

The 1993 Meeting in Potsdam

At the invitation from the Potsdam Observatory, the IAU WG on Wide-Field Imaging is organising a major, international meeting, 'Astronomy from Wide-Field Imaging' in Potsdam, Germany, in the period August 23 – 27, 1993.

The meeting will be held at the Residence Hotel in Potsdam, capital of the Land of Brandenburg. It is situated about 10km south of the city of Berlin and therefore easy to reach by air, train and road.

Potsdam will celebrate its millennium in 1993 and many visitors are expected to come during the summer. The chosen dates, in the late European summer, should guarantee very pleasant weather, and may induce some of the participants to combine their travel to this meeting with a visit to those areas of Europe that have become easily accessible after the political changes of the past years. Moreover, the central location of the meeting venue will facilitate the participation of astronomers from Central and Eastern Europe.

Pre-bookings for about 200 participants have been made in hotels in the immediate neighbourhood of the meeting place. Very advantageous accommodation is available for a significant number of participants at the Potsdam Observatory guesthouse. It is expected that pre- and/or post-conference tours will be organised to the observatories of Tautenburg (the world's largest Schmidt telescope) and Sonneberg (long-time base of sky patrols) in the neighbouring Land of Thuringia.

To expedite the preparations, the WG OC has decided to act as the Scientific Organising Committee (SOC) of this meeting. The Local Organising Committee (LOC) consists of H. Lorenz (Chairman), D. Breuer, K. Fritzer, S. Marx and D. Reimers.

The SOC has made an application for official IAU sponsorship within the series of IAU Colloquia with Commission 9 as the main sponsoring Commission. Co-sponsorship has been sought from IAU Commissions 5, 24, 25, 27, 28 and 33. The IAU Executive Committee will decide about this in September 1992.

Substantial local funds are being raised; Potsdam is located in the earlier East Germany and various possibilities for support exist within the German re-unification and reconstruction schemes. It is therefore hoped that financial means will become available for the support of a significant number of participants.

The WG members were provisionally informed about this meeting in a letter from the Editor of the WG Newsletter in early June 1992. Further announcements are planned as follows:

September 1992	First Announcement, Calls for Papers and distribution of Conference Poster
February 1993	Second Announcement with Preliminary Programme
May 1993	Final Announcement with Definitive Programme

The early response has been very good and there have been many positive reactions to this meeting. The SOC is now in the process of inviting the review speakers. The Call for Papers, to be sent out in September, will give all details about the submission of contributed papers and posters, etc.

A preliminary programme, showing the status in July 1992, will be found below. It indicates the themes of the review talks and the most important subjects to be covered with contributed papers during the individual sessions. It is not excluded that further consultations will result in minor changes and shifts of emphasis.

As will be seen, the first two days are mainly devoted to *techniques* and the last three days mainly to *science*. It is provisionally intended to have about two – three invited half-hour review talks plus six 15-min contributed talks per half day. There will be ample time for discussion. About 100 – 150 poster papers are expected. There will be facilities for computer demonstrations (workstations) and network links to Data Centres.

The Conference Proceedings will be edited by H. MacGillivray, B. Lasker, D. Malin and R.

West, and published by a commercial publisher, most likely Kluwer, and in a format similar to the Proceedings of the 1991 Edinburgh Conference 'Digitised Optical Sky Surveys'.

PRELIMINARY PROGRAMME (Status July 1992)

MONDAY AUGUST 23

Data from Sky Surveys and Patrols

Review: The Diversity of Sky Surveys and Patrols.

Integrating overview of present and future projects and their main scientific goals.

Contributed Papers:

Future POSS-type sky surveys

Renaissance of sky patrols

1. Photography and Digitization

Review: Present and Future Photographic Materials and Methods.

Sensitization, limiting magnitudes, enhancement, availability problems.

Contributed Paper:

New photographic emulsions with higher DQE

Review: Progress in Digitization Techniques.

Survey of existing machines, their individual forces/weaknesses; possibilities for technical improvements.

Contributed Papers:

All-sky digitization projects

Projects to search and catalogue specific objects

2. Digital Detectors

Review: Surveys with Digital Detectors.

Overview of current projects; CCD Mosaics; observing techniques; stability problems.

Contributed Papers:

Flat fields

Accuracy: photometric and astrometric

Photography vs. CCDs: Which detector for which purpose?

Poster Contributions:

On all topics listed, with particular attention to individual projects, now being developed, including (1) Sky Surveys, and (2) Digitization Projects.

TUESDAY, AUGUST 24

Data Processing

1. Image Processing and Calibration

Review: Image Processing and Calibration.

Overview of (1) the identification of objects from photographic and CCD data, (2) the resolution of blends, the processing of the identified images to extract the parameters required for calibrations, and (3) the procedures used for object-typing, photometry, and astrometry, including those operations leading to colours and proper motions.

Contributed Papers:

New problems and approaches in object recognition and blend resolution

Algorithms for the calculation of image features

Object classification and calibration

Generation of colours and proper motions, and other work involving the combination of multiple observations

Problems in the creation, organization, and intercomparison of catalogues

Poster Contributions:

Will be encouraged on all listed topics, but with particular attention to (1) reports from the institutions doing scanning and catalogue construction, and (2) contributions related to reference data for calibration and testing, e.g. new photometric and astrometric references, hand-classified test areas, special astrometric test regions, etc.

2. Data Organization and Archiving

Review: Data Organization and Archiving.

(1) Overviews the data base requirements for various kinds of cataloguing projects, as well as the algorithmic approaches used or proposed for solving them and then (2) addresses the current situation and the ten-year prospect for addressing these requirements in hardware accessible to the astronomical community.

Contributed Papers:

Present work on moderately sized catalogues (SAO, HIPPARCOS, etc.)

Experiments and proposals for larger catalogues (10^7 – 10^9 objects)

Algorithms and institutional arrangements for access, distribution, compression, and archive management

Poster Contributions:

Will be encouraged on all topics, but with particular attention to (1) engineering and vendor specific technical presentations, i.e. manufacturers archival recommendations and live-time predictions, (2) details of implementations already in use, perhaps including demonstrations, and (3) new, speculative, or evolving technologies.

WEDNESDAY AUGUST 25

Solar System Work

Review: Overview of Current Minor Planet and Comet Search Programmes.
Detection limits for moving objects; completeness; identification problems.

Contributed Papers:

Detection and surveillance of Comets
Tail studies, including time sequences

Review: Near-Earth Object Searches

IAU and NASA WG; observational prospects; what other information may be gained through these programmes?

Contributed Papers:

Minor Planet searches; strategies; distant objects (Chiron etc.)
Interplanetary dust

Poster Contributions:

Will concentrate on individual projects.

Afternoon Boat Tour around Potsdam

THURSDAY AUGUST 26

Galactic Work

1. Galactic Structure

Review: Stellar Distribution

The automated starcounts completed in the early 1980s revolutionised our view of the structure of the Milky Way system, in particular through the inferred presence of an extended (or thick) disk component. However, many questions remain, and this review will aim to summarise the most recent investigations, both photographic and CCD-based, of the distribution of the different stellar populations in the Milky Way.

Contributed Papers:

*** TBD

Review: Kinematics of Field Stars

Following the application of automated techniques to starcounting, several groups have used similar methods to determine accurate proper motions over large solid angles, probing such questions as the rotational properties of the halo and the nature of the extended disk population. This review will discuss the results of those surveys and their impact on our understanding of the structure and evolution of the Galaxy.

Contributed Papers:

***TBD

Review: Galactic Clusters

Star clusters offer unique probes of both stellar evolution and of the evolution of star formation within the Galaxy. This review will summarise the results derived from the most recent studies of Galactic clusters, with the emphasis on open clusters.

Poster Contributions:

On individual programmes.

2. Resolved Systems**Review: the Magellanic Systems**

As the nearest irregular systems, and with their substantial regions of continuing star formation, the Magellanic Clouds have proved an outstanding laboratory for studying star formation — in particular massive stars — while the general stellar distribution can probe both the evolution of the two systems and the effects of mutual (and Galactic) gravitational perturbations. This review will summarise the impact of large-scale surveys on our knowledge of the structure and evolution of these two systems.

Contributed Papers:

***TBD

Review: Dwarf Spheroidals

Our Galaxy possesses a retinue of dwarf spheroidal systems, of which the most insignificant — the Sextans dwarf — was detected as part of the APM digitised survey. This review will summarise our current understanding of the structure, dynamics and possible origin of these systems.

Contributed Papers:

***TBD

Review: Local Group

External studies of nearby spiral systems can often be extremely revealing about processes which can only be observed partially within our own Galaxy. This review will discuss the application of wide-field imaging studies in these systems, and summarise the impact both on galactic studies — star formation and stellar populations — and on extragalactic matters — such as the distance scale.

Contributed Papers:

***TBD

Poster Contributions:

Will concentrate on individual programmes.

FRIDAY AUGUST 27

Extragalactic Work

The purpose of this day of the meeting is to indicate how our understanding of the structure of galaxies and of the large-scale structure of the Universe has become enlightened through wide-field imaging. The talks will concentrate on the properties and large-scale distribution of galaxies and of quasars.

1. Global Properties of Nearby Galaxies

Review: Global Properties of Nearby Galaxies

Overview of (1) morphological and physical properties of extended nearby galaxies (2) combined photometric investigations on large scale photographic plates and CCD-images (3) basic galaxy manifolds and their relation to galaxy formation.

Contributed Papers:

- Differences between dwarf and giant systems
- Structures at faint light levels
- Fundamental plane properties and the formation processes

Poster Contributions:

Expected on all the subjects listed above, especially on (1) detailed investigations of individual galaxies (2) contributions to large scale distributions and streamings of galaxies.

2. Properties and Distribution of Galaxies and Clusters

Review: Properties and Distribution of Galaxies and Clusters.

Overview of (1) galaxies as the basic systems in the universe and the current survey programmes (2) clustering properties of galaxies and the implementation for new survey projects (3) evolution of the galaxy population.

Contributed Papers:

- Distribution of galaxies, groups of galaxies and clusters
- Detection limits and selection effects
- Theoretical models of the evolution of galaxies

Poster Contributions:

The poster and the additional oral contributions will reflect the progress in galaxy surveys in different wavebands and the new observing strategies on wide-field imaging for medium deep spectroscopic surveys.

3. Large Scale Structure

Review: Large Scale Structure of the Universe.

Overview of (1) distribution of matter in the early universe (2) observed properties of the background light in different wavebands (3) implementation on cosmology and the physics of the early universe.

Contributed Papers:

- The observational constraints on cosmology
- Objects at large redshifts

Poster Contributions:

Posters and short contributions will be accepted to all subjects listed above, but with particular attention to (1) observational progress in deep CCD surveys (2) modelling of the large scale structure and (3) the constraints on the structure of the early universe.

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