



Career Development thoughts from the Office for Young Astronomers

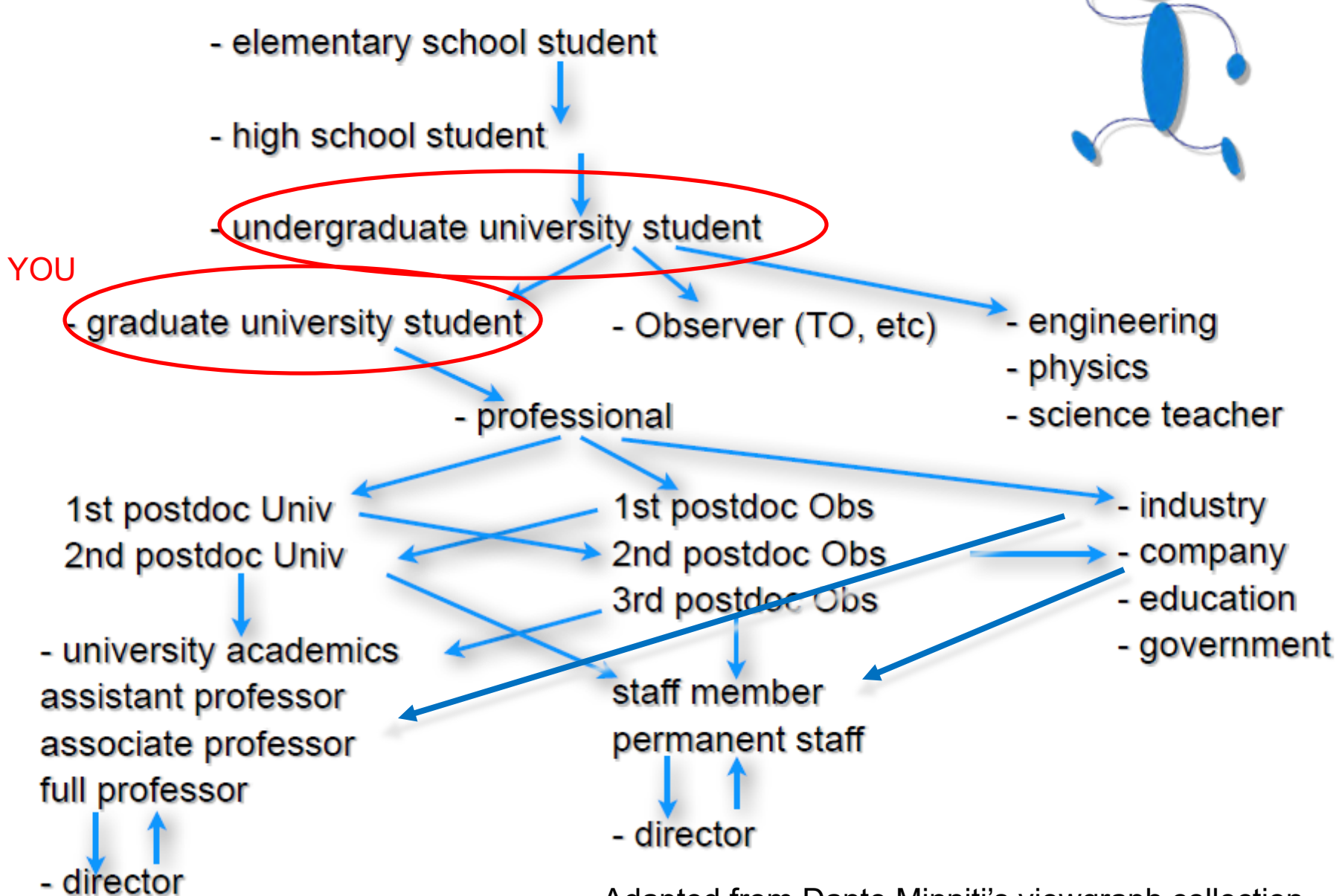
Itziar Aretxaga (Mexico), ISYA Director

David F. Mota (Norway), ISYA Deputy Director



(44th ISYA, Cape Town,
South Africa, 2023)

A Career in Astronomy



Your plans as a student:

Specialize in an area of Astronomy that you like

Increase your knowledge of other areas of Astronomy

Have (create, do) your own research projects

Learn how to publish

Obtain a MSc, PhD, and then a postdoc

Make national and international contacts (networking)

Enjoy your career, be happy



Work ahead:

Learn

Stay positive

Research

Grow

Learn English

Find work

Publish

Be neat

Not be late

Be rigorous

Express yourself well

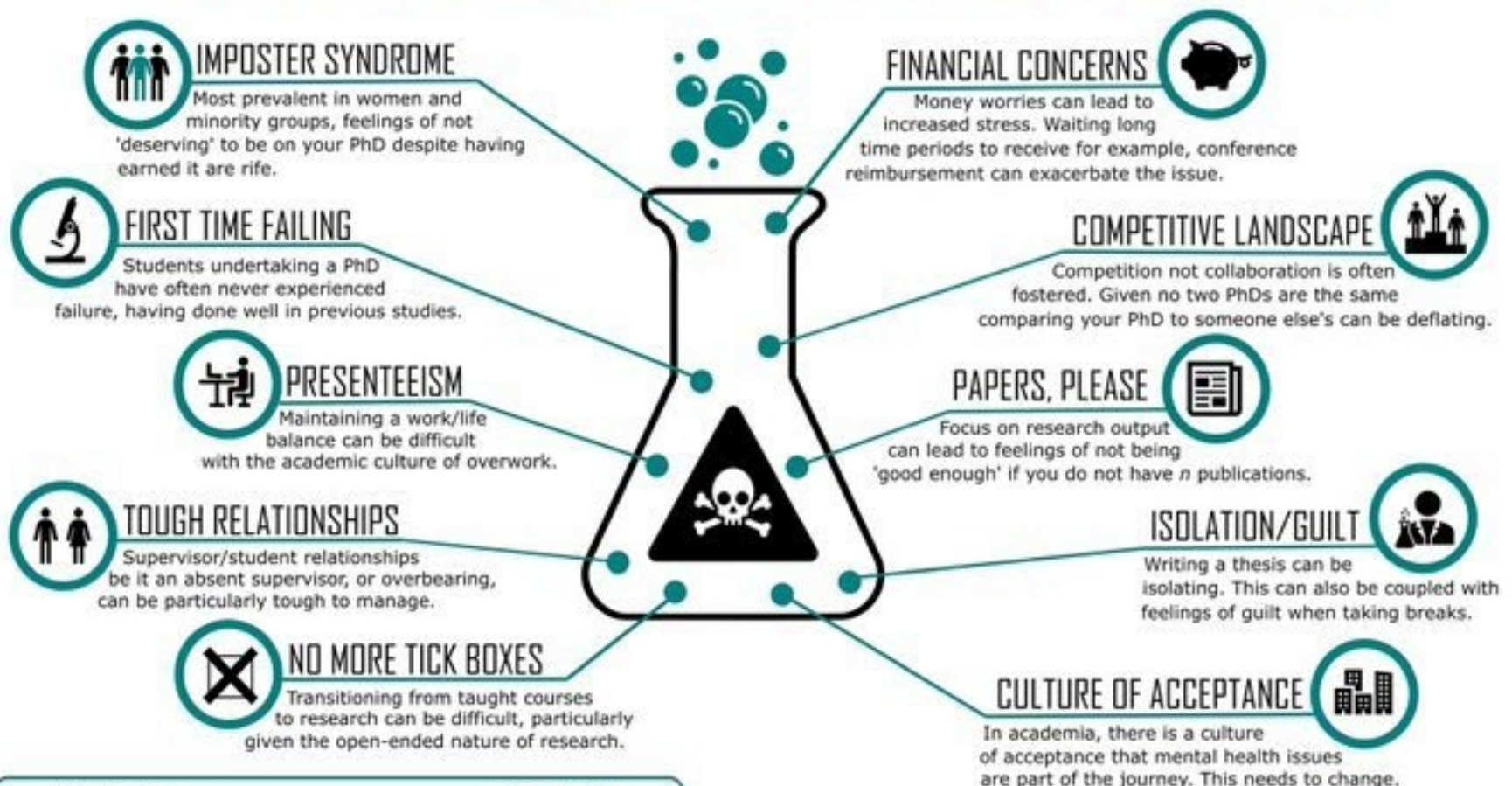
(From Dante Minniti's viewgraph collection)

Hang in there, surpass your own psychological blocks

MENTAL HEALTH DURING YOUR PhD THE TOXIC MIX

A study by the University of California, Berkeley, found nearly half of postgraduate students met criteria to classify them as depressed.¹

This poster explores the common stressors that PhD students may be exposed to during their PhD.



SELF-HARMING?
SUICIDAL THOUGHTS? CALL SAMARITANS NOW ON **116-123**

Part of the #mentalhealth series by Dr Zoe Ayres (@zjayres). Free to distribute.

Our own craziness

We have all suffered from our own limitations

Sometimes we feel overwhelmed

We have all had a bad teacher

Don't worry too much about the future

Work hard, and trust yourself

Others have made it, and so you can

Be aware of the impostor's syndrome

We all have had problems, it's called life

Hang in there, surpass your own psychological blocks

Take all steps, one at a time, and always always always give your best.



From Dante Minniti's viewgraph collection

“Impostor Syndrome”

Not a true medical condition, but a transition phase we ALL might go through.

Highly acute sense of not belonging, being below the average, and being about to be found out.

© MARK ANDERSON, ALL RIGHTS RESERVED WWW.ANDERTOONS.COM



"I think instead of worrying about why people don't believe in you, we should worry about why you don't believe in *yourself*."

From Dante Minniti's viewgraph collection

Impostor Syndrome in Sciences



Her testimony in the astrobites blog:
<https://astrobites.org/2018/03/02/overcoming-the-imposter-syndrome/>



Dr. Stephanie Hamilton
@StephHamy820

Hi, I'm Stephanie and I suffer from major depressive disorder and imposter syndrome.

I also just defended my PhD and am now a Doctor of Physics. So those negative thoughts can just F right off for a while 💪

Also, best profile name change I've ever made 😊

[#womeninSTEM](#) [#phdchat](#)

2:30 PM · 4/26/19 · [TweetDeck](#)

153 Retweets 3,891 Likes



Dr. Stephanie Hamilton @StephHamy820 · 13h

I think it's safe to say I'm spending the rest of the night watching TV and eating ice cream [#phdchat](#)



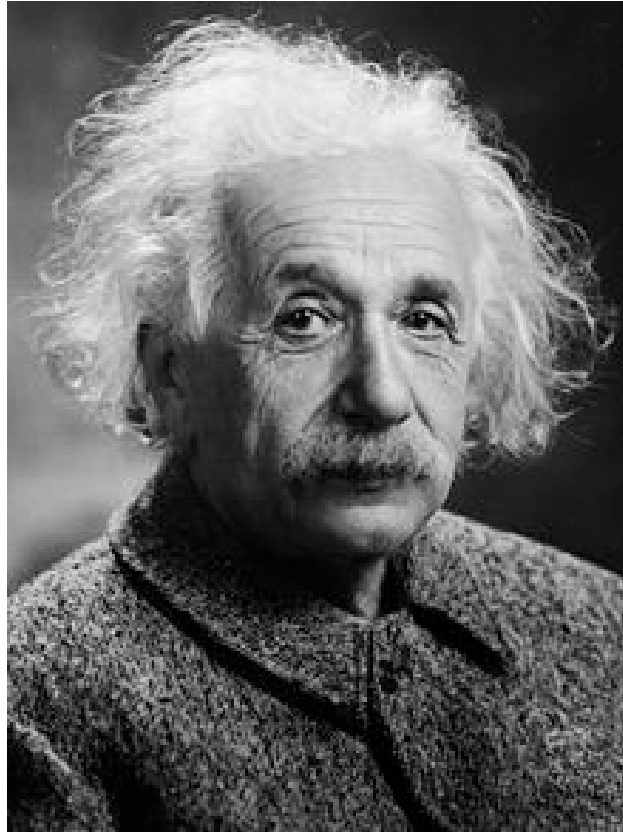
DrKevGuitar
@DrKevGuitar

Replying to [@StephHamy820](#)

You have just achieved quite a feat under *such difficult* circumstances, memories of me 20 years ago, going through similar issues, are coming flooding back. YOU ROCK! YOU BELONG! Nothing and no one can ever take it away from you. You are allowed to be proud! Congratulations!!

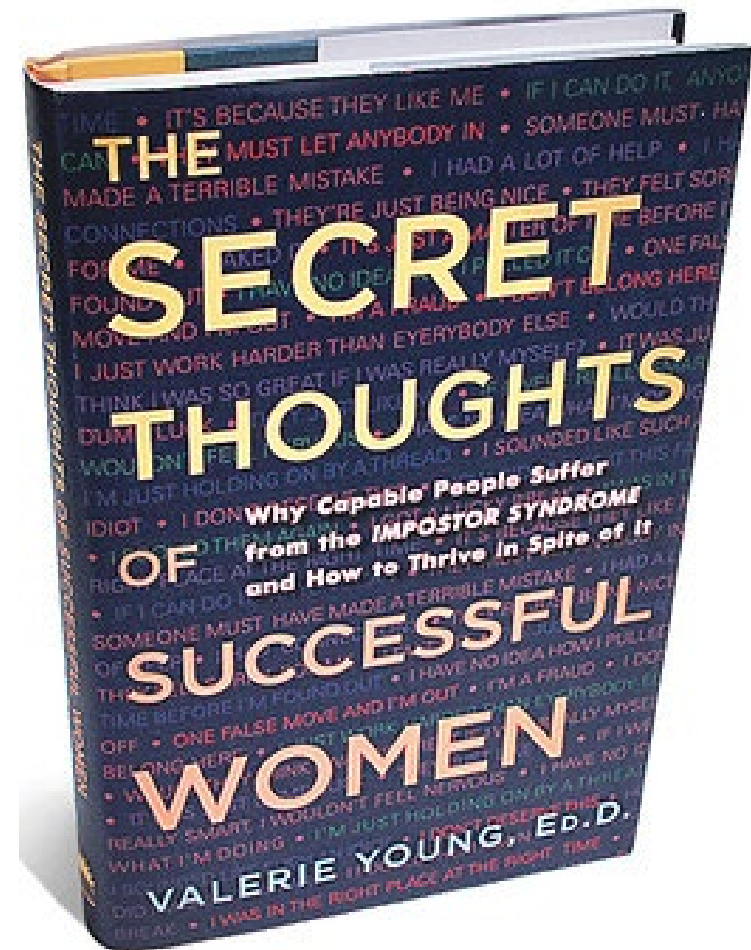
Impostor Syndrome in Sciences

“The exaggerated esteem in which my lifework is held makes me very ill at ease. I feel compelled to think of myself as an involuntary swindler.”



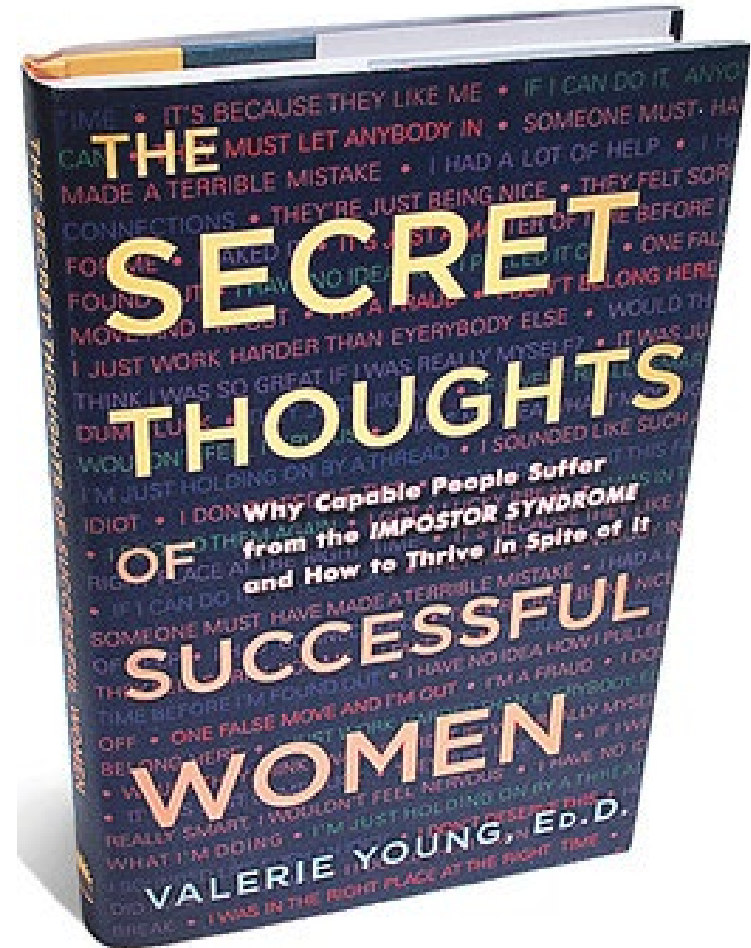
Signs of Impostor Syndrome

- Constant doubts about self's abilities
- Sense of incompetence
- Frequently comparing yourself to others
- Low self-esteem
- Anxiety, fear of being “discovered to be a fake”
- Immobility
- Stress, burnout
- Dificultad para aceptar los cumplidos o los logros alcanzados
- Incapacidad para disfrutar los logros



Strategies to overcome the impostor syndrome

- Break the silence, and understand that these feelings are not only your own: everybody feels like an impostor.
- Distinguish between facts and feelings
- Change first your thoughts and behaviour, and your feelings will follow
- Transform the feelings of failure into a sense of growth and learning
- Find a mentor and create support system around you.
- Remember your achievements.



PRACTICE MENTAL HYGIENE

EMOTIONAL FIRST AID



**Practical Strategies for
Treating Failure, Rejection,
Guilt, and Other Everyday
Psychological Injuries**

Guy Winch, Ph.D.

Edición actualizada con nuevos testimonios

Rafael Santandreu **El arte de no amargarse la vida**

**Las claves del cambio psicológico
y la transformación personal**

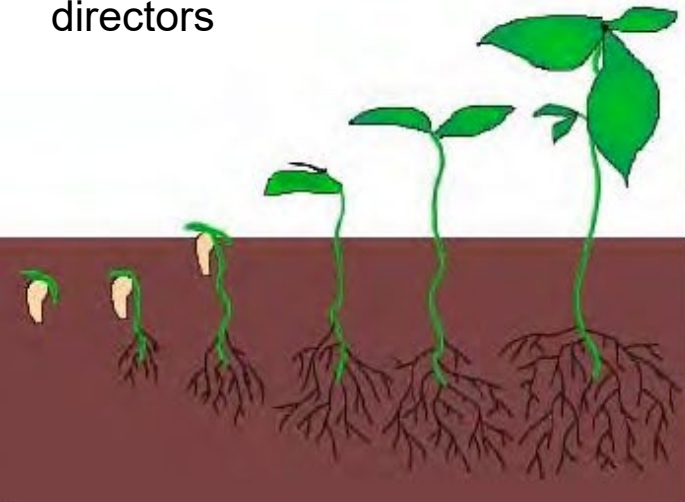


As a student you must:

Learn
Research
Grow
Learn English
Publish
Deliver a thesis

Advice:

Learn from everybody,
advisor, professional
technicians, students,
postdocs, professors,
directors



Professor

Enormous responsibility: to help
the creation of another scientist.



From Dante Minniti's viewgraph collection

Your plans as a student:

Specialize in an area of Astronomy that you like

Increase your knowledge of other areas of Astronomy

Have (create, do) your own research projects

Learn how to publish

Obtain a MSc, PhD, and then a postdoc

Make national and international contacts (networking)

Enjoy your career, be happy



Work ahead:

Learn

Stay positive

Research

Grow

Learn English

Find work

Publish

Be neat

Not be late

Be rigorous

Express yourself well

From Dante Minniti's viewgraph collection

What do you mean “networking”?

Go to talks (to all of them).

Ask questions, have lunch with the speaker, etc.

Organize workshops, discussion groups, etc.

Go to conferences (and go to all talks)

Work with other members of your Institution.

Keep in touch.

Comment papers, do blogs, twitter, facebook, linkedin, etc.

Don't be shy, your work is your best presentation card, make yourself be known by speaking about it and asking the opinion of others on how you can enrich it (1 min presentation ready).



What do you mean “networking”?

Go to talks (to all of them).

Ask questions, have lunch with the speaker, etc.

Organize workshops, discussion groups, etc.



A screenshot of a Facebook group page for "IAU ISYA All Alumni". The page is in dark mode. At the top, there's a navigation bar with icons for home, video, friends, and a plus sign. Below this, the group name "IAU ISYA All Alumni" is displayed, along with a lock icon indicating it's a private group with 308 members. A button labeled "Bat eginda" with a dropdown arrow is visible. Below that, a "Community home" button with a house icon is shown. The main content area features a collage of images: a large group photo of alumni in front of a dome-shaped observatory, a poster for "ISYA 2014" (36th International School for Young Astronomers) held from November 24 to December 12, 2014, and another group photo of alumni in front of a traditional Chinese building. At the bottom, there's a row of circular profile pictures of group members and a blue button labeled "+ Gonbidatu" (Invite) with a dropdown arrow.

Social media as outreach / technical communication tools



Hilo



Kathy Vivas
@akvivas

In arxiv.org/abs/2001.01107 we searched the RR Lyrae star catalog from Gaia DR2 for possible members of ultra-faint dwarf galaxies. There are 27 UFDs within the limits of Gaia. This is how we did it 🙌

[Traducir Tweet](#)

4:38 p. m. · 7 ene. 2020 · Twitter for iPhone

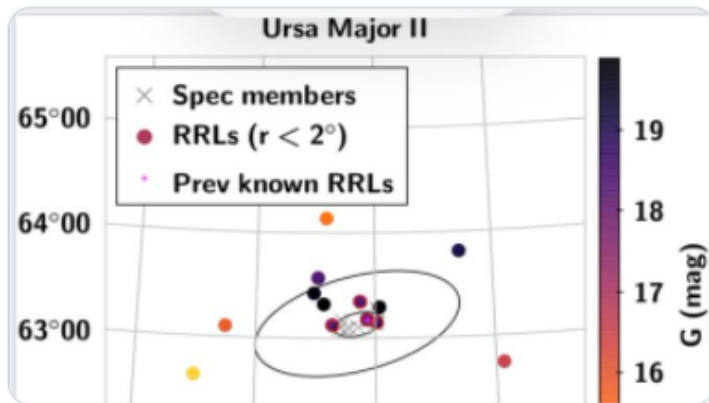
3 Retweets 12 Me gusta



Kathy Vivas @akvivas · 7 ene. 2020

En respuesta a @akvivas

We selected all RR Lyrae stars within a 2 degree radius of the galaxy. We intentionally explored a large area in order to search for possible e tea tidal stars. The plot is for Ursa Major II, which already had 1 known RR Lyrae



1



1



Hilo



Camila Esperança
@cesperanca

[THREAD] [#ASTRONOMIA]

Posso te contar que as #galáxias nascem, evoluem e morrem, como nós?

E se, além disso, eu te contar que esse é meu estudo com @thiagosgbr, no @ValongoUFRJ?

Se prepara porque lá vem thread sobre "o que acontece na vida das galáxias"

#mulheresnaciência

[Traducir Tweet](#)



5:56 p. m. · 24 jul. 2018 · Twitter Web Client

40 Retweets 9 Tweets citados 128 Me gusta



Camila Esperança @cesperanca · 24

En resposta a @cesperanca

"Camila, você disse que as galáxias morrem. Antes de mais nada, não fique triste, a: "assim como nós". O que realmente acontece é que elas se aposentam, formando estrelas. Digamos que elas se aposentam."



1



4



34



Dr. Caitlin Casey
@astrocaits

Howdy #AAS237 from a **snowy** Austin, TX. 🤠❄️👋

If you're an undergrad interested in a summer research program, the @TAURUSutaustin 2021 application is now live! Check eligibility and program mission on website. Apply today here:

[Traducir Tweet](#)



Apply

Applications for the Summer 2021 class of TAURUS Scholars are now being accepted! Click on THIS LINK to go to the ...
sites.cns.utexas.edu

12:56 p. m. · 10 ene. 2021 de Austin, TX · Twitter for iPhone

Research as a student

Take advantage of all opportunities

- This school!
- International contacts
- Research topics
- Observing experience
- Publications
- Languages
- Travel
- Meetings, Workshops
- Talks

Start doing research focused on a publication as a final goal.

You must know why your work is important

Beware that psychological problems are the biggest barrier to progress.



From Dante Minniti's viewgraph collection

Scientific research

SOME DIFFICULTIES:

- Funding: even if there is funding, it may be restricted to a specific proposal
- Team: number, experience, topics
- Equipment: materials, computers, literature access
- Environment: collaborators, competitors, referees
- Current thinking: fashion or priority topics
- Experience: if unexperienced, may waste time, but can come up with new ways
- Maturity: honesty, effort, ethics
- **Unconscious biases: minorities have it harder to climb the research career ladder**



WHAT WE DO:

- **Work hard**
- **Work under a strict ethical code**
- **Ask yourself what your biases are (we all have them) and analyze if/when they are at work. Work against them.**

What is unconscious bias?

- Unconscious bias: social stereotypes about certain groups of people that individuals form outside their own conscious awareness (Fiske & Taylor 1991; Valian, 1998, 1999)
- Almost everybody has it!
 - We are natural classifiers
- Compelling body of scientific evidence showing that it affects:
 - Hiring
 - Evaluation
 - Promotions
 - Selection of leaders
 - Daily

If you think you do not have them take the following test and be humbled:

<https://implicit.harvard.edu/implicit/demo/>

Select a Test

Gender-Career IAT

Gender - Career. This IAT often reveals a relative link between family and females and between career and males.

Age IAT

Age ('Young - Old' IAT). This IAT requires the ability to distinguish old from young faces. This test often indicates that Americans have automatic preference for young over old.

Sexuality IAT

Sexuality ('Gay - Straight' IAT). This IAT requires the ability to distinguish words and symbols representing gay and straight people. It often reveals an automatic preference for straight relative to gay people.

Religion IAT

Religion ('Religions' IAT). This IAT requires some familiarity with religious terms from various world religions.

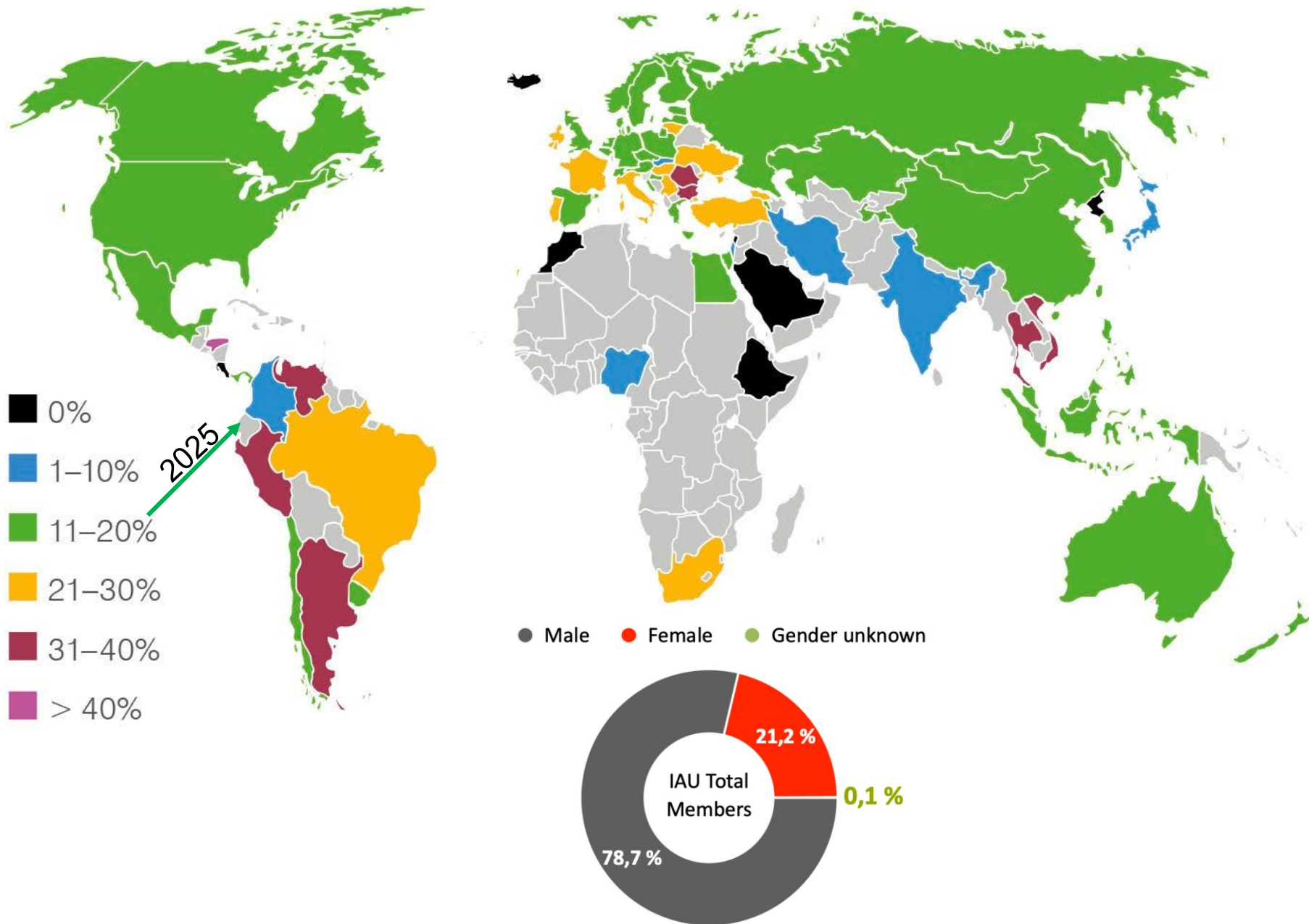
Asian IAT

Asian American ('Asian - European American' IAT). This IAT requires the ability to recognize White and Asian-American faces, and images of places that are either American or Foreign in origin.

Native IAT

Native American ('Native - White American' IAT). This IAT requires the ability to recognize White and Native American faces, and images of places that are either American or Foreign in origin.

Women members @ International Astronomical Union (2020)



Some literature and links on inclusion and diversity



← → ↺ aas.org/task-force-diversity-and-inclusion-graduate-astronomy-education

ABOUT

MEETINGS

ADVOCACY

PUBLISHING



EDUCATION

CAREERS

Committees

Task Force on Diversity and Inclusion in Astronomy Graduate Education

iau.org/science/scientific_bodies/working_groups/259/



INTERNATIONAL
ASTRONOMICAL
UNION

[Home](#) | [About IAU](#) | [Member Directory](#) | [Site Map](#) | [Contact Us](#) | [Login](#)

News

Science

Publications

Administration

Training in Astronomy

Astronomy for Education

[Home](#) / [Science](#) / [Scientific Bodies](#) / [Working Groups](#) » [Executive Committee WG Astronomy for Equity and Inclusion](#)

Executive Committee WG Astronomy for Equity and Inclusion

iau.org/science/scientific_bodies/working_groups/122/



INTERNATIONAL
ASTRONOMICAL
UNION

[Home](#) | [About IAU](#) | [Member Directory](#) | [Site Map](#) | [Contact Us](#) | [Login](#)

News

Science

Publications

Administration

Training in Astronomy

Astronomy for Education

[Home](#) / [Science](#) / [Scientific Bodies](#) / [Working Groups](#) » [Executive Committee WG Women in Astronomy](#)

Executive Committee WG Women in Astronomy

Unconscious Bias and Evaluation

Recommendation Letters: 312 letters analyzed (Trix & Penska, 2003)

- Letters for women were shorter, less focused on candidate's record of accomplishment
- Twice as likely to have gendered terms (“intelligent young lady” or “insightful woman”) – such descriptors NOT present for men
- Use of standout adjectives such as “excellent”, “superb”, “outstanding”, and “unique” repeated more often in men's letters, yet the use of grindstone adjectives “hardworking”, “conscientious”, “dependable”, “careful”, “meticulous” more prevalent for women.
- Study suggests that women's success more associated with effort whereas men's success with ability.

Components/Language in letter	Males (N=222)	Females (N=89)
Standout adjectives ¹	2.0/letter	1.5/letter
Grindstone adjectives ²	23%	34%
Doubt Raisers ³	12%	24%
Reference to personal life	1%	6%
Multiple mentions of research	62%	35%
Accomplishments/achievements	13%	3%
Reference to publications	13%	3%
“Successful”	7%	3%

¹ excellent, superb, outstanding, unique

² hardworking, conscientious, dependable, thorough, dedicated, careful, meticulous

³ e.g., negative language, hedges, unexplained comments, faint praise, and irrelevancies

“取乎其上,得乎其中;取乎其中,得乎其下;取乎其下,则无所得矣。”
——《论语》孔子

If you aim high, maybe you can get a general result; If you aim at a general result, you may get a low-grade result; but if you aim at the lowest position, you may get nothing.

Confucius (ancient China, 551 BC)



“We are not disturbed by what happens to us, but by our thoughts about what happens to us.”

Epictetus (55 AD, Greek Stoic philosopher)