

## THE REWARDS OF MEMBERSHIP IN THE IAU

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**Abstract.** The International Astronomical Union is an international organization dedicated to the advancement of all aspects of the science of astronomy. Importantly, its triennial meetings provide opportunities to discuss the latest astronomical concepts and the most recently acquired data from telescopes, both on Earth and in space. The membership is encouraged to help in advancing astronomical education and opportunities world-wide. Equally important, the meetings provide opportunities to greet old friends, make new friends, and to learn about and to enjoy the thrills resulting from discoveries associated with one of the oldest and spectacular sciences

### 1. The International Astronomical Union

The International Astronomical Union (IAU) was conceived in 1919 in the aftermath of the First World War. It was formed on 28 July 1919 in Brussels (Blaauw 1994) under the auspices of the International Research Council (IRC), astronomy thereby becoming the first science to be recognized and organized under the aegis of the IRC. A goal of the IAU is to provide opportunities for astronomers from around the world to come together, to interact, to plan, and to execute astronomical research projects which were too large for any one individual, group or nation. A second goal is to encourage the development of astronomical opportunities around the world as a means of ensuring the continued vitality of astronomy. Early reviews of the IAU's formative years were written by Stratton (1934) and Pecker (1966).

The policies of the IAU are formulated by an Executive Committee. These policies are overseen and executed by the IAU Officers and Commis-

sion Presidents, aided by a small Secretariat Office in Paris. The evolution of these activities is described more fully by Blaauw (1994).

The IAU has the goal and mission of promoting the discipline of astronomy through international efforts and interactions. The most important of these endeavors is the triennial meeting called the General Assembly. The General Assemblies, held in different geographical locations over the years, bring together a few thousand astronomers. Smaller Symposia are held each year, in different locales, and cover a more limited set of, or single, topics, and are hosted by specialists in the content of the symposium topic. Major efforts continue to be made by the IAU Executive Committee, Division Presidents and Commission Presidents to ensure that strong scientific programs are produced for the membership.

The superstructure called the IAU is composed of Divisions, Commissions, Working Groups and Program Groups. The IAU is the only international organization within the IRC which has individual members. These individuals are professionals scattered around the world, working at the PhD level, and participate in research and educational activities in astronomy. Although research historically has been the main reason for the existence of the IAU, in recent years efforts by the IAU Executive Committee have been to make available opportunities to participate in astronomical education and research programs by individuals throughout the international community.

The IAU Divisions are composed of more focused areas of astronomical interest and research. For example, there are Divisions studying the Sun, Galaxies, Radio Astronomy, Close Binary Stars, among several dozen others. These groups, varying between several dozen and several hundred of like-minded astronomers, plan and concentrate on efforts to better understand their subset of the universe. Results of the efforts often are presented at the General Assemblies through the Invited Discourses, Special Sessions, Joint Discussions and General Assembly Symposia.

The IAU has responsibility for the nomenclature identifying objects on the celestial sphere. The assignment of names to celestial objects makes possible the correlation of different observers' data and other information for the named object. The organization must approve names of and for features on the planets, moons, asteroids and comets in our solar system. The IAU also has the obligation for approving the values of astronomical constants, e.g., the length of the astronomical unit, roughly the mean distance between the Earth and Sun, the definition for the astronomical unit of time, the day, and the definition for the astronomical unit of mass, the mass of our sun. These constants are used in a variety of calculations by the physical sciences including studies of possible inconsistencies between the mathematical formalisms and the constants themselves. Additional in-

formation concerning the responsibilities, effort involved and the challenges which need to be faced, may be found in van der Hucht (2009) and Corbett (2010a&b).

There have been times in world politics when the IAU was one of the few conduits between astronomers, and science in general, and cultures of different persuasions with differing political agendas. Whereas one might hope for a community of understanding among humankind, history continues to show otherwise. International scientific organizations such as the IAU therefore will continue to have a role, in addition to the science itself, in advancing human endeavors.

A history of the IAU's first fifty years by Blauuw (1994) gives a complete background of the organization. The book is highly recommended. Modern information is kept current through the IAU's website<sup>1</sup>.

## 2. The Reward of the IAU

Astronomers began the practice centuries ago of collaborating in gathering data for projects which demanded that observations be made world-wide. One early effort followed a recommendation in 1761 from Edmund Halley that the length of the astronomical unit could be determined by timing the transit of the planet Venus as its image moved across the Sun's disk. Another effort was the Carte du Ciel, a concept initiated in 1887 by A. Mouchez of the Paris Observatory. That huge endeavor involved a photographic survey of the entire sky which resulted in accurate stellar positions. Observatories the world over were apportioned declination bands around the sky for which they were responsible to acquire the photographic plates. A third early effort was The Selected Area campaign initiated by J. Kapteyn, designed to study characteristics of the galactic system as understood in the early twentieth century.

There is strong evidence that the astronomical community believes in the usefulness of the IAU as evidenced by the large attendance at each of its triennial meetings. Something like one fourth to one third of the membership of nearly 10,000 individuals, attends the triennial meetings held in interesting locales around the world. The host country's astronomical organization identifies a site which is representative both of the country's science and culture. The author's experience as an officer and councilor in a number of large scientific organizations indicates that unless science, culture and amenities all are present, people will not attend. Not all astronomers care for such large meetings, preferring much smaller workshop-like, narrowly defined symposia. However, those astronomers who do attend are richly rewarded, as are the home institutions who many times help fund the

<sup>1</sup><http://www.iau.org/>

participants' meeting costs. Attendance is a broadening mechanism since the majority of astronomers also are educators, who can use the breadth of offerings at a General Assembly to enhance their lectures back home. This author always has found it interesting that so many attendees themselves pay a large fraction, if not the entire cost, of their participation in professional meetings such as the IAU's General Assemblies.

Perhaps the most important aspect of meetings as large as the General Assemblies is the opportunity to network. It is true that THE major function of a General Assembly meeting is to be exposed to the science. It equally is important to be exposed, to meet, to interact with those doing the science. In particular young attendees, usually only recently having acquired their PhDs, have the opportunity to meet the experts, not in an intimidating classroom, but in small discussion groups, over a meal or snack, perhaps complete with a raised glass. Such meetings also allow the young to meet members of their cohort, ever important since they will be the future workers, innovators and leaders. In addition, of course, it is instructive and fun and intellectually stimulating to see different parts of the world. And again, one cannot over-emphasize the importance of net-working in the process of enhancing knowledge and understanding.

This author remembers occasions like his first IAU meeting in Berkeley in 1961. Each US astronomy department was allowed to send as guests to the General Assembly ten percent of their graduate student body. Our department was allowed 2.5 attendees, and I was the 0.5 one (it did not hurt too much). At the General Assembly, then President J. Oort opened the General Assembly in the open air on the University of California, Berkeley, campus, giving the welcome message six times, in six languages. In those days, and in a few of the following IAU General Assemblies, each of the attendees wore colored dots stuck to their name badges, several individuals with six or seven colored dots. The presence of those dots signified the ability to converse in the language identified by the colored dot. Those were the days when foreign journals still were written in the language of the author and host country. Those were the days when a student had to show the ability to read two foreign languages as a requirement for their PhD (in the US). The formal requirements have disappeared, but many professionals in Europe and Asia still have such capabilities. It is to their great advantage, aiding in the ever important task of networking, and being able to function more easily world-wide.

July 1964 saw the Ranger 7 space craft crash into the Moon, returning pictures taken on the way to impact. A special session was held at the IAU meeting in Hamburg in August 1964 where the Ranger program was discussed. The special session featured G. Kuiper who guided the audience through the stream of images leading up to the crash landing, images which

had been swiftly transported to the General Assembly. This meeting, as they all do, one way or the other, featured evenings of scientific exchange over beer in a tavern interrupted by songs appropriate to the locale. Perhaps one ought not be surprised by the breadth of the repertoires of some of the leaders of our science!

Stories abound from the General Assemblies, ranging from the Invited Discourse to the Joint Discussions to the scientific content of the Commission meetings. An aspect little mentioned is that whereas there are many meetings around the world where diverse astronomical discoveries are dissected and reviewed, the IAU historically has played another important role, the role of conducting the business of the international astronomical community. During its meetings, international compacts are secured, world wide programs are put into motion, inter-cultural understandings are achieved, and efforts are finalized, to help each other achieve a variety of goals otherwise less easily attainable, if at all attainable.

Beginning in and since 1961, this author has attended and participated in all IAU General Assemblies except for three, as a contributor, as a Commission President and as a Division President. A summary would indicate the positiveness of a sense of belonging to, of having a place within, the international community of one's discipline, as well as the ability to promulgate and enhance the science that we love.

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### References

1. Blaauw, A. 1994, History of the IAU: Birth and First Half-Century of the International Astronomical Union (Kluwer: Dordrecht), p. 2.
2. Corbett, I. A. 2010a, editor, Transactions of the International Astronomical Union, XXVIIB, pp. 57 & 107.
3. Corbett, I. A. 2010b, editor, Highlights of Astronomy, 15, 299-330.
4. Pecker, J.-C. 1966, Transactions of the International Astronomical Union, XII C, 3.
5. Stratton, F.J.M. 1934, MNRAS, 94, 361.
6. van der Hucht, K. A. 2009, Transactions of the International Astronomical Union (Cambridge University Press: Cambridge), XXVIIA, p. 60.