

The Hypatia Colloquium: Early Career Astronomer Series at ESO

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At a time when most planned international conferences, science events and seminars had been postponed or cancelled because of the COVID-19 pandemic, ESO decided to organise a new series of talks aimed at fostering the visibility of, and promoting the work of, astronomers at an early stage of their career: the Hypatia Colloquium.

The COVID-19 pandemic is a dramatic challenge that has affected the entire world. Almost two years of restrictions and social distancing have changed the way we live, work and interact with each other. Despite the closure of schools and universities, the adoption of distance learning measures has allowed the education system to be maintained in most countries. But there have been significant consequences for the overall educational experience of younger generations. Similarly, early-career astronomers at all levels (PhD and post-doc) have been forced to adapt to a new working scenario that presented numerous challenges. The “classical” approaches to building a solid and gratifying professional profile, creating a network of collaborations, and communicating the scientific results went through a complete revision which required (and still requires) creativity, strong commitment and support from senior astronomers, supervisors and mentors. We at ESO felt a responsibility to invest our energy and creativity into putting in place a channel that would allow excellent young researchers to show the results of their scientific work.

Thanks to the positive experience of the ESO Cosmic Duologues series (Beccari & Boffin, 2020), we have now learned to what extent online seminars can be an efficient way to engage the astronomical community, even under the severe restrictions imposed by the pandemic. As part of the ESO science activities, the Garching Office for Science in the Directorate for Science therefore organised a new series of seminars, called the

Hypatia Colloquium, dedicated to early-career scientists. Hypatia (ca. 350–415) was a Greek philosopher, mathematician and astronomer, the first female mathematician whose life is reasonably well recorded. Figure 1 shows the logo of the new series.

The call for abstracts

At the beginning of November 2020 ESO released a call for abstracts inviting PhD students and early postdocs (a maximum of three years from their PhD) working in any field of theoretical and observational astronomy and astrophysics, with no restriction on nationality or host country, to apply to be nominated as a speaker at a Hypatia Colloquium. Each event in the new series would host two seminars, making a total of 42 slots available for the talks. The deadline for applications was 30 November 2020 and in less than a month ESO received 334 valid applications from young astronomers around the world.

This extremely positive response from young astronomers was already witness to a strong desire to break down the walls within which the pandemic has confined our scientific life and to explore new ways to express their talent and creativity. The selection of the top speakers was made by an ad-hoc committee composed of ESO staff and Fellows from both Garching and Vitacura, and was based on the scientific quality of the submitted abstracts only. The 42 selected speakers were contacted towards mid-December and the full programme was released before Christmas 2020.

The complete programme of the talks can be found on the dedicated web page¹. The programme page reports the name and a photo of each speaker, together with the title of the talk and the date and time of each event. By clicking on the title of the talk it is also possible to download the full abstract of the talk and a Curriculum Vitae of the speaker. We show in Figure 2 the distribution of gender and year of PhD of the speakers selected for the Hypatia Colloquium 2021. It is worth noting that the call was released in November 2020 and the programme published at the end of the



Figure 1. Logo of the ESO Hypatia Colloquium series.

same year. Hence, at the time of giving their talk, half of the speakers had not yet completed their PhD, an impressive fact when considering the scientific quality of the talks!

The new series

The talks were scheduled on Tuesdays at 15:00 CET from 2 February to 27 July 2021 (except once per month, when there was an ESO Cosmic Duologue). The format of the series foresees a 20-minute talk followed by questions and discussion. Most of the seminars were co-chaired by an ESO student and an ESO Fellow.

The seminars were hosted entirely online using the video conferencing tool Zoom and live-streamed on the Hypatia Colloquium YouTube channel². Attendees could register for the series using a web form. Registered participants were able to attend the seminars and interact with the speakers via the Zoom meeting. Alternatively, the community was invited to attend the live events on the dedicated YouTube channel. All YouTube attendees could ask questions during the live event using the Live Chat on YouTube (or using a web form or by email if they preferred). All the video recordings of the live events, including the content of the live chat, are available on YouTube. The link to each seminar is available on the web page of

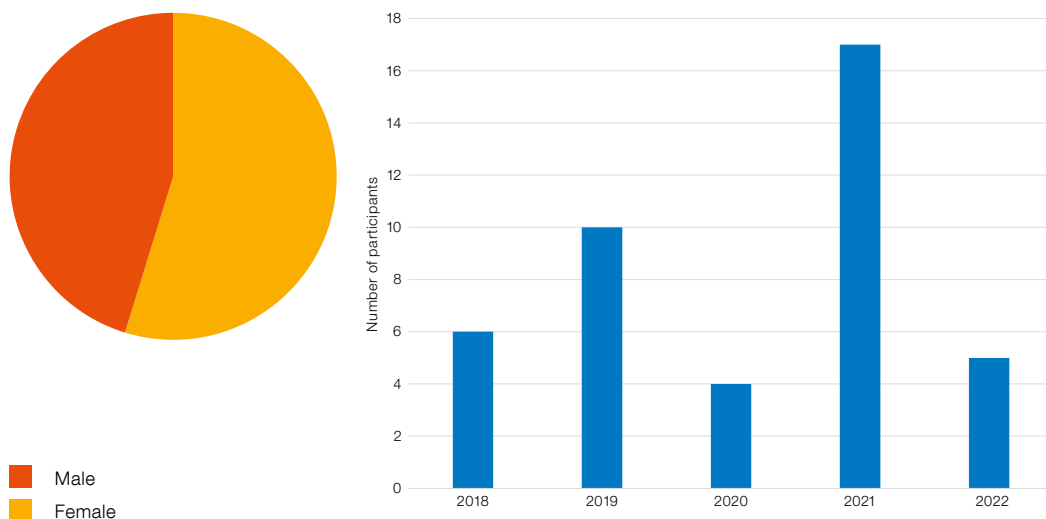


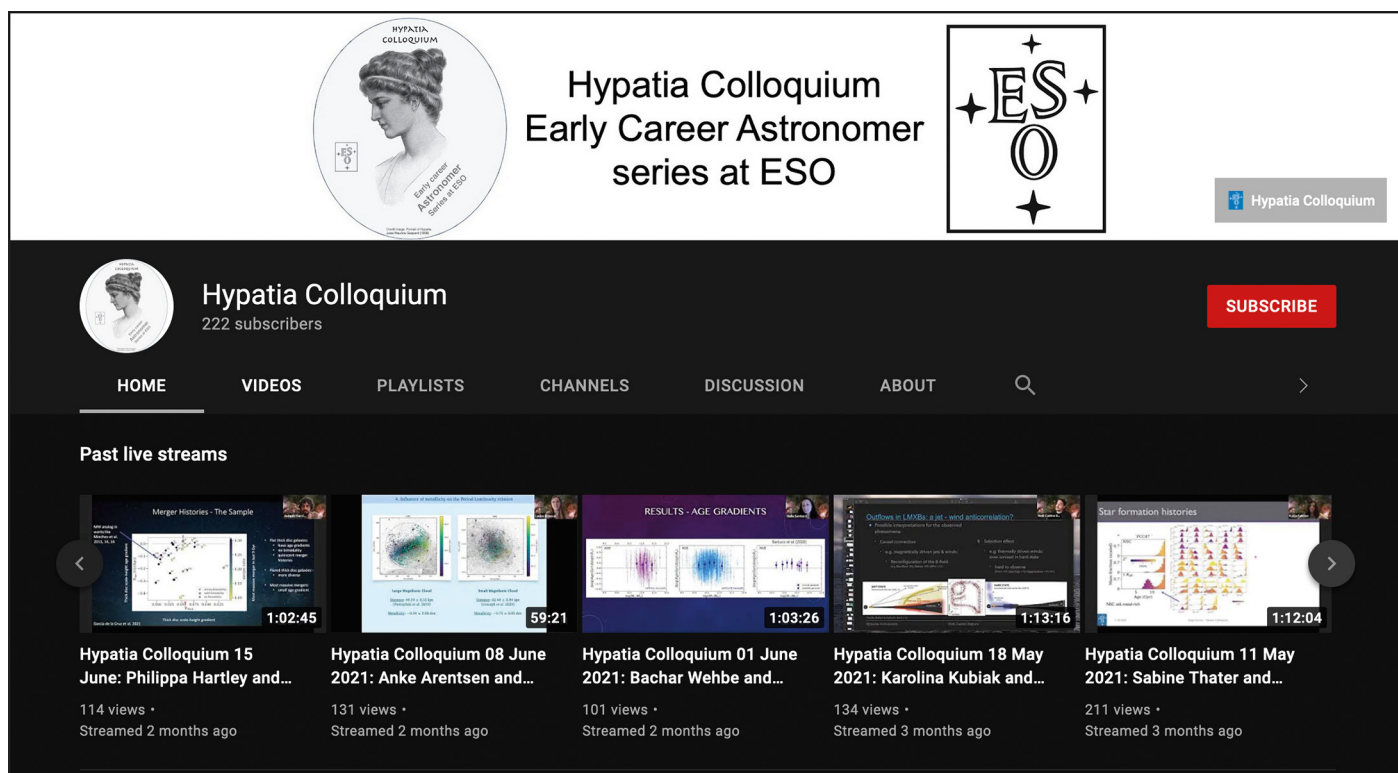
Figure 2. Distribution of gender (left) and year of PhD (right) of the speakers in the Hypatia Colloquium series. The call was released in November 2020 meaning that all speakers who were expected to complete their PhD in 2021 or 2022 were still PhD students at the time of giving their talk.

the programme¹. We show in Figure 3 a screenshot of the front page of the Hypatia Colloquium YouTube channel.

The channel analytics clearly attest to the success of the series. Whilst each event was followed live by a total of 40 to 60 participants spread equally between Zoom and YouTube, the videos record (at the time of writing) a total of 4400 views.

Whilst the numbers are already quite impressive, it is when watching the seminars that the real quality and impact of the series can be fully appreciated. With the Hypatia Colloquium, ESO allowed the young generation of astronomers to paint a remarkable and unique picture of the excellence of the science being done by early career astronomers. The videos available online represent an

Figure 3. Screenshot of the YouTube channel of the Hypatia Colloquium. All the talks in the 2021 series are available on the dedicated playlist.



extraordinary and exploitable treasure and resource of talent.

The future of the series

Given the success of the series and the enthusiastic reaction of the community, ESO will continue the series and released a new call for applications in October 2021. The new series will likely be scheduled for the period January to June 2022, so that it concludes around the time of the annual meeting of the European Astronomical Society (EAS).

To provide the community with a complete collection of scientific topics presented in this first series of talks, the “Hypatia Colloquium 2021” proceedings collect two-page contributions from each speaker. These are available for download on the ESO website³ and on Zenodo.

Finally, we would like to acknowledge the struggles that young astronomers are experiencing during these challenging times. It is not easy to maintain focus and motivation when such a dramatic event like the COVID-19 pandemic is putting our (and our loved ones’) health, life and safety in great danger. Science is a wonderful endeavour which requires dedication and sacrifice but always pays back through astonishing discoveries that reveal the hidden beauty of our Universe. Universities, research institutes, senior astronomers and mentors at all levels now have a responsibility to build the infrastructures and to redesign evaluation and hiring processes, in order to face the new reality with a modern attitude, appropriate to the times and able to create the space in which the creativity of the youngest generations can bloom and grow. At the same time, we must all help each other to remember that gratitude, humility, passion and professionalism are key to translating our efforts into knowledge for future generations.

Acknowledgements

We would like to thank the speakers for their enthusiastic and professional participation in this series. We are also grateful to the ESO Fellows and students who chaired most of the talks. We also acknowledge the support of the ESO Directorate for Science and the ESO Office for Science.

References

Beccari, G. & Boffin, H. M. J. 2020, *The Messenger*, 181, 34

Links

- ¹ Hypatia colloquium programme: <https://www.eso.org/sci/meetings/garching/hypatia-colloquium/program.html>
- ² YouTube channel of the Hypatia Colloquium: <https://www.youtube.com/c/HypatiaColloquium/featured>
- ³ Hypatia Colloquium 2021 proceedings: <https://www.eso.org/sci/activities/garching/Hypatia/2021/ESOHypatia2021.pdf>

P. Hordle/ESO



This photograph shows some of the antennas comprising the Atacama Large Millimeter/submillimeter Array (ALMA) against the backdrop of a panoramic view of the Milky Way. There is far more to ALMA than shown here; the array can span distances of up

to 16 kilometres and is formed of 66 individual antennas. Some features visible in the sky include the constellation Crux (The Southern Cross) just above and to the right of the nearest antenna, and the Carina Nebula slightly further to the right.