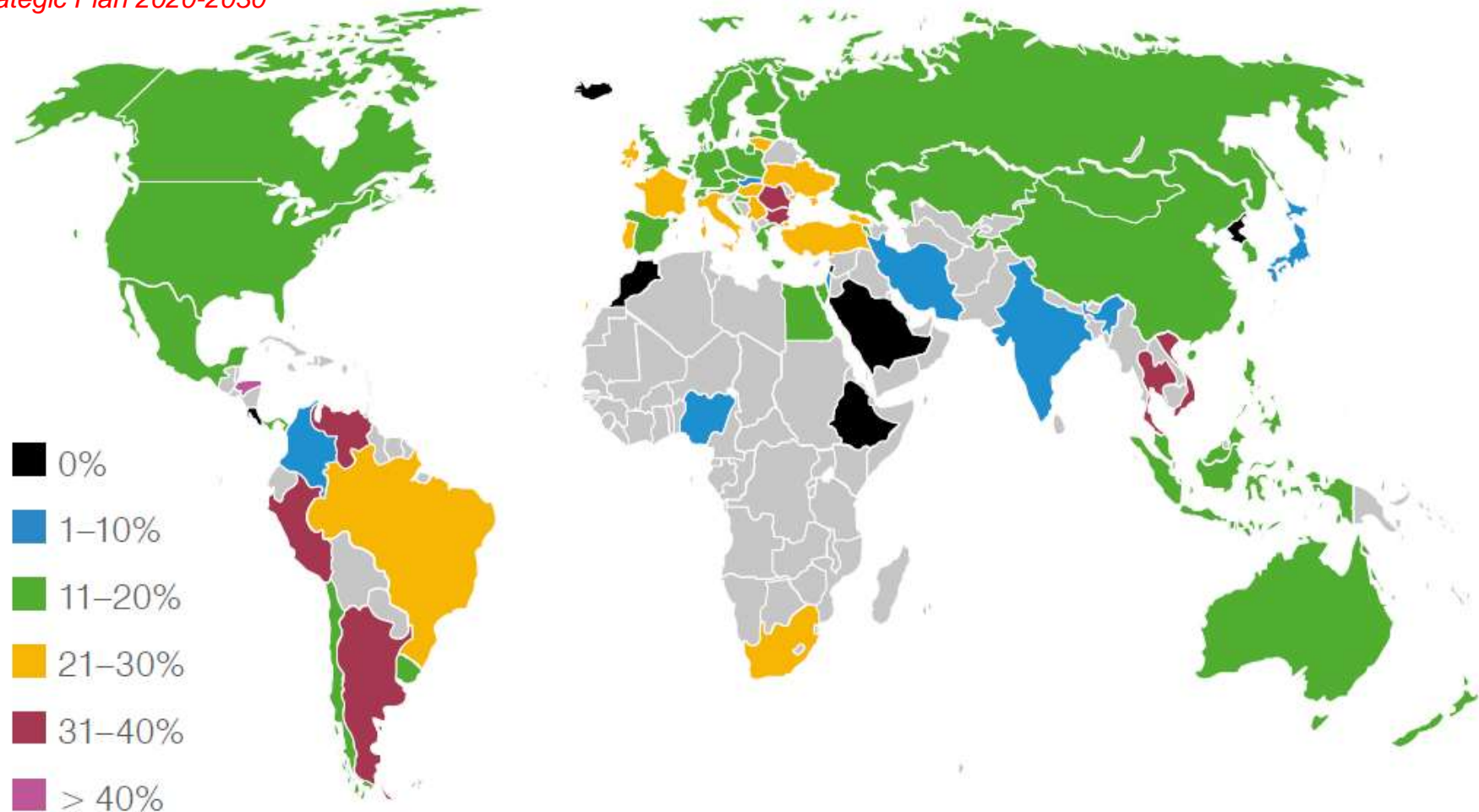
www.iau.org
Last update: 01/09/2019

INDIVIDUAL MEMBERS	NUMBER OF MEMBERS			% OF MEMBERS	
	Male	Female	Total	Male	Female
Total	11177	2507	13684	81.68	18.32



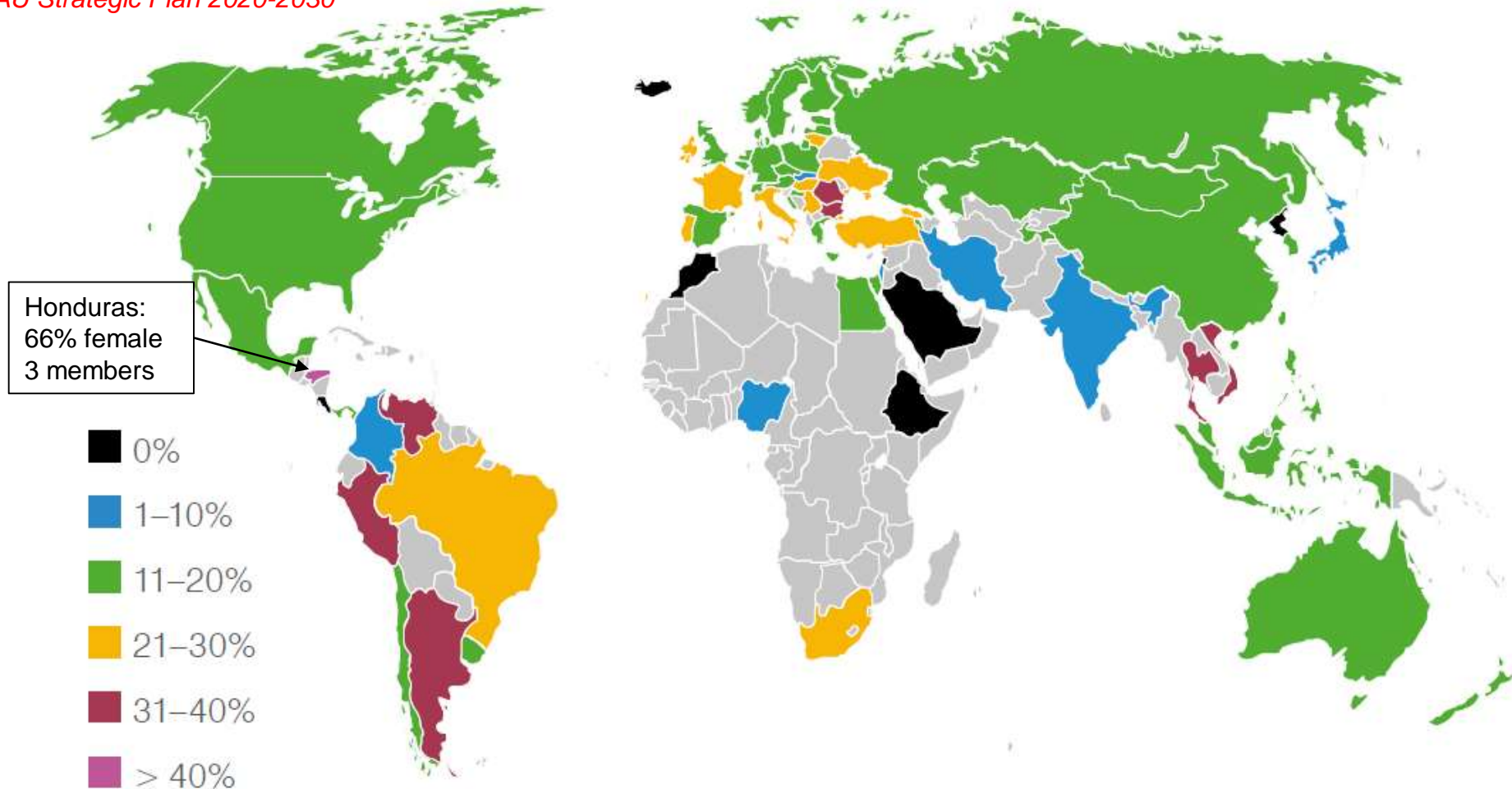
Women in Astronomy and the IAU

IAU Strategic Plan 2020-2030



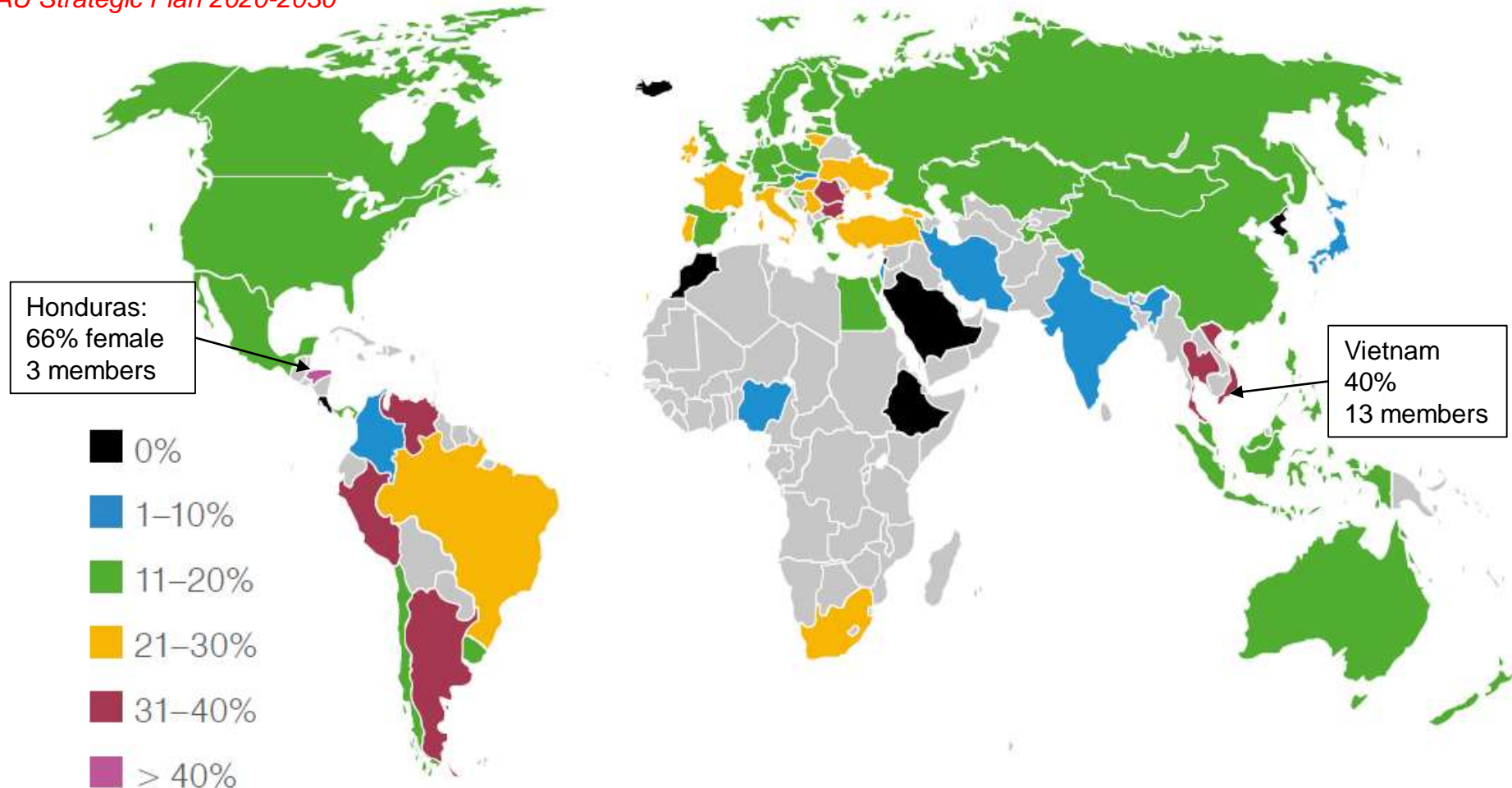
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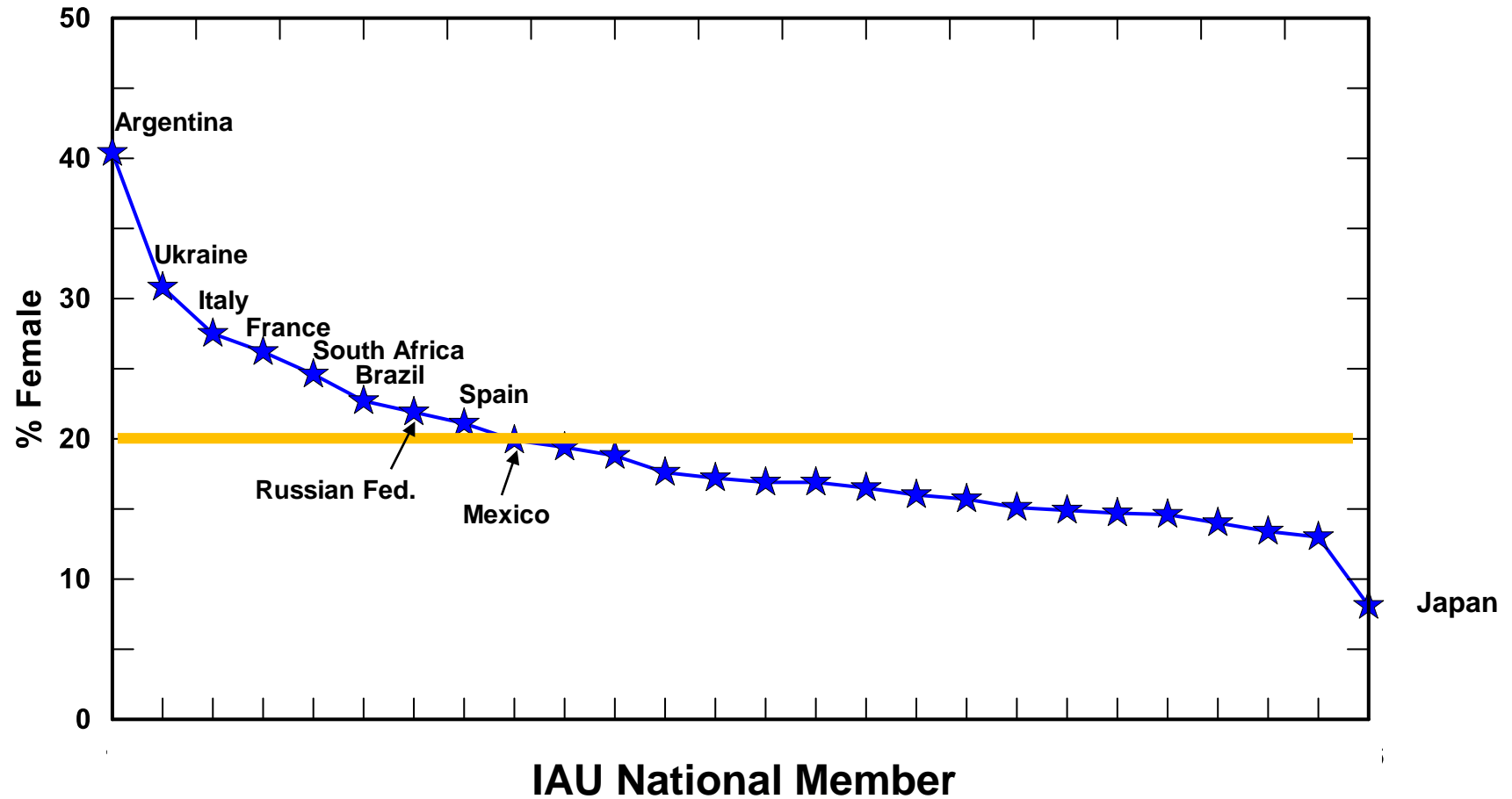
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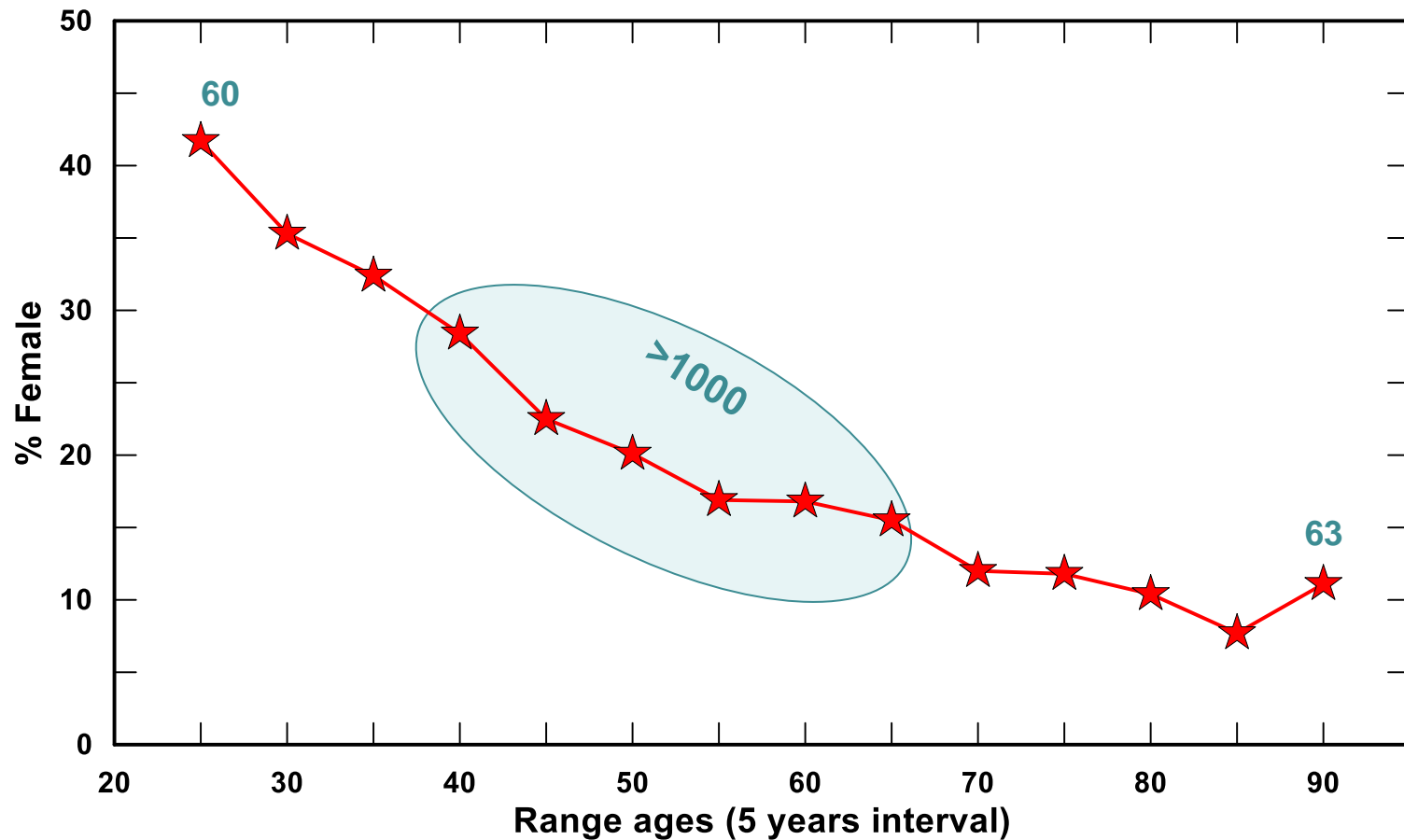
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Countries with more than 100 individual members: 26



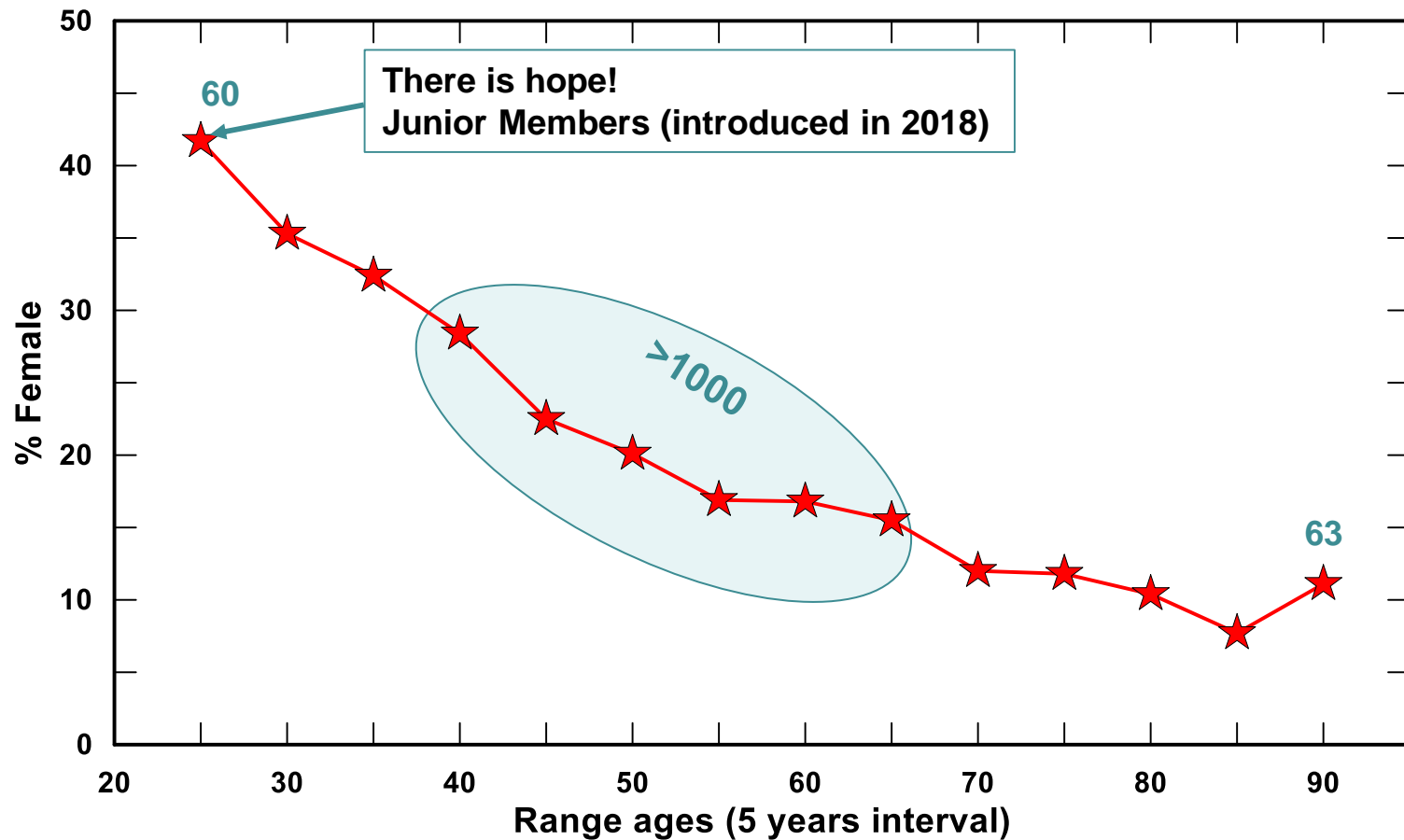
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Latin- and Central-America Astronomical community

Large or traditional:

Argentina - 156

Brazil - 216

Chile - 129

Mexico - 171

Uruguay - 5

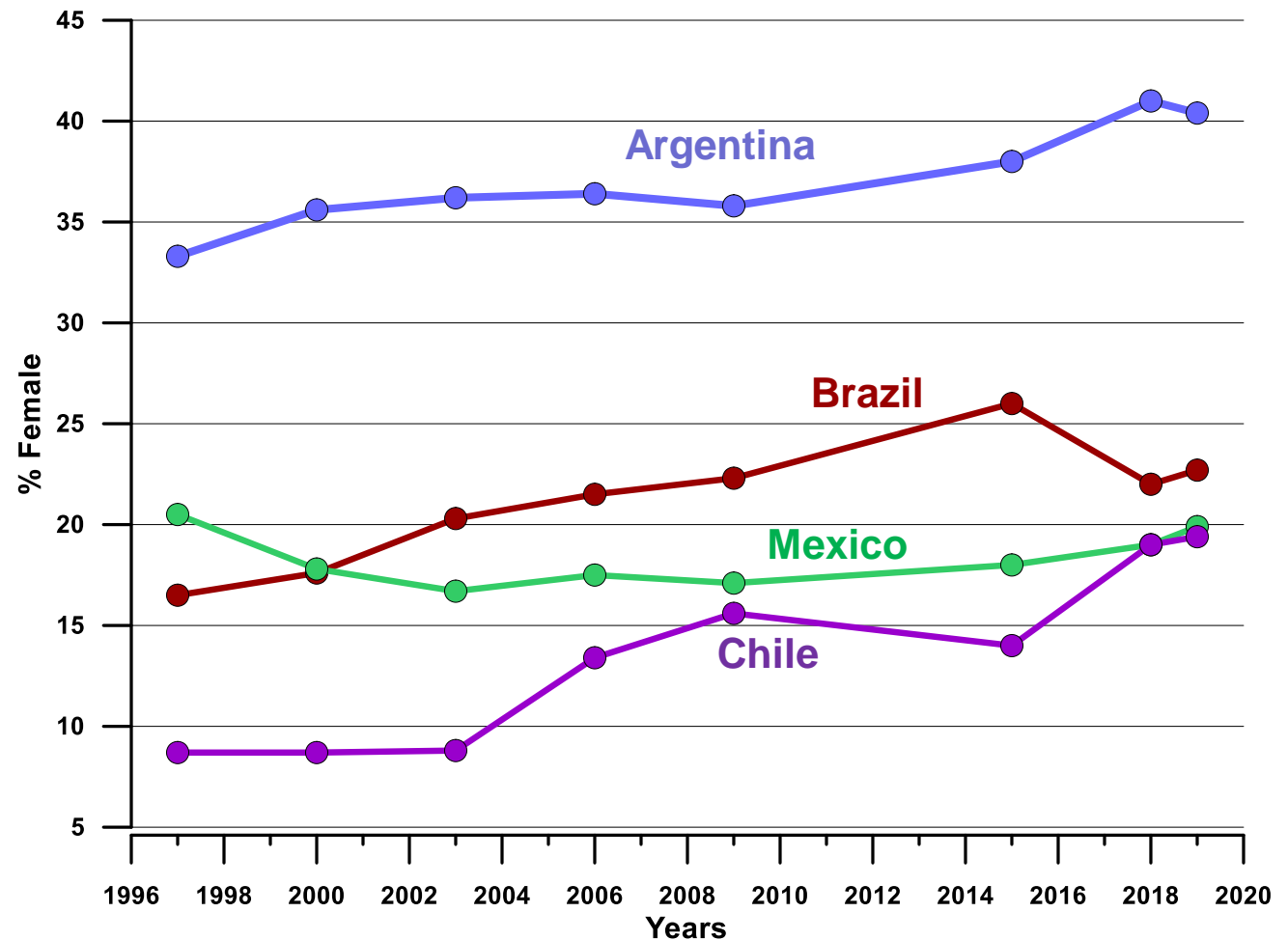
Venezuela - 21

Young: Colombia - 30

Very small in other countries



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	Argentina		Brazil
Institutes involved:	8		16+38
Astronomy research staff:	T	163	281
	F	39%	24%
Permanent position:	T	196	368
	F	40%	23%
Tenure-track :	T	116	18
	F	37%	33%
Short-term contract: (pos-doc / visitor)	T	60	67
	F	60%	30%
Graduate students: (Master + PhD)	T	894*	239
	F	50%	42%
* Physic + Astronomy			

Percentage of female decreases
at higher levels



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In Brazil

Source: CNPq

	T	F	%F
CNPq Fellowships in Astronomy	276	84	30
ICJ (high-school):	29	15	52
IC (undergraduate):	72	22	30
M + PhD:	18	5	28
Research:	114	29	25



25% 21% 27% 28% 33%
PQ2 → 1D → 1C → 1B → 1A

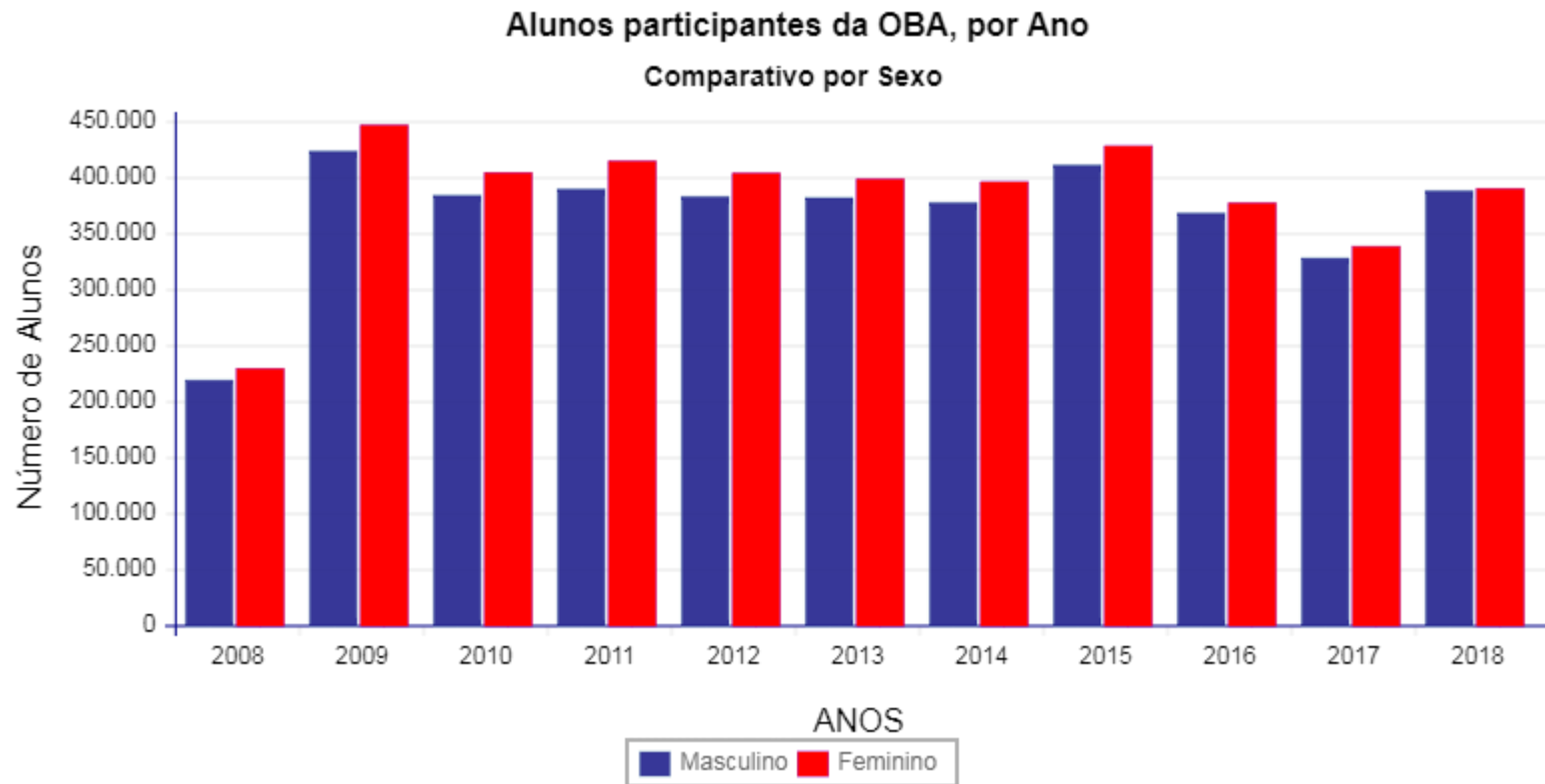
small numbers!

beginning carrier

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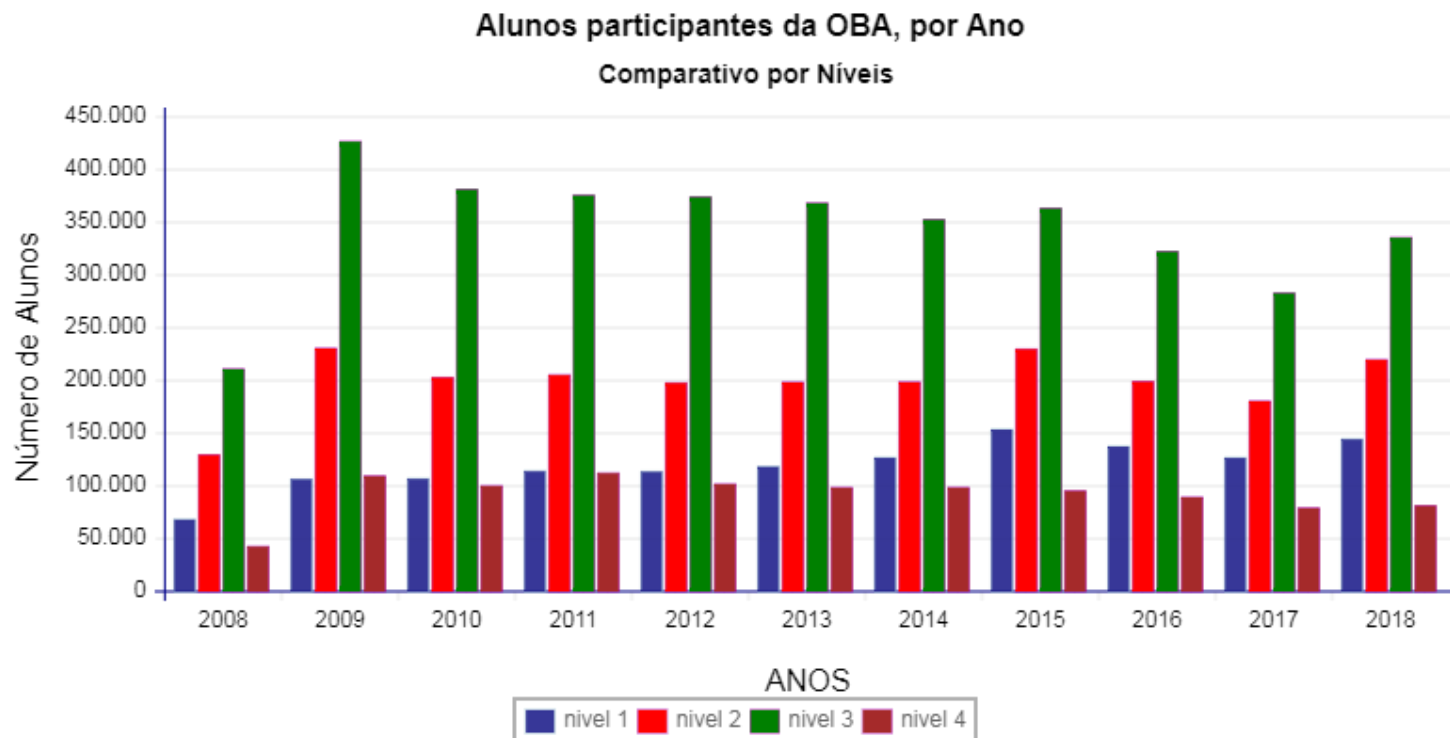
Brazilian Astronomy Olympics, organized by the Brazilian Astronomical Society

www.oba.org.br



Women in Astronomy and the IAU

www.oba.org.br



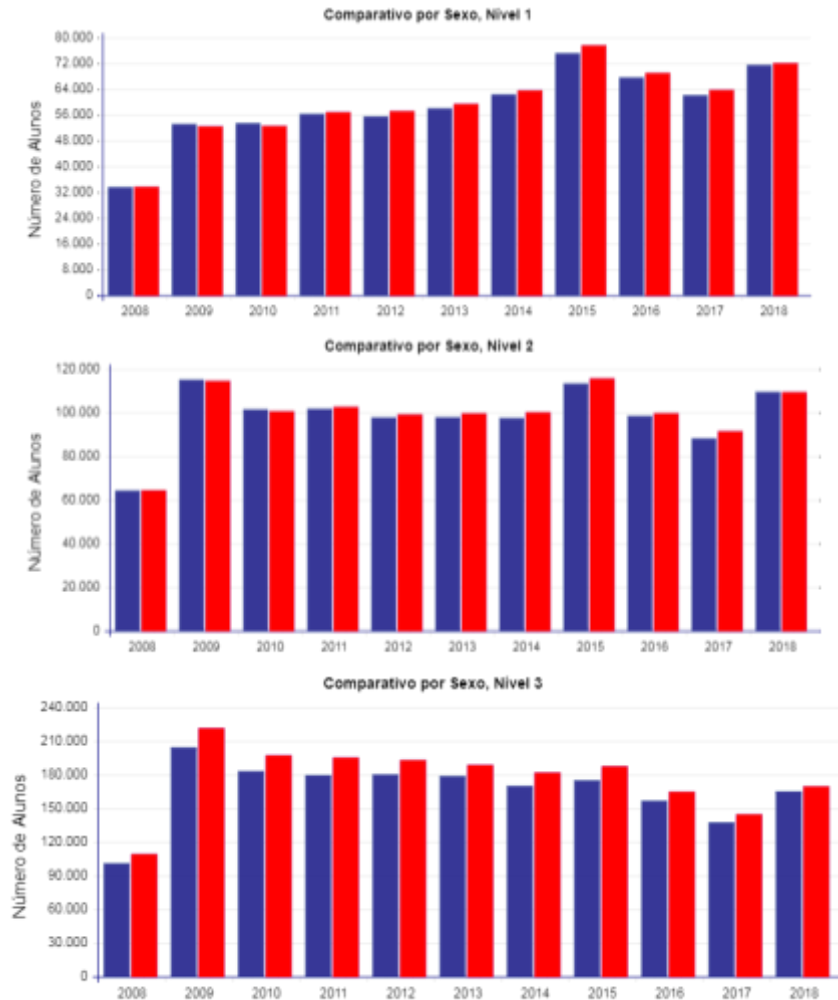
~800,000
students

Fundamental (6 to 17 years old): level 1 to 3
High-school: level 4



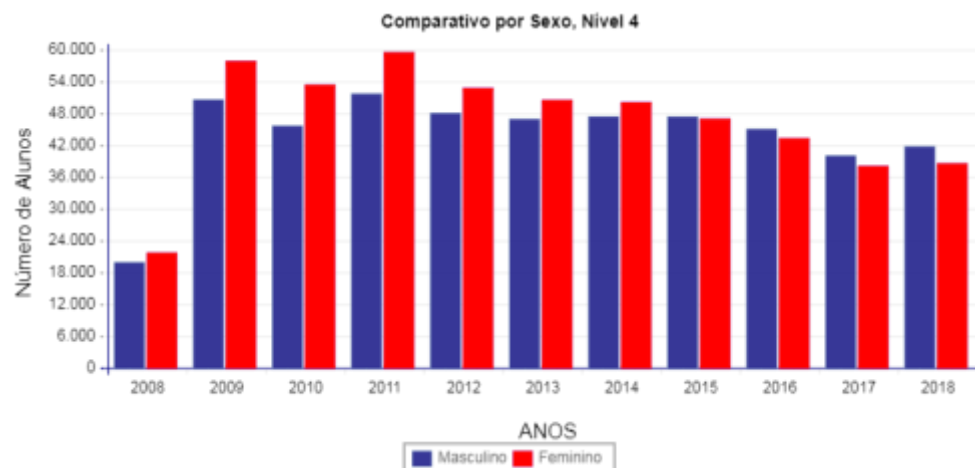
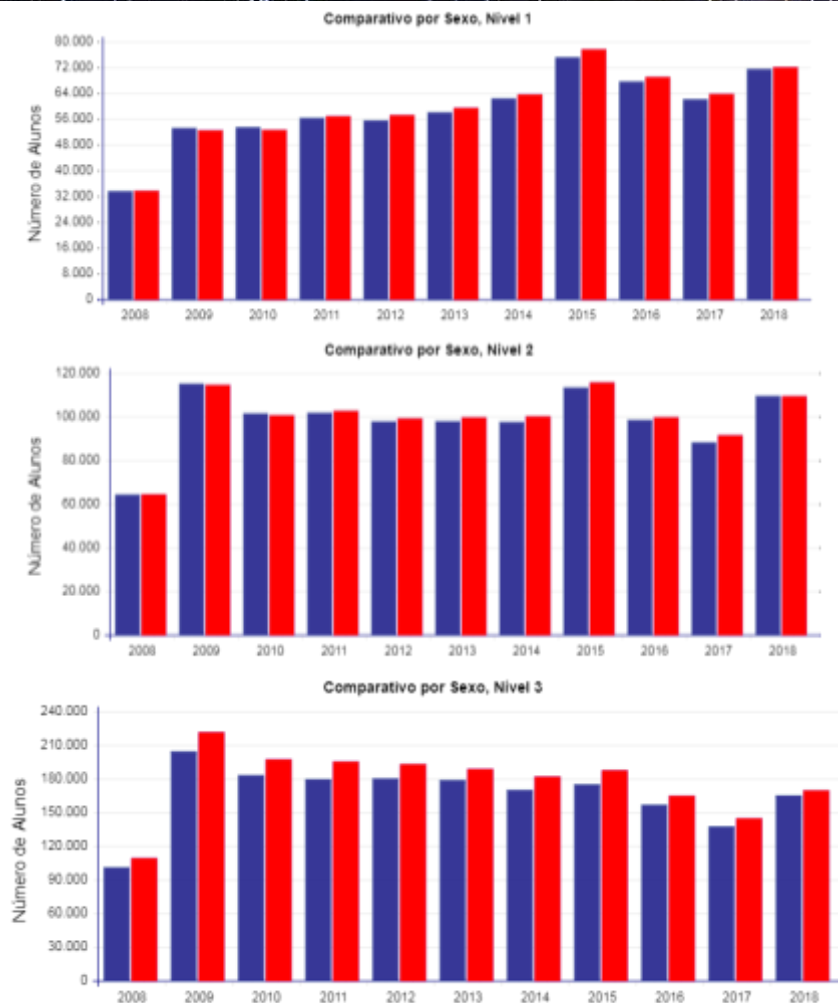
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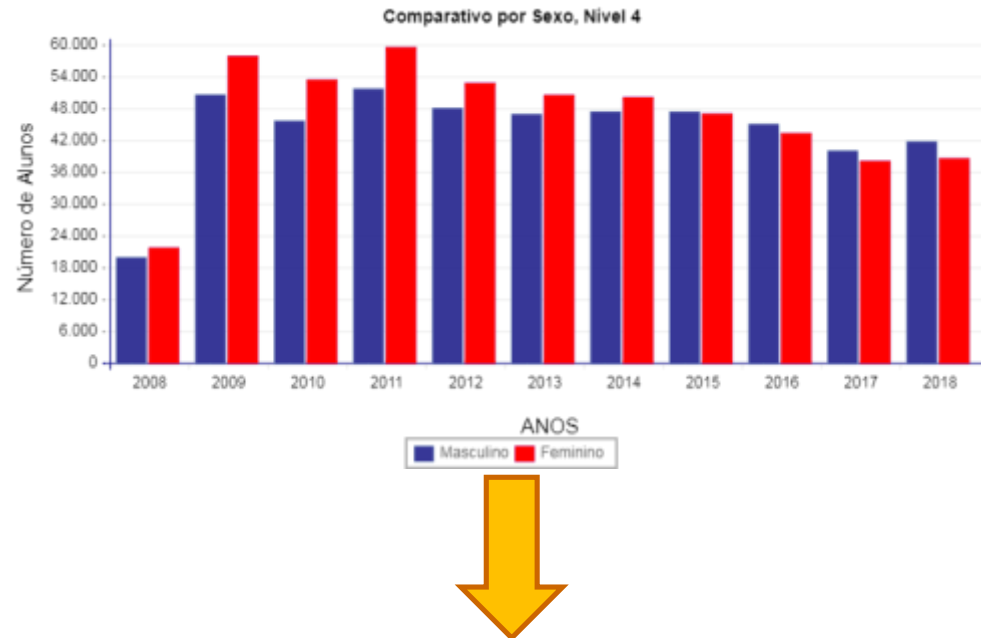
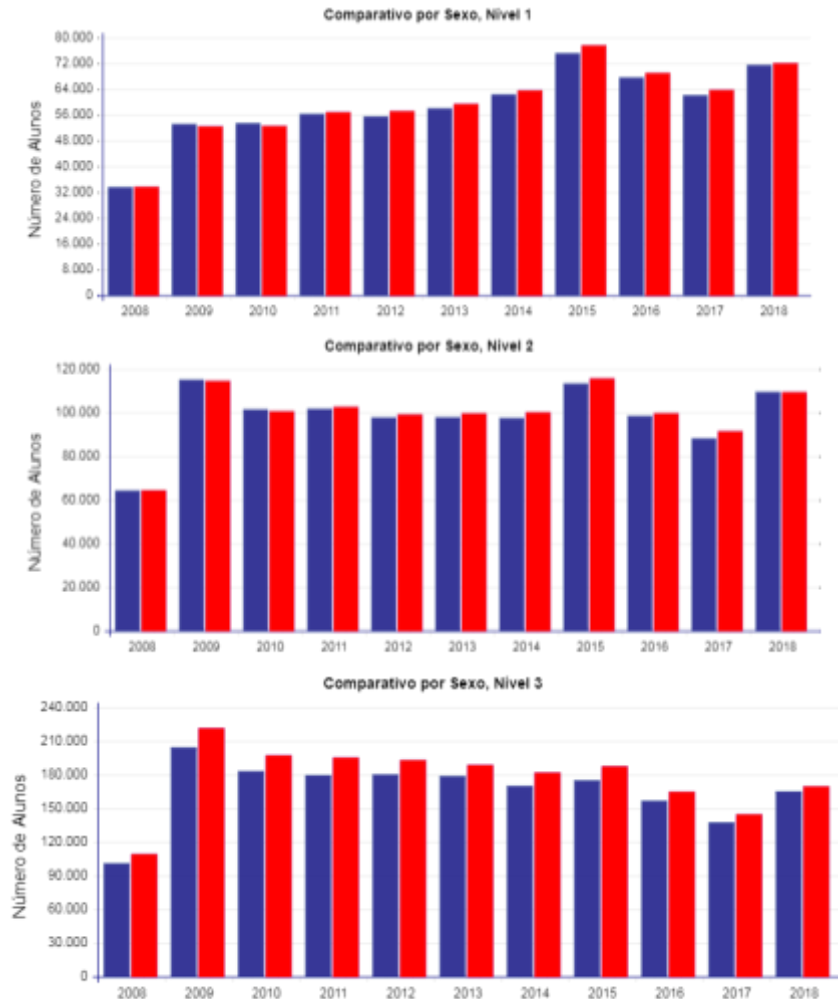
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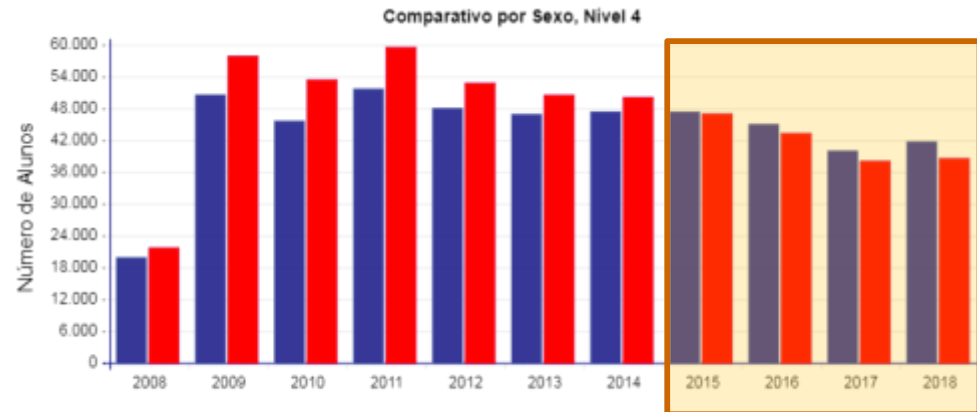
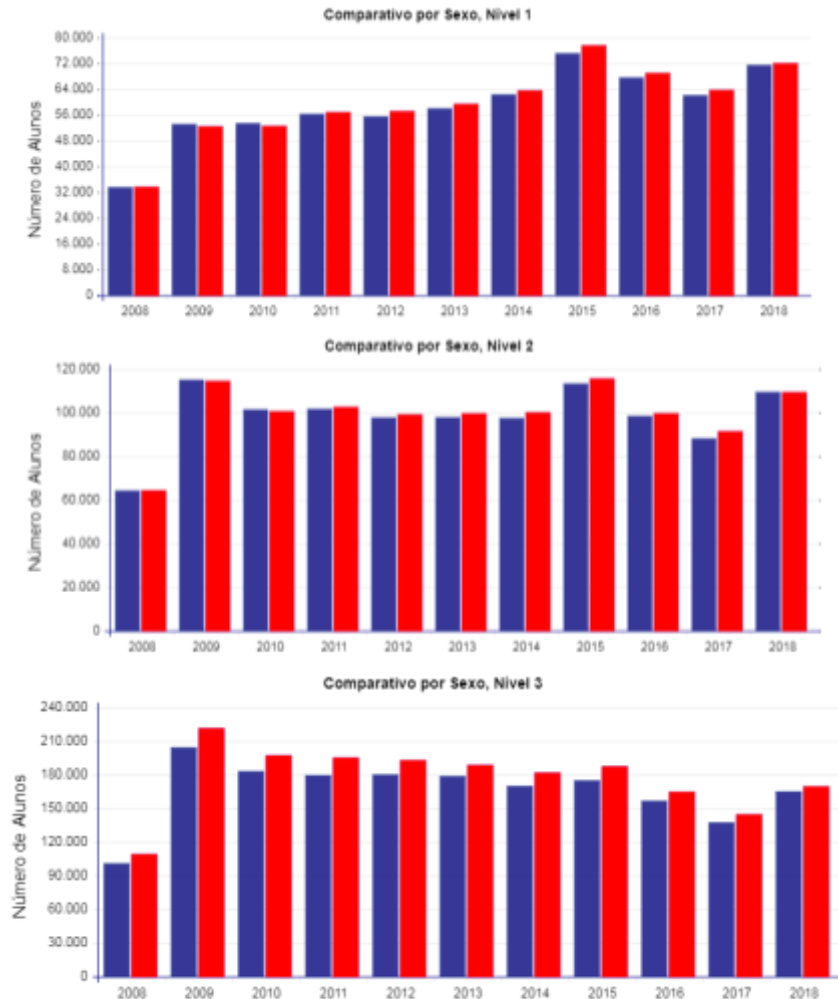
www.oba.org.br



The problem starts at high school!

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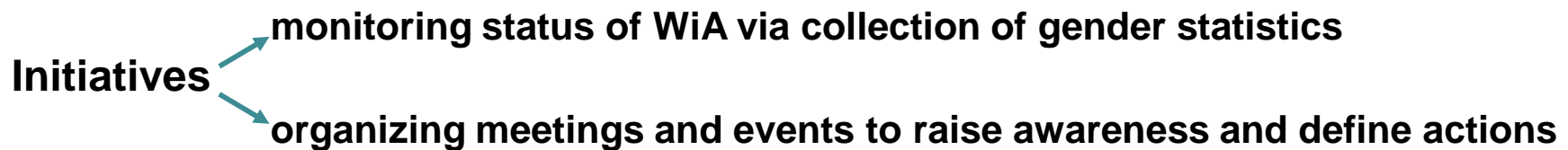
Related to economic crisis???



The problem starts at high school!



Women in Astronomy and the IAU



Women in Astronomy Lunch at the GAs: keynote speakers + discussions in groups

She is an Astronomer project during IYA2009

AstroFaces – Portrays of women astronomer – Senior & Junior - in progress

AstroVoices – “I am an astronomer” videos from around the world

IAU Symposium 358 – *Astronomy for Equity, Diversity and Inclusion – a roadmap to action within the framework of the IAU 100th Anniversary*. → “Mitaka resolutions”



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WOMEN & GIRLS in Astronomy



11 of February and
all around the year!

Projects

IAU Women and Girls in Astronomy Project



Image description: Illustration of pioneering astronomer Wang Zhenyi (1768-1797) of China's Qing dynasty.
Image credit: Aneta Margraf-Druc

The IAU will celebrate Women and Girls in Astronomy throughout the year, in addition to commemorating Women and Girls in Astronomy Day on February 11th, 2019 in tandem with the United Nations' International Day of Women and Girls in Science. Beyond 11 February, we encourage events throughout the year to celebrate women and girls.

Visit the Events page to find an event near you!

We invite everyone to get involved by running events in your local community. Some ideas for events include:

- Holding **public talks** and outreach events featuring women astronomers
- Bringing women astronomers into classrooms
- **Activities and workshops** with students' and children's clubs, such as after school science clubs, scouting clubs
- Field trips for girls to **science centers and planetariums**
- **"Astronomy on Tap"** public events in pubs and bars featuring women astronomers
- Online or in-person **Question and Answer** sessions between women astronomers and students
- **Networking and mentoring** events for undergraduate and graduate women astronomers
- Public **stargazing** with women astronomers

In addition to the worldwide events on February 11th, we encourage events and activities throughout the month of February and the whole year to celebrate women in astronomy.

If you would like to put on an event and need support or guidance, don't hesitate to reach out via the [Contact](#) page!

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WOMEN & GIRLS in Astronomy

Wang Zhenyi
(1768-1798)

Valentina Tereshkova
(1937--)

Vera Rubin
(1928-2016)

Sophie Brahe
(1559-1643)

Hypatia
(350-415 AD)





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THANK YOU!!!

(sorry not to be there with you...)