

COMMISSION No. 29

STELLAR SPECTRA (SPECTRES STELLAIRES)

Report of the Business and the Scientific Meetings 3-10 August 1988.

Président : G.Cayrel de Strobel

Secretary : M. Spite

1. ELECTION OF VICE-PRESIDENT AND ORGANIZING COMMITTEE

Before proceeding to the election, the President recalls that there exist for Commission 29 RULES OF OPERATION (BY-LAWS), which have been prepared during the presidency of Jun Jugaku and his Organizing Committee (1982-1985). These By-Laws have been unanimously accepted in the Business meeting of Commission 29 during the XIX General Assembly in New-Delhi. They can be obtained on request from G. Cayrel de Strobel.

Essentially the By-Laws of Com 29 state that :

....."The Vice President shall be President-elect, shall assist the President in carrying out the functions of the Commission, and shall serve as Acting President if the President is temporarily unable to carry out his/her duties. The Vice President shall normally serve for a three-year term.".....

....."The Vice President shall be elected by majority vote of the members of the Commission who participate in the election....."

....."The OC will consist of the President, Vice President, and past President in addition to eight elected members by the procedures as described below. OC members will normally be elected for periods of two terms (six years). Unless elected Vice President, the OC member will then be ineligible for re-election. Past OC members will again become eligible for election after one term (three years). Four OC members will retire, and four new members will be elected, at the Commission business meeting held at each General Assembly....."

....."The election of OC members shall be conducted by secret ballot at the business meeting, with all members of the Commission present eligible to vote.....".

....."Any vacant three-year terms will be filled by those remaining candidates who have received the highest number of votes....."

....."The OC shall give highest priority to ensuring that the membership of the new OC is reasonably balanced in terms of geography and research speciality. The appointee shall be chosen from the slate of candidates considered in the election....."

After this preamble the election of new Officers of the Organizing Committee was carried out, and the following names for the new Organizing Committee were approved :

President : P.S. Conti
Vice President : D.L. Lambert

Organizing Committee : D. Baade, M.S. Bessell, A.M. Boesgaard, A.Cassatella, G. Cayrel de Strobel, B. Gustafsson, J. Smolinski, C. Pilachowski, M.Spite

2. MEMBERSHIP

2.1 Deceased :L. Goldberg, G. Haro, .E.R. Mustel.

2.2 Voluntary Resignations : J. Boulon, D.C. Morton, J. Smak., H.H. Voigt.

2.3 Admission of New Members : the membership of the following new members was approved :

M.L. AGUILAR	D. HANDLIROVA	J. NORRIS
G. ALECIAN	R. HANUSCHIK	T. NUGIS
M.C. ARTRU	L.W. HARTMAN	M. PENSTON
T. ATAC	U. HEBER	F. PRADERIE
S.L. BALIUNAS	H. HENRICHS	R. PRINJA
B. BARBUY	H. HUBERT	B.S. RAUTELA
G.B. BASRI	K. HUNGER	R. REBOLO
J.E. BECKMAN	JIANG SHI-YANG	R.M. RICH
S. BENSAMMAR	C. JORDAN	B. ROBINSON
C. BERTOUT	S.C. JOSHI	J.A. ROSE
H.E. BOND	M.T. LAGO	R. RUTTEN
J. BOUVIER	H. LAMERS	S.H. SAAR
J. BREYSACHER	R. LAMONTAGNE	J.P. SAREYAN
K. BUTLER	J.D. LANDSTREET	T. SIMON
C. CATALA	T. LANZ	V.V. SMITH
P.L. COTTRELL	J.M. LECONTEL	C. SNEDEN
L. CRIVELLARI	K.G. LIBBRECHT	D.R. SODERBLOM
D.N. DAWANAS	J.W. LIEBERT	G. SONNEBORN
M. DENNEFELD	R.E. LUCK	M. STEFFEN
P. FELENBOK	P. MAGAIN	A. TALAVERA
E.L. FITZPATRICK	J.P. MAILLARD	F. THEVENIN
B. FOING	G.W. MARCY	J.C. VALTIER
P. FRANCOIS	P.L. MASSEY	M.S. VASU
S. FRANSEN	Z. MIKULASEK	G. VLADILLO
E.D. FRIEL	P. MOLARO	N. VOGT
I. FURENLID	R. MUNDT	G. WALKER
C.D. GARMANY	T. NECKEL	J. ZOREC
M.S. GIAMPAPA	H. NETZER	
D. GILLET	M. NIEUWENHUIJZEN	
R. GRATTON	P.E. NISSEN	

3. SYMPOSIA AND COLLOQUIA

The Commission has sponsored or cosponsored 13 IAU Conferences in 1985-1988. For details see Transactions IAU XXA p. (1988). Another Conference, "Evolution of Peculiar Red Giant Stars", (IAU Coll. 106) held in Bloomington in July 1988, was sponsored by Com 29.

The Organizing Committee has also approved sponsorship of 6 more IAU Meetings : IAU Symp. 138 " Solar Photosphere ; Structure, Convection and Magnetic Fields ", Kiev May 15-20 1989 (S.O. Stenflo). IAU Symp. "Wolf-Rayet Stars and interrelations with other massive stars in Galaxies", Bali, Indonesia, June 18-22 1990 (K.A. Van der Hucht). IAU Symp. or Coll. : " Physik of classic Novae", late spring or early summer 1989 (M. Friedjung). IAU Coll. : " The Sun and Cool Stars , activity , magnetism, dynamos", Helsinki 1989(I. Tuominen, O. Vilhu). IAU Coll. "Surface inhomogeneities in late-type-stars", Armagh N Ireland late 1990 (J.G. Doyle, P.B. Byrne). IAU Symp. "Evolution of Stars : the surface chemistry connection" Bulgaria 1990 (G.Michaud and A. Tutukov).

4. WORKING GROUPS

Working Groups (WG's) have no official status within the IAU. Hollis Johnson suggested that they exist only to (1) help the commissions in their work ; (2) encourage research and interest in their special area ; (3) cause things to happen ; (4) get people involved.

The Commission sponsored four WG's :

1. Be-Stars (D. Baade) together with Com. 45
2. Ap/Cp Stars (C. Cowley) together with Com 36 and Com 45.
3. Peculiar Red Giants (C. Jaschek and P.C. Keenan) together with Com 36 and Com 45
4. Standard Stars (A. Batten) together with Com 30 and Com 45

During the business meeting of each of the four WG's new Organizing Committees were nominated and elected. They are as follows:

Be Stars : OC (1988-1991) :

D. Baade (chairman), L.A. Barlowe, J. Dachs, V. Doazan, J.M. Marlborough, J.R. Percy, G.J. Peters.

Ap/Cp Stars : OC (1988-1991) :

I. Hubeny, D. Kurts, T. Lanz, G. Michaud, K. Sadakane (Chairman), K. Stephen.

Peculiar Red Giants : OC (1988-1991):

R. De La Reza, R. Foy, R. Garrison, H.R. Johnson (Chairman), A. Renzini, V. Straizys, T. Tsuji.

Standard Stars : OC (1988-1991) :

S.J. Adelman, J. Andersen, A.H. Batten (Chairman), M. Gerbaldi, I.N. Glusheva, H. Neckel, L.S. Pasinetti.

5. INTERNATIONAL REGISTER OF STELLAR SPECTROSCOPISTS (IRSS)

The IRSS is a list of stellar spectroscopists giving names, addresses and research specialities, without regard to IAU membership. It was edited until now by W. Bonsack and by A. Settlebak. The IRSS is cosponsored by Com 45. Prof. Bonsack whos new address is :

Prof. Walter BONSACK
1016 E. El Camino Real
SUNNYVALE, CA 94087

will be happy to send computer diskettes (for IBM-PC - type computers) containing the data base for the International Register of Stellar Spectroscopists to anyone who might wish to continue the work of compiling and distributing this directory.

6. SCIENTIFIC MEETINGS

The scientific meetings inside each WG have been all very interesting and have attracted many people.

6.1 WG on Be Stars

D. Baade gave a report on the scientific activity of his WG concerning mainly the "Be-Stars New Letters" (Editor G.J. Peters) received twice a year by about 200 Institutes and Individuals. D. Baade summarized also the IAU Coll 92 on : Physics of Be Stars. Boulder, August 1986. If an other IAU Symposium or Colloquium was still to early to plan, there was broad consensus between the WG members on Be stars that a workshop to be held during the 1988-1991 period appears highly desirable.

J.R. Percy, C.A. Grady, and G.J. Peters gave progress reports on photometric, UV spectroscopy and multifrequency observing campaigns, respectively.

Other five talks were clustered around "Empirical correlations of observational quantities in Be stars" :

- R. Hanuschik : Photospheric *v sini* and characteristics of circumstellar emission lines
- C. Grady : Wind and stellar *v sini*
- V. Doazan : V/R ratio of optical emission lines and strength of UV resonance lines

- D. McDavid : Linear continuum polarization and H α emission strength
 D. Baade : "Be-like" phenomena observed in early-type non-Be-stars

The speakers had been asked to put the emphasis on well-structured presentations of the rich observing material to resolve confusions which result from the large variety of phenomena but also from the occasionally obliterating effects of the models and interpretations applied to the data.

6.2 WG on Ap/Cp stars

C.R. Cowley reported on Ap/Cp stars and their "Peculiar Newsletter", (Editors: H. Hensberge and W. Van Rensbergen).

S. Adelman reported on the Lausanne-Workshop ("Elemental abundance analysis", editors: S. Adelman and T. Lanz, Sept 1987). G. Michaud presented and discussed a future IAU meeting, which will be chaired by him and A. Tutukov, and held in Bulgaria in late summer 1990. Michaud chose as topic for this conference: "Evolution of stars : the surface chemistry connection".

The scientific session of the WG on Ap/Cp stars consisted of invited reviews by :

- J. Landstreet: Modeling magnetic and abundance patches
 J. Matthews: Rapid light variations
 S. Vauclair: Lithium abundances in F stars
 C. Proffitt: Formation of abundance anomalies through accretion of nuclear-processed material
 H. Shibahashi: Non radial pulsations of chemically peculiar stars
 M. Dworetzky: Temperatures and gravities of Am stars

Brief scientific contributions were presented by R. Kurucz, P. Didelon, H. Maitzen, M. Gerbaldi, I. Savanov, K. Kumar, W. Wehlau and W. Weiss.

6.3 WG on Peculiar Red Giant Stars

Suggested and informally organized at the Strasbourg meeting ("Cool Stars with Excesses of Heavy Elements") in 1984, the WG was formally constituted at the General Assembly in India (1985) under IAU Commission 29 (Stellar Spectra) and 45 (Stellar Classification).

A twice-yearly newsletter edited and mailed by Carlos Jaschek (Strasbourg) and the impetus for the successful IAU Colloquium 106 : Evolution of Peculiar Red Giant Stars (Bloomington, Indiana, U.S.A., 27-29 July 1988) were the principal activities of the WG over the past 3 years.

The meeting, a joint session of Commissions 29, 36, and 45, was attended by approximately 60 persons. Neither of the Co-Chairpersons of the Working Group (Carlos O. Jaschek and Philip C. Keenan) were able to be present, and Hollis R. Johnson conducted this meeting.

Continuation of the newsletter on PRG Stars was discussed. It will not be continued unless a volunteer editor steps forward. One issue will, however, be edited and mailed by the new Chairman.

Future activities for the WG were discussed. Two suggested activities received strong support. (1) Because IAU Commission 42 already has plans to propose an IAU Symposium on Binary Stars near the time and the place of the General Assembly in 1991, the WG may join in organizing this meeting if it includes Red Giant in Symbiotic and Binary Systems. (2) The WG will try to promote a joint discussion or joint Commission Meeting on "Outer Atmospheres of Red Giant Stars" at the next General Assembly. The Officers will pursue both projects.

Since IAU Colloquium 106 was one of the principal recent activities of the WG, reports of that meeting were given by Hollis R. Johnson and T. Lloyd Evans.

Scientific reports were given as follows :

R. Foy (France) : Angular Diameter of χ Cyg

U.G. Jorgensen (Denmark) : Effects of Polyatomic Molecules
on Carbon Star Atmospheres.

6.4 WG on Standard Stars.

The scientific part of the meeting attracted enough people to fill the room allocated and vigorous discussions were kept going through the whole meeting.

A.H. Batten and his WG once again expressed their appreciation of the work done by Laura Pasinetti in editing the "Standard Stars Newsletter". She has agreed to continue ; please support her by providing contributions.

A.H. Batten and L. Pasinetti recommended to the WG members to draw attention to areas in which standard stars are needed or should be further studied.

The following scientific reports were presented.

S.J. Adelman : The abundances of normal late B and early A
type stars.

J. Andersen : The IAU radial velocity standard stars :
Status 1988

M. Gerbaldi : The v *sini* of AO dwarf Stars

W. Gliese : The third edition of the Catalogue of nearby
stars

T. Neckel : The solar Analogs

G. Cayrel de Strobel : Presentation of "A Catalogue of
[Fe/H] determinations", 1988
edition.

At the end of the meeting a written note of P.C. Keenan was read by the chairman. This note informed that the final edition of "The revised MK standard for stars GO and later" was completed.

6.5 Joint Commission Meetings (JCM's)

Two JCM's have been sponsored by Comm. 29: JCM2 and JCM5.

JCM2 was organized jointly with Commissions: 10, 12, 29, 36, 44 and was chaired by R. FALCIANI and E. PRIEST, and centered on "Solar and Stellar Coronae". A full scientific account of this meeting will be found in the reports of Commissions 10 and 12.

JCM5 was organized jointly with Commissions: 35, 36, 37, 47 and was chaired by G. Cayrel de Strobel and centered on "Spectroscopy of individual stars in Globular Clusters and the early chemical evolution of the Galaxy". Instead of being a conventional conference with formal contributions it was organized as a scientific discussion with interventions from the floor.

Four panel discussions addressed the general subject of the spectroscopy of individual stars and the confrontation of theory and observation.

The program of the panel discussions was as follows:

I - The spectroscopic metallicities in Galactic and Magellanic globular clusters: individual chemical abundances in metal poor and metal rich clusters.

Panel leaders: M.S. Bessell, V. Castellani, R. Gratton, C. Pilachowski, M. Spite, F. Spite.

II - Metallicity of globular clusters versus metallicity of field halo stars. Do cluster and field halo stars have a common history?

Panel leaders: M.S. Bessell, J.B. Laird, D.W. Latham, R.C. Peterson, N.B. Suntzeff, J.W. Truran.

III - The chemical inhomogeneities within globular clusters: example ω Centauri.

Panel leaders: G.S. Da Costa, K.C. Freeman, R. Kraft, V.V. Smith, M. Spite.

IV - Is there an age spread among the galactic clusters?

Panel leaders: R.A. Bell, B.W. Carney, P. Demarque, R.J. Dickens.

The proceedings of JCM5 are being edited by G. Cayrel de Strobel and M. Spite and will be published by the Printing Office of Paris Observatory.