100 years of unity

The International Astronomical Union celebrates its centenary this year, with a membership that is increasing in diversity and working towards inclusion.

When the International Astronomical Union (IAU) was founded one hundred years ago, astronomy meant optical astronomy. It was the beginning of the age of large optical reflectors such as the Hale and Hooker telescopes on Mount Wilson. Radio astronomy was announced with great fanfare in 1931, when Karl Jansky observed “extraterrestrial” radio emission from our own Galaxy. Soon followed telescopes sensitive in the infrared, ultraviolet, X-ray and γ -ray bands, and now we even have multiple gravitational-wave detectors.

Despite the current era of multi-messenger astronomy, to the general public astronomy remains very much a visual subject. Look up at the night sky, behold the Universe! And what we can't see the Hubble Space Telescope shows us in dramatic colour. Does that mean it's not possible to appreciate the cosmos without the ability to see? No! Involve the other senses.

Technology can convert written text into an audio file or Braille, for instance. But there is so much more, explains Enrique Pérez-Montero — founder of Astroaccesible, an initiative to make astronomy accessible to the visually impaired — in a [Comment](#). The [Astroaccesible website](#) has many links and resources to support outreach and teaching efforts. As one example, tactile 3D models of the planets are an excellent way to incorporate the sense of touch in learning. Research into multi-sensory learning explores the ways in which the brain handles information gathered by different senses concurrently (or sequentially), in the same manner that the brain processes information in the natural world outside the classroom. And it turns out that these same approaches for helping people with disabilities also make astronomy more accessible to everyone.

And that is the key: by being inclusive, everybody benefits — researchers, teachers and learners. The IAU recognizes and encourages inclusivity through its working group, Astronomy for Equity and Inclusion, of which Pérez-Montero is a member. Their mission is to “facilitate the access to astronomical resources and careers for people with special educational or physical needs, or those who might be excluded for their particular race or gender”.

We also know that when girls meet scientists who are women, and not the stereotypical older white man with crazy

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hair and lab coat, they start to think that they too might also become scientists one day. The same applies to under-represented groups when identifying role models for the first time. Given that astronomers are really engaged in public outreach (please see the [Letter](#) by Marta Entradas and Martin Bauer and its associated [News & Views](#) by Marina Joubert), we have a real opportunity to inspire the next generation of diverse astronomers. Since 2003, the percentage of women in the IAU membership has increased from 12% to 18%. But as our [Focus on gender equity in astronomy](#) highlights, biases and discrimination persist. Clearly, there's more work to be done, especially with other groups (and women are not even a minority in society at large). Even the United States Congress opened this year with a record number of 127 women in both the House of Representatives and the Senate (nearly 24%), up from 104 the year before.

Many activities are planned this year to celebrate the IAU centenary, or IAU100. On 11 February, the IAU will promote the United Nations International Day of Women and Girls in Science by celebrating the IAU100 Women and Girls in Astronomy Day with activities by members worldwide. And on 12–15 November, the

IAU Astronomy for Equity, Diversity and Inclusion symposium intends to draft the Mitaka Resolutions for “astronomy professionals that wish to bring inclusiveness to their research and diversity to their teams, work environments and institutions”.

Thus, since its foundation the IAU has evolved dramatically. It started with an executive committee of five men and seven member states, and now has a female president in Ewine van Dishoeck and 79 national members and over 12,600 individual members from 96 countries. Traditionally, individual members had to have careers in astronomy and be three years past their PhD, but from 2018 a new category of membership for Junior Members started welcoming PhD students and postdocs. This change is a positive step towards addressing the anti-correlation between seniority level and diversity.

With a growing membership, the different working groups of the IAU will be better able to develop tools to reach as diverse an audience as possible and hopefully build a more inclusive community to take the IAU into the next 100 years. □

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