

## Report Commission J1

At the beginning of the new term Commission J1 started with an evaluation of the number and distribution of its members. The analysis showed that most of its members belonged to the parent Division J, with some representation from the other Divisions related to our inter-Division Commission: Division G (Stars and Stellar Physics), Division H (Interstellar Matter and Local Universe) and Division D (High Energy Phenomena and Fundamental Physics). The poorest representation amongst members was from Division D. Because of this a call was sent to members of Division D expressing interest in their larger participation in our Commission. This was achieved with the cooperation of the President of Division D, Prof. Elena Pian. This initiative proved successful, with several requests from members of Division D to join Commission J.

The analysis of the geographic distribution of the members of Commission J showed a very wide spread, amongst all continents and a large numbers of countries, including countries with smaller astrophysics communities, like Morocco, Thailand, Turkey, Ukraine, United Arab Emirates.

The analysis of the gender distribution revealed that only 28% of the members of Commission J1 are female. This is a statistic that we hope to improve with time.

At the beginning of the new term Commission J1 initiated talks for links and cooperation with the newly elected Steering Committees of the associated Divisions, but also with other Commissions where interlinks could be established. Some of these talks were more successful than others.

One declared goal of the President of Commission J1 was to strengthen the embracing of the high-energy community within the Galaxy SEDs Commission. One major step towards this was the creation of a new Working Group, "Linking the Imprint of Low and High Energy Processes on Galaxy SEDs". This WG has the main goal to explore astrophysical connections between thermal and non-thermal components in galaxies, with the aim of identifying missing links that can be established between the high-energy astrophysics community, in particular the gamma-ray community and the extragalactic community analysing SED of galaxies, in particular the infrared community. These links are both in terms of identifying physical processes that can be solved in a self-consistent way through theory and modelling, but also in terms of sharing methods and techniques. The creation of this WG was accomplished through consultation and discussions between the President of the Commission and its Organising Committee, but also through talks with the parent Division J and with the relevant Division H. The new Working Group started its activity in January 2020.

One other task of the Commission was to evaluate the activity of the two working groups created by the Commission in the previous term:

"Reference Library of Galaxy Spectral Energy Distributions (RELIGAS)" and "Inter-Commission B2-J1 WG From Databases to Spectral Energy Distributions (DB2SED)". After consultation with the chairs of the RELIGAS and DB2SED WGs it was concluded that they should merge into a single one, since the aims of the two were not too dissimilar, and they

would gain if a coherent approach would be established within a renewed WG, which would keep the name RELIGAS.

The Commission supported the proposal for the IAU Symposium "Predictive power of computational astrophysics as a discovery tool" (chair Dimitry Bisikalo), which was successfully approved as the IAU Symposium 362.

The President of the Commission held telecons with the members of the Organising Committee every time it was found necessary to discuss the various aspects related to the organisation of the Commission, the proposals for the IAU Symposia, the creation of the new Working groups and the reorganisation of the previous working groups. The President also held telecons with the chairs of the working groups when needed, in particular talks were held with the chairs of the new working group to establish its modus operandi.

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