

Introduction:

The IAU Working Group on Wide-field Imaging

The new IAU Working Group (WG) on Wide-Field Imaging was established at the time of the 1991 IAU General Assembly in Buenos Aires. It belongs to IAU Commission 9 ('Instruments') and is the successor of the now defunct WG on Astronomical Photography, but it covers more areas, and also includes the functions of a proposed WG on Digitization, which are herewith taken care of within a broader context.

Photography has played a very important role in astronomy during more than one century and the photographic emulsion is a wonderful detector which has produced a wealth of discoveries and without which the rapid progress in our science would never have been possible. Thanks to the dedication of many astronomers turned photographers, photographers who developed into master observers, as well as chemical engineers whose ingenuity and joy of experimentation produced new and improved photographic methods and materials, the art of photography has steadily pushed our observational horizon outwards.

Soon after the revolutionary IIIa emulsions became available, the IAU WG on Photography was re-activated in 1976, and has since served to spread the know-how about the new tools and their optimal application. Improved sensitisation methods were invented and processing procedures were established which were more quantitative than those of earlier epochs. Great attention was paid to the efficient extraction of data by means of advanced microphotometers and to better reproducibility through accurate calibration. The results were excellent and photography experienced a renaissance in the 1970s and early 1980s.

However, the availability of new types of detectors, especially CCDs from 1980, has slowly reduced the territory of photography in astronomy, also because a certain technological stagnation has become apparent; no new emulsions, only minor improvements here and there, etc. I believe that the latest meeting of the IAU WG on Photography, in late October 1990 in Munich, Germany, rather clearly showed this development. This certainly does not mean that photography is no longer of great use in astronomy, on the contrary, it is unsurpassed for wide-field applications, but it has fewer followers than before. The Organising Committee of the WG on Photography therefore began thinking of some kind of reorganisation, the end result of which was the birth of the WG on Wide-Field Imaging three quarters of a year later. I am thankful to all involved persons, in particular the outgoing and incoming Presidents of Commission 9, Professors J. Davis and J.C. Bhattacharyya, for ensuring a smooth transition.

The new WG covers a wide field (no pun intended!) and will fill an important function in contemporary astronomy. Wide-field astronomy is a 'service' to many different types of research; the classical example is of course the very successful symbiosis between the Palomar 5 metre and Schmidt telescopes. By creating this WG, the various steps in the overall procedure in wide-field astronomy come together, from the observations to their archiving for the benefit of present and future generations of scientists; this is illustrated by the titles of the four WG sub-groups, now established:

1. Sky Surveys and Patrols;
2. Photographic Techniques;

3. Digitization Techniques, and

4. Archival and Retrieval of Wide-field Data.

An Organising Committee (OC) has been set up with the following members: Jean Guibert (Paris, France), Roberta M. Humphreys (Minneapolis, MN, USA), Keiichi Ishida (Tokyo, Japan), Barry M. Lasker (Baltimore, MD, USA), Hilmar Lorenz (Potsdam, Germany), Harvey T. MacGillivray (Edinburgh, Scotland, U.K.), David Malin (Epping, N.S.W., Australia), Neill Reid (Pasadena, CA, USA), Milcho Tsvetkov (Sofia, Bulgaria) and Richard M. West (Garching bei München, Germany). The chairpersons of the above mentioned sub-groups are West, Malin, MacGillivray and Lasker, respectively. The question of how future CCD surveys can best be accommodated within the WG structure still has to be solved.

The OC has decided to take a number of *initial actions* to start up the work of this WG, but it is of course very likely that quite a few more will materialize in due time:

- to issue a Newsletter (this is the first issue), probably twice a year, in which all contributions concerning the scientific and technical areas of the WG will be welcome, both from members and from other sides. Harvey MacGillivray has kindly agreed to be the editor;
- to organise a two-day meeting of the OC plus a small number of consultants, during which the future work of the WG will be thoroughly discussed and, if needed, some priorities set. This meeting will take place at the Space Telescope Science Institute in Baltimore, in response to the kind invitation from Barry Lasker, on April 13 – 14, 1992. The preliminary agenda will be found elsewhere in this issue and all WG members are herewith cordially invited to send me any ideas, comments, proposals etc., which you may have in this connection, so that they can be discussed by the OC. The outcome of the OC meeting will be described in the July 1992 issue of this Newsletter;
- to organise a full scale meeting of the WG in 1993, possibly in the first half of that year, and perhaps as an IAU Colloquium (if the Commission(s) and the IAU Executive Committee give their blessing), during which the entire subject area will be presented and discussed in depth;
- to give support to the Space Schmidt project, now (finally!) being realized in a collaboration that involves several European countries and possibly countries outside this area as well (Hilmar Lorenz is the contact person on the OC); and
- to prepare a computer-readable inventory of all wide-field plates extant in plate archives all over the world. Milcho Tsvetkov has started this enormous undertaking and has, as the article in this issue will show, already made good progress in collecting information from many observatories.

Now some numbers: on January 1, 1992, the WG had 165 members, of which 123 were 'full members' and 42 'consultants'. The difference is purely formal: according to IAU rules, only IAU members can be 'full members' of IAU Working Groups, and it certainly does not indicate any kind of discrimination! What counts is the active involvement of all members in the various field(s) of our Working Group.

The present members are located in 34 different countries: Argentina (1), Australia (6), Austria (2), Belgium (2), Brazil (1), Bulgaria (15), Canada (2), Chile (1),

China (4), Czechoslovakia (6), Finland (1), France (22), Georgia (2), Germany (18), India (1), Indonesia (1), Israel (1), Italy (4), Japan (6), Latvia (1), Lithuania (1), Mexico (1), the Netherlands (3), New Zealand (1), Poland (1), Russia (4), Spain (1), Sweden (2), Switzerland (2), Thailand (1), UK (24), USA (24), Vatican City State (1) and Venezuela (1). (Four new countries of the former USSR have been listed individually in the expectation that they will soon join the IAU formally).

The distribution of interests is rather uniform. When asked to indicate on the earlier questionnaire which of the four sub-groups correspond to their field(s) of interest, the 165 WG members made 381 checks (2.3 per member); of these 98 (26%) were for sub-group 1 (Sky Surveys and Patrols), 83 (22%) for sub-group 2 (Photographic Techniques), 105 (28%) for sub-group 3 (Digitization Techniques) and 95 (25%) for sub-group 4 (Archival and Retrieval of Wide-Field Data).

The above statistics show that our WG has had a very good start indeed, both what concerns the coverage by geographical location and by subject. Nevertheless, I herewith kindly ask all members and especially those of you, who are 'isolated' in your part of the world, to make sure that other interested persons in your neighbourhood will be kept informed about present and upcoming WG developments, especially by passing on this and future issues of the Newsletter. Although the WG already has reached a substantial size, I would also welcome a few more active members, particularly in some of the IAU member countries not yet on the above list.

I wish all WG members a happy New Year 1992 and thank all of you in advance for your active collaboration. Let us try to make this WG a useful tool for all astronomers!

PS. I almost forgot to say that we still have to define what 'wide-field' means — $1^\circ \times 1^\circ$ or perhaps $2^\circ \times 2^\circ$, or even larger ? What do you suggest ?

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