

# **HISTORY**

OF THE

**INTERNATIONAL UNION FOR VACUUM SCIENCE,  
TECHNIQUE AND APPLICATIONS**

**UNION INTERNATIONALE POUR LA SCIENCE,  
LA TECHNIQUE ET LES APPLICATIONS DU VIDE**

**INTERNATIONALE UNION FÜR  
VAKUUM-FORSCHUNG, -TECHNIK UND -ANWENDUNG**

**2001 – 2004 TRIENNIAL UPDATE**

BY

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**2004**

**PREFACE**  
**TO THE 2001-2004 TRIENNIAL UPDATE**  
**OF THE HISTORY OF THE IUVSTA**

In 1986, James M. Lafferty wrote a document titled the History of the International Union for Vacuum Science, Technique and Applications, which recorded the formation and development of the Union from its inception through to 1986. In 2001, I produced a Second Edition to that History document which extended the record up to the end of 2001.

This International Union has as its membership the National Vacuum Societies of 31 nations. These Societies send delegations to each of the General Meetings which are the highest authority of the Union. These General Meetings, which set the agenda for the period between the meetings, are held at about three-yearly intervals. Thus the Union operates on a triennial basis in that the financial budget is set for three years and the elected Officers and Councillors serve three-year terms of office.

This document on the History of the IUVSTA is kept available on the Union's website [www.iuvsta.org](http://www.iuvsta.org) and because of the triennial nature of the Union's activities, it would be appropriate to update the information therein on a three-yearly basis. However, rather than produce a complete new edition every three years, it has been decided that a series of Triennial Updates will be written to coincide with the end of each triennium, with this being the first. It is to be expected that after about 12 or 15 years, the information in these updates will be incorporated into a Third Edition of the full History document.

Clearly, this 2001-2004 Triennial Update should be read in conjunction with the Second Edition of the History of the IUVSTA as produced by J. L. Robins and J. M. Lafferty in 2001.

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2001-2004 TRIENNIAL UPDATE  
to the  
HISTORY OF THE INTERNATIONAL UNION  
FOR VACUUM SCIENCE, TECHNIQUE AND APPLICATIONS

**CONTENTS**

	Page
Preface	i
List of Figures and Tables	iii
1. Introduction	1
2. The First International Congress on Vacuum Technology	2
3. The International Organisation for Vacuum Science and Technology (IOVST)	2
4. Formation of the International Union for Vacuum Science, Technique and Applications (IUVSTA)	2
5. Organisational Structure of the IUVSTA	2
6. The Scientific and Technical Directorate (STD)	2
Highlight Seminars	
Short Courses	
Technology Transfer Initiative	
7. IUVSTA Divisions	3
IUVSTA Conference Series	
8. The Secretariat	4
9. International Vacuum Congresses	5
10. National Membership of IUVSTA	6
11. The IUVSTA News Bulletin	6
12. Website and Electronic Communication	7
13. IUVSTA Workshops and Schools	7
Technical Training Courses	
Elsevier Awards	
14. The Visual Aids Program	8
15. The Medard W. Welch International Scholarship	9
16. The IUVSTA Prizes	9
17. Persons Honoured by the IUVSTA	9
18. Conclusion	9

HISTORY OF THE INTERNATIONAL UNION  
FOR VACUUM SCIENCE, TECHNIQUE AND APPLICATIONS

**LIST OF FIGURES AND TABLES**

	Page
Figure 1. Organisational Structure of the IUVSTA	11
Table I. IUVSTA Member Societies	12
Table II. IUVSTA Presidents and Scientific Directors	13
Table III. IUVSTA Officers and Councillors, 1962-2004	14
Table IV. IUVSTA Executive Council Meetings	17
Table V. IUVSTA Divisions	20
Table VI. IOVST and IUVSTA International Congresses and Conferences	21
Table VII. IUVSTA Visual Aids Modules	22
Table VIII. Welch Scholars	23

**2001-2004 TRIENNIAL UPDATE**  
to the  
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**FOR VACUUM SCIENCE, TECHNIQUE AND APPLICATIONS**

**John L. Robins**

## **1. INTRODUCTION**

It is intended that this 2001-2004 Triennial Update will be read in conjunction with the Second Edition of the History of the International Union for Vacuum Science, Technique and Applications by J. L. Robins and J. M. Lafferty produced in 2001.

The information presented here relates to the activities of the International Union for Vacuum Science, Technique and Applications (IUVSTA) during the three-year period from late 2001 to mid 2004 and is intended to extend the abovementioned historical record. The new information is presented here under the same section headings as those used in the full History document. This will allow readers to more easily gain background information and refer the new developments back to the historical records, when required. Of course for some of the early sections, which recorded the formation and early development of the Union, there is no new information to be added.

All of the Tables have been updated and are reproduced here in full.

It may be of some interest to note that the Union operates on a three-yearly basis, with the triennia being designated as the periods between General Meetings which are traditionally held in conjunction with the IUVSTA's triennial International Vacuum Congresses. These congresses are usually held late in the year around October/November. However, in 2004 the congress has been moved forward to the earlier period of June/July. Accordingly, the current triennium is somewhat shorter than usual. In contrast, the Union's financial budgeting is based on three calendar years commencing on the first day of January. Thus the current budget is effective from 1st January 2002 to 31st December 2004.

The official names of the member Vacuum Societies are presented in Table I in their national language. However, for brevity and clarity, most references to national societies in this Update are given in an abbreviated English form, e.g. French Vacuum Society for the Société Française du Vide (SFV).

In order to highlight the international collaboration amongst the member societies of the Union, where individuals are named, the nationality of the vacuum society which they are representing, or with which they have their prime affiliation whilst carrying out their work for IUVSTA, will be shown in brackets after their name. The nationality codes used here are shown in Table I.

The Union maintains a very comprehensive website [www.iuvsta.org](http://www.iuvsta.org) to which the reader may refer at any time to gain up-to-date information about the administrative, educational and scientific activities of the Union.

## **2. THE FIRST INTERNATIONAL CONGRESS ON VACUUM TECHNOLOGY**

There have been no changes during the 2001–2004 triennium, which alter the historical records.

## **3. THE INTERNATIONAL ORGANISATION FOR VACUUM SCIENCE AND TECHNOLOGY (IOVST)**

The historical record remains unchanged.

## **4. FORMATION OF THE INTERNATIONAL UNION FOR VACUUM SCIENCE, TECHNIQUE AND APPLICATIONS (IUVSTA)**

The details of the formation of IUVSTA remain unchanged.

## **5. ORGANISATIONAL STRUCTURE OF THE IUVSTA**

There have been no changes to the organizational structure of the Union during the 2001–2004 triennium. See Figure 1 and Table I for the organisational structure and the list of the 31 member Vacuum Societies, respectively.

## **6. THE SCIENTIFIC AND TECHNICAL DIRECTORATE (STD)**

The Scientific and Technical Directorate (STD) has continued to guide the scientific activities of the Union, principally through the work of the Scientific Divisions, the Education Committee and the Scholarship and Awards Committee.

During the triennium, the STD called upon the Divisions to review the appropriateness of their division name and how it matched the scope of their activities. Issues to be considered included: (1) adequacy of the division name, (2) possible mergers with other divisions, (3) impact on the IVC and other IUVSTA-related conferences (ECOSS, VASSCAA, EVC, etc.), (4) evolution of activity within the last six years, and (5) new and emerging activities (from workshops, literature, etc.). Perhaps as a consequence of this, two Divisions changed their names during the triennium, as reported in Section 7 below.

The initiatives of proposing and supporting Scientific Workshops and Schools were continued. See Section 13 below for details.

The Highlights Seminars were held in Beijing, China, following ECM-92 in March 2002. On this occasion there were additional contributions by Chinese speakers on the same topics.

Short Courses were again organized during the triennium in conjunction with various conferences. It should be noted that the IUVSTA does not offer these courses independently of the local conference organizers. The intention is that, with IUVSTA collaboration, a wider

range of courses and lecturers could be available. Profits accrue to the conference accounts and not to the IUVSTA directly. Short courses were held or planned as follows:

2001 in conjunction with IVC-15 in San Francisco, USA.  
2002 in conjunction with ICTF-12 in Bratislava, Slovakia.  
2004 in conjunction with IVC-16 in Venice, Italy.

During the triennium, the Scientific Director, M. Sancrotti (I), put forward a new initiative designed to establish and/or improve relations between IUVSTA scientists and industries that support fields of interest to the Union. It was decided that a new kind of workshop, devoted to Technology Transfer, will be held in the form of a special session at the next International Vacuum Congress which will be the IVC-16, in Venice, Italy. It will be sponsored by the STD and the organisers will be the Scientific Director, the Scientific Secretary and the Division Chairs. In the first instance 2,000 CHF will be made available for this meeting from the STD budget.

## **7. IUVSTA DIVISIONS**

No new divisions were formed during the triennium, but two of the existing Divisions changed their name, so as to better reflect their ongoing activities. The changes, together with the ECMs and dates from which the changes took effect, are as follows. (See also Table V.)

The Vacuum Metallurgy Division became the Surface Engineering Division, as from ECM-93 in September 2003.

The Vacuum Science Division became the Vacuum Science and Technology Division, as from ECM-94 in February 2004.

The Divisions, working within the STD, have continued to initiate Scientific Workshops and Schools (see Section 13) and to endorse conferences organized by other societies when requested and appropriate.

The Vacuum and Surface Sciences Conference of Asia and Australia (VASSCAA) was accepted as a conference series to be co-organised by the Surface Science Division, at ECM-90 in March 2002. The series was initiated by an International Steering Committee, chaired by Professor A. Yoshimori (J) and comprised of representatives of the vacuum societies of Australia, China, India, Japan and Korea. It was organized to create a significant conference on vacuum, surfaces and related sciences, techniques and applications located in the Asia region and thus more accessible to researchers in that area than the traditional conferences in Europe and the USA.

The first conference in the VASSCAA series was organized by the Vacuum Society of Japan and was held in the Tokyo International Exhibition Center in Tokyo Japan in September 1999. It was attended by over 300 scientists from industry and universities. It is intended that these conferences be held every three years with the location rotating amongst countries in Asian and Australia. There will be many advantages in having this regional conference series organized under the umbrella of IUVSTA. VASSCAA-2 was held in Hong Kong, China, at the University of Hong Kong on 26-30 August 2002. VASSCAA-3 will be held in 2005.

The other conferences organised or co-organised by IUVSTA Divisions during the triennium have been:

IVC-15/ICSS-11	San Francisco, USA	29 Oct.-2 Nov. 2001
IVC-16/ICSS-12	Venice, Italy	28 June-2 July 2004
ECOSS-21	Malmo, Sweden	24-28 June 2002
ECOSS-22	Prague, Czech Republic	7-12 September 2003
ICTF-12	Bratislava, Slovakia	16-18 September 2002
EVC-8	Berlin, Germany	23-26 June 2003

## 8. THE SECRETARIAT

During the 2001–2004 triennium, the Officers and the Recording Secretary of the IUVSTA were:

President:	M-G. Barthés-Labrousse (F)*
Past President:	D. P. Woodruff (GB)
President-Elect:	U. Valbusa (I)
Secretary General:	W. D. Westwood (USA)
Treasurer:	H Wahl (CH)
Scientific Director:	M. Sancrotti (I)
Scientific Secretary:	J. W. Rogers, Jr. (USA)

Recording Secretary: R. J. Reid (GB)

A full list of the Officers, Councillors and Alternate Councillors for the 2001-2004 and previous triennia are shown in Table III. The Union's Presidents and Scientific Directors are shown in Table II.

In accordance with the Statutes, following the 14th General Meeting, the President determined that the address of the Secretariat for the 2001–2004 triennium would be the address of the Secretary General, namely: 7 Mohawk Crescent, Ottawa, Ontario K2H 7G7, Canada. The Registered Office of IUVSTA remained as: 30, Avenue de la Renaissance, B-1000, Brussels, Belgium.

The Recording Secretary has continued to take responsibility for preparing the Minutes for the Executive Council Meetings (ECM) and the General Meetings (GM) and for collating the minutes generated in the Committee and Division meetings that are held in conjunction with the ECMs and GMs. These are now made available electronically by displaying them on the IUVSTA's Web page [www.iuvsta.org](http://www.iuvsta.org) in Adobe Acrobat PDF format. They are located in a "members only" area of the website. This area is accessible only to persons who are appropriately associated with the Union, notably Officers, Councillors, Alternate Councillors, Members of Standing and Divisional Committees, and appropriate representatives of the National Vacuum Societies which are members of IUVSTA. Access is restricted by a password, obtainable through the Secretary General. Other information also, such as the Directory of the names and contact addresses of individuals, is located in this restricted area.



The Committees established to carry out the activities of the Union during the triennium were as follows, where the chair is shown in parentheses: Awards and Scholarship (M. Sancrotti (I)), Congress Planning (J.W. Rogers (USA)), Education (J. Greene (USA)), Long Range Planning (U. Valbusa (I)), Publications (J. Grant (USA)), Statutes (W. D. Westwood (USA)), and Finance (H. Wahl (CH)).

At the General meeting GM-14 in November 2001, a number of minor changes were made to the Statutes and By-Laws of the Union. These were required to clarify the meaning of certain statutes and by-laws, and to remove minor conflicts between some statutes and related by-laws. A change was also made to the by-laws to allow electronic communication, rather than postal communication, in certain situations including for ballots carried out by the Divisional Electoral Colleges.

The Archives of the Union remain located at the "Ecole Royale Militaire", 30, Avenue de la Renaissance, 1000-Brussels, Belgium, under the guardianship of J. Dupont (B) and J-J Pireaux (B).

[\* The nationality codes shown indicate the country of origin of the vacuum society which individuals are representing, or with which they have their prime affiliation whilst carrying out their work for IUVSTA. These codes are defined in Table I.]

## **9. INTERNATIONAL VACUUM CONGRESSES**

One of the most important functions of the IUVSTA has been to organise an International Vacuum Congress every three years. A list of these, showing the year, location and any accompanying conference(s), is given in Table VI.

The 15th International Vacuum Congress and 11th International Conference on Solid Surfaces was hosted by the AVS in San Francisco, USA, between 28 October and 2 November 2001, in conjunction with their own 48th AVS International Symposium and the 8th International Conference on Nanometre-Scale Science and Technology. The Congress was hosted by the American Vacuum Society (AVS). The Chair of the Organising Committee was J. W. (Bill) Rogers, Jr. and the Chair of the Program Committee was Roger Stockbauer. These meetings were held under difficult circumstances as there had been a major terrorist attack on the USA on September 11, which caused many intending-participants to cancel their travel to the meeting at the last moment. Never-the-less the meetings were held successfully with 2789 registrants, with 862 from outside the USA, including 225 (26%) from Japan. 1755 papers were presented in 16 parallel sessions, with 140 sessions in all. 450 papers had been withdrawn. A very comprehensive Equipment Exhibition was held and at the conclusion of the Congress the AVS made a donation of US\$40,000 to the Union. There had been a number of new features introduced at this Congress, including provision for the replaying of key sessions on locally available video projectors. In addition, the Proceedings were made available in electronic format, with no hard copy volumes being printed.

The 16th International Vacuum Congress (IVC-16) and the 12th International Conference on Solid Surfaces (ICSS-12) will be hosted by the Italian Vacuum Society (AIV) in Venice, Italy, between 28 June and 2 July 2004, in conjunction with the 8th International Conference on Nanometer-Scale Science and Technology (NANO-8) and the 17th National Vacuum

Symposium of the Italian Vacuum Society (AIV-17). The Chair of the Congress Organising Committee will be Massimo Sancrotti and the Chair of the Program Committee will be Ugo Valbusa.

## **10. NATIONAL MEMBERSHIP OF IUVSTA**

During the previous triennium an application from the Pakistan Vacuum Society had been received and that society had been granted provisional membership status in February 1999, with formal admission to the IUVSTA being confirmed at the General Meeting GM-14 in San Francisco in November 2001. The current 31 National Vacuum Societies (or Committees) within IUVSTA are shown in Table I, with details of dates of formation and admission to IUVSTA and, where relevant, their name in their national language.

No new applications were received during the 2001 – 2004 triennium.

During the triennium, J-J. Pireaux (B) made an extensive effort to contact people in countries which do not currently have a national vacuum society or committee but whom it was thought might be interested in setting up such an organisation with a view to either joining IUVSTA or at least interacting with IUVSTA through workshops, schools, etc. This was in line with the President's stated desire to extend the services of the Union to new countries and regions. Pireaux approached people in a number of countries including South Africa, New Zealand, Denmark, Singapore and Iran, but at present there seems to be no prospects of new vacuum societies in these countries in the near future. M. C. Asensio (E) is investigating the situation in Latin and South America, notably Argentina.

The President, M-G Barthés-Labrousse (F), had also expressed the hope that there would be increased interaction between national societies during the triennium, and acknowledged that such interaction requires an awareness of the structure and activities of the individual societies, which is in fact quite varied. To this end she introduced a new item into the agenda of the Executive Council Meetings under which a representative of the host national society would speak on the history, structure and activities of their society.

## **11. THE IUVSTA NEWS BULLETIN**

The IUVSTA News Bulletin continues to be published in electronic format on the Union's website [www.iuvsta.org](http://www.iuvsta.org). Its publication remains the responsibility of the Publications Committee and a decision was made that the Secretary of this Committee would assume the responsibilities of Bulletin Editor. As a consequence, at the end of 2002, A.A. Roche (F) took over as Bulletin Editor from L. Westerberg (S) who had served in this capacity for the preceding six years since the bulletin was first issued in electronic format. The first issue under the new editorship was No. 153 covering the period January to June 2003. The Bulletin is published twice per year.

## **12. WEBSITE AND ELECTRONIC COMMUNICATION**

As expected, the IUVSTA's Website, [www.iuvsta.org](http://www.iuvsta.org), has taken on an increasingly important role in the affairs of the Union and almost all communication between personnel is now conducted by e-mail.

Late in 2002 a decision was made to transfer the IUVSTA website from the AVS server to that of the French Vacuum Society (SFV). This was completed by the beginning of 2003 and since that time Hervé Lemoine (F) has been the Webmaster, replacing Keith Mitchell (USA). John T. Grant (USA) continues as Web Editor.

The access to and presentation of the website is continually being improved and new information and services added. In particular there is now a Members Only area of the site, which is accessible only to persons who are appropriately associated with the Union, as described in Section 8 above. This area contains material such as ECM and GM minutes, Committee and Divisional Meetings minutes, and the Membership Directory. Access is restricted by a password, obtainable through the Secretary General.

A new addition to the website is a Useful Information section, introduced by the Education Committee. It is overseen by Angus Rockett (USA) and contains information such as periodic tables, vapour pressure curves, sputter yield charts and many links to other sites where a wide range of relevant information can be obtained.

## **13. IUVSTA WORKSHOPS AND SCHOOLS**

During the triennium a further 8 IUVSTA Scientific Workshop have been presented under the guidance of the Divisions. This brings the total number of workshops to 42. Details are available on the IUVSTA Website. In addition, it is intended that further workshops will be sponsored from this triennium's budget even though they will be held after July 2004.

In addition, one further IUVSTA Summer School was conducted. This 5th IUVSTA School was on Photovoltaic Materials and Devices and was held from 29 September to 3 October 2003 at Huatulco, Oaxaca, Mexico. Here were about 50 attendees with the majority being students. There were attendees from Mexico, Colombia, Cuba, Peru, Spain, Russia and Slovakia.

In her Inaugural Address, the President, M-G. Barthés-Labrousse (F), emphasized the importance of the IUVSTA's Education Program. In particular, she highlighted the need for IUVSTA to support National Vacuum Societies in developing countries in the organisation of local technical training courses, as a new way of increasing the Union's activities in the field of education. The Education Committee, chaired by J. E. Greene (USA), took up this initiative with a decision that the IUVSTA would sponsor Technical Training Courses, and in so doing would balance the prevailing emphasis on supporting scientifically oriented courses. N. Radic (CRO) undertook to bring this activity to fruition.

The intention was that where national vacuum societies, which are members of IUVSTA, were prepared to organize technical training courses locally, in the local language for the principal benefit of technicians, production engineers and students, IUVSTA would help with the organisation and with a small subsidy for attendees. It was envisaged that the emphasis would

be directed to technologically developing countries were the cost of attendance might otherwise exclude some deserving students.

One Technical Training Course has already been presented by the Chinese Vacuum Society and was titled the Basics of Vacuum Technology. It was held on 6-12 December 2003 at Tsinghua University, Beijing, P R China. The course was presented in Chinese to 93 attendees. The IUVSTA grant was 3,600 CHF. An examination was conducted at the end of the course with certificates being presented to successful attendees.

Another Technical Training Course is to be organised by the Croatian Vacuum Society in Zagreb, Croatia in June 2004. The course will be on Basic Vacuum Technology and will use the IUVSTA Visual Aids material which the Croatian Society has been translating into the Croatian language. The IUVSTA grant will be 3,500 CHF.

A further course is being planned for late in 2004 in Pakistan and an IUVSTA grant of 3,500 CH will be available for this course.

For many years now the Elsevier Publishing Company have been making an annual donation to be used to help, and therefore encourage, students to attend IUVSTA sponsored conferences. During this triennium, the donation has been 4,000 Euros per year and the money been used to make Elsevier Awards to students attending IVC-15, ICTF-12, ECOSS-21, ECOSS-22, VASSCAA-2 and IVC-16. The IUVSTA is grateful for the donation and support from Elsevier.

#### **14. THE VISUAL AIDS PROGRAM**

A major component of the educational activities of the Union is the Visual Aids Program. The intent of the program is to make available a number of series of slides which can be used by the presenters of courses on vacuum science and technology. The slides, which were originally 35 mm slides and later overhead projection foils, are accompanied by a text document which describes the content of each slide. The material is intended as an aid to course presenters and as such is not intended to be a stand-alone course for students

In 1996 it was decided that the existing Modules (or Parts) should be redeveloped in electronic format, with the slides in PowerPoint and with the text in an Adobe Acrobat pdf file. This allows the Modules to be distributed on CDs or via the Web. It was also decided that as it was many years since most of the modules had been developed, the occasion would be used to review, update and further develop the modules. In early January 2003, J. L. Robins (AUS) took over from J. H. Leck (GB) as the Editor-in-Chief of the series.

At the start of the 2001-2004 triennium, only one module had been redeveloped into electronic format. It is anticipated that by the time of the IUVSTA Congress in June 2004, a further five modules will be available on CDs. The authors of these latest revisions are as follows: Module 1 on Fundamentals of Vacuum, John O'Hanlon; Total Pressure Measurement and Gauges, Ron J. Reid; Module 4 on Residual Gas Analyzers and Analysis, Len Beavis; Module 6 on Leak Detection, Steve Hoath; Module 11 on Electron Spectroscopies, Massimo Sancrotti.

The 11 existing modules, and the formats in which they are available, are listed in Table VII.

## **15. THE MEDARD W. WELCH INTERNATIONAL SCHOLARSHIP**

The Medard W. Welch International Scholarship was established in 1965 to allow younger scientists to work abroad for a period of one year in the field of vacuum science and technology. The value of the award currently stands at US\$15,000. Three awards were made during the triennium and the recipients are listed with former Welch Scholars in Table VIII.

## **16. THE IUVESTA PRIZES**

The IUVESTA Prizes are the most prestigious awards made by the Union. They consist of a cash award, a struck medal and a certificate setting forth the reasons for the award. The awards are presented at the IUVESTA's triennial Congress (IVC/ICSS) and recipients are invited to present plenary lectures.

The endowment for the Prizes has been provided by generous donations from: ANELVA; Balzers and Leybold Holding AG; Intevac; OMICRON Vakuumphysik GmbH; Osaka Vacuum; Physical Electronics; ULVAC; SAES Getters; TAV; Varian Associates; and VAT.

The recipients of the IUVESTA Prizes in 2004 were:

### **IUVESTA Prize in Science**

Prof. Joost W. M. Frenken, Kamerlingh Onnes Laboratory, Leiden University, The Netherlands, for his pioneering work in the development and application of scanning probe microscopy to study various dynamical processes at surfaces.

### **IUVESTA Prize in Technology**

D. Martin P. Seah, National Physical Laboratory, UK, for his contribution to the science, technology and application of surface chemical analysis.

## **17. PERSONS HONOURED BY THE IUVESTA**

Traditionally, persons honoured by the Union have been those who took a major role in either the formation of IUVESTA or who actively fostered its development in the early years. There were two categories, Honorary Presidents and Honorary Members (also designated Founder Members).

It was with sadness that members of the Union learned of the death of Madame Madeleine Berthaud on 16 October 2001. She had been the last living member of the people listed in these two honorary categories.

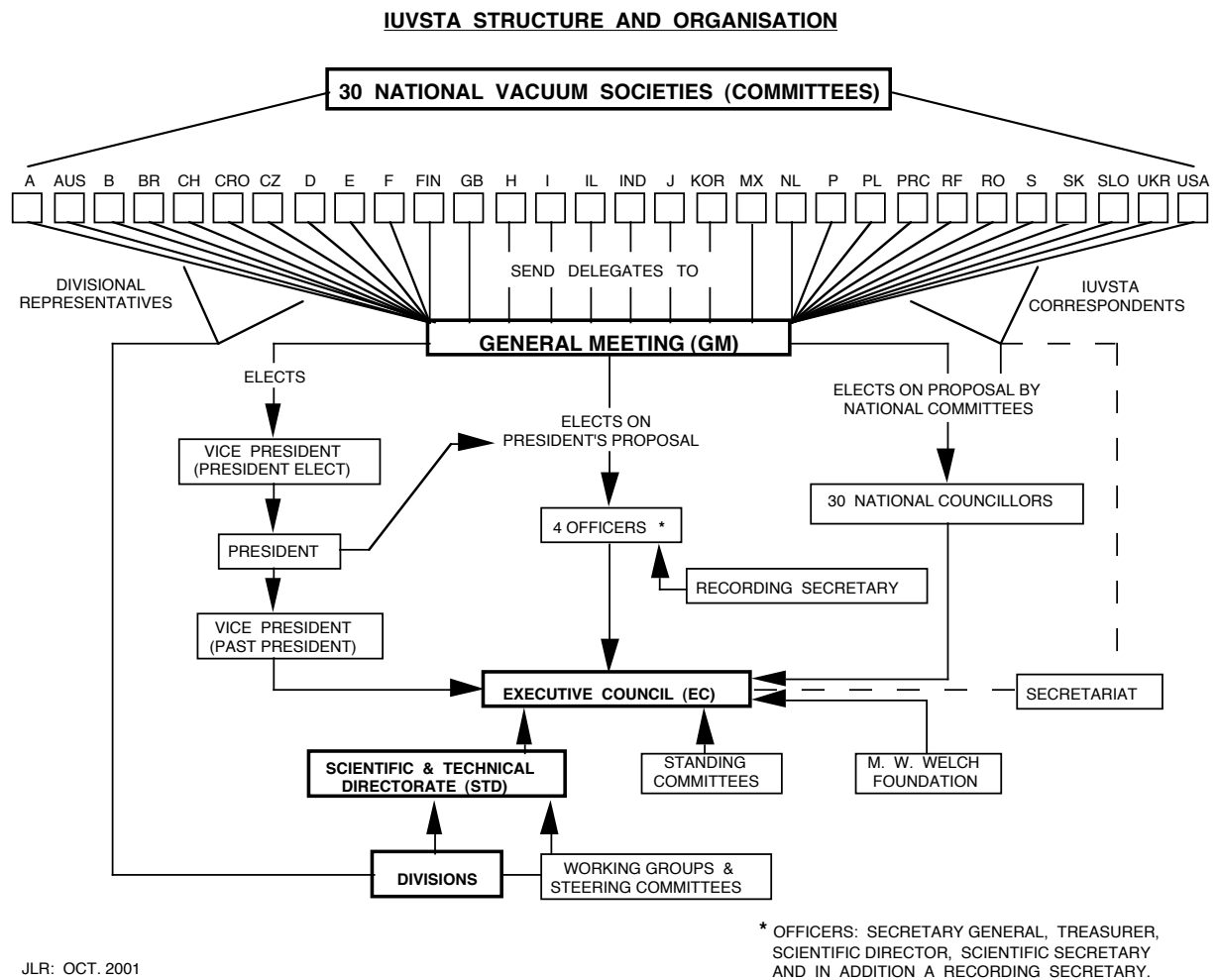
## **18. CONCLUSION**

As was recently pointed out by the President, M-G. Barthés-Labrousse, the IUVESTA has a special nature in being an organization whose members are national societies rather than individuals, although most of its activities, such as workshops, conferences, schools etc., are devoted to individuals. It is also an organisation which creates the opportunity for representatives of all 31 of the national societies to meet twice per year on the occasion of the

Executive Council meetings. It is to be hoped that advantage will be taken of these occasions to exchange ideas and promote collaboration between the national societies. This could result not only in mutual help and support but perhaps also lead to a reduction in the multiplicity of conferences which currently dominate the scientific scene.

The past three years have seen strong activity within the Union both in continuing the established activities as well as introducing new initiatives and endeavouring to reach out and help individuals in technologically developing countries. Though strong collaboration and dedicated work by many people, the Union has been able to continue to serve the scientific and technological communities working in the many and varied fields which utilise or have developed from the application of vacuum techniques.

**Figure 1. Organisational Structure of the IUVSTA**



Note: The Pakistan Vacuum Society was admitted as the 31st member society in November 2001.

**Table I. IUVSTA Member Societies**

Country	Code	Year Founded	Joined IUVSTA	Left IUVSTA	Name of National Society or Committee
Australia	AUS	1966	1971		Vacuum Society of Australia
Austria	A	1969	1971		Österreichische Gesellschaft für Vakuumentchnik
Belgium*	B	1962	1962		Société Belge de Vacuologie et de Vacuotechnique Belgische Vereniging voor Vacuologie en Vakuumentchniek
Brazil	BR	1978	1980		Sociedade Brasileira de Vácuo
Bulgaria	BG	1967	1968	1995	Bulgarska Akademiya na Naukite - Natsionalen Komitet za Vakumka Fizika e Tehnika
Croatia	CRO	1979	1992		Hrvatsko Vakuumsko Drusto
Czechoslovakia	CS	-	1965	1995	Ceskoslovensky Narodni Komitet pro Vakuovou Fyziku, Techniku a Aplikace
Czech Republic	CZ	1993	1995		Ceská Vakuová Spolecnost
Finland	FIN	1973	1974		Suomen Tyhjiöseura
France*	F	1945	1962		Société Française du Vide
Germany*	D	1962	1962		Deutsche Vakuum-Gesellschaft
(Fed Rep Germ)	(FRG)				(Deutsche Arbeitsgemeinschaft Vakuum)
German Democratic Republic	DDR	1977	1977	1992	Nationale Kommission Vakuum/ Grenzflächen/Dünne Schichten der DDR
Great Britain*	GB	1959	1962		British Vacuum Council
Hungary	H	1962	1965		Nemzetközi Vakuumentchnikai Unió - Magyar Nemzeti Bizottsága
India	IND	1970	1971		Indian Vacuum Society
Israel	IL	1968	1971		Israeli Vacuum Society: Science, Technology and Applications
Italy	I	1963	1965		Associazione Italiana del Vuoto
Japan	J	1958	1968		Nihon Shinku Kyokai
Korea	KOR	1991	1992		Hankook Jinkong Hoakhoe
Mexico	MX	1982	1986		Sociedad Mexicana de Ciencia de Superficies y Vacío
Netherlands*	NL	1962	1962		Nederlandse Vacuumvereniging
Pakistan	PAK	1998	2001		Pakistan Vacuum Society
People's Republic of China	PRC	1979	1983		Chinese Vacuum Society
Poland	PL	1964	1965		Polskie Towarzystwo Próźniowe
Portugal	P	1986	1989		Sociedade Portuguesa de Vácuo
Romania	RO	1990	1992		Societatea Romana de Vid
Russian Federation	RF	1992	1992		Russian Scientific and Technical Vacuum Society
Slovakia	SK	1993	1995		Slovenská Vakuová Spolecnost
Slovenia	SLO	1959	1992		Drustvo za vakuumsko Tehniko Slovenije
Spain*	E	1962	1962		Asociación Espanola del Vacío y sus Aplicaciones
Sweden*	S	1973	1962		Svenska Vakuum Sällskapet
Switzerland*	CH	1959	1962		Schweizerische Gesellschaft für Vakuum-Physik und -Technik
					Société Suisse pour la Science et la Technique du Vide
Ukraine	UKR	1993	1995		Ukrainske Vacuumne Tovaristvo
United States of America*	USA	1953	1962		AVS Science and Technology Society
Yugoslavia*	YU	1962	1962	1992	Zveza Drustev za Vakuumsko Tehniko Jugoslavije

\* Founder Member of IUVSTA.



**Table II. IUVSTA Presidents and Scientific Directors**

<b>Period</b>	<b>President</b>	<b>Scientific Director</b>
1962 – 1965	M. W. Welch (USA)	K. Diels (D)
1965 – 1968	J. Debiesse (F)	A. Venema (NL)
1968 – 1971	K. Diels (D)	A. Venema (NL)
1971 – 1974	L. E. Preuss (USA)	D. Degras (F)
1974 – 1977	A. Venema (NL)	D. Degras (F)
1977 – 1980	L. Holland (GB)	L. E. Preuss (USA)
1980 – 1983	J. M. Lafferty (USA)	L. E. Preuss (USA)
1983 – 1986	J. Antal (H)	L. E. Preuss (USA)
1986 – 1989	H. Jahrreiss (D)	A. Van Oostrom (NL)
1989 – 1992	J. L. de Segovia (E)	A. Van Oostrom (NL)
1992 – 1995	T. E. Madey (USA)	D. P. Woodruff (GB)
1995 – 1998	J. L. Robins (AUS)	U. Valbusa (I)
1998 – 2001	D. P. Woodruff (GB)	U. Valbusa (I)
2001 – 2004	M-G Barthés-Labrousse (F)	M. Sancrotti (I)

### Table III. IUVSTA Officers and Councillors, 1962-2004

Table III. (Part 1 New) Officers and Councillors (1962-1977)

Country	Office	1962-1965	1965-1968	1968-1971	1971-1974	1974-1977
	<b>President</b>	M. W. Welch (USA)	J. Debiesse (F)	K. Diels (D)	L. E. Preuss (USA)	A. Venema (NL)
	<b>President-Elect</b>	J. Debiesse (F)	K. Diels (D)	L. E. Preuss (USA)	A. Venema (NL)	L. Holland (GB)
	<b>Past President</b>	E. Thomas (B)	M. W. Welch (USA)	J. Debiesse (F)	K. Diels (D)	L. E. Preuss (USA)
	<b>Sec. General</b>	E. Thomas (B)	E. Thomas (B)	E. Thomas (B)	E. Thomas (B)	H. Jahrreiss (D)
	<b>Treasurer</b>	R. Mercier (CH)	R. Mercier (CH)	R. Mercier (CH)	A. Roth (IL)	A. Roth (IL)
	<b>Sci. Director</b>	K. Diels (D)	A. Venema (NL)	A. Venema (NL)	D. Degras (F)	D. Degras (F)
	<b>Sci. Secretary</b>	E. Thomas (B)	M. Berthaud (F)	M. Berthaud (F)	M. Berthaud (F)	J. Bonnerot (F)
	<b>Rec. Secretary</b>	J. Yarwood (GB)				
<b>Australia</b>	Councillor Alt. Councillor				J. Ward	M. T. Elford
<b>Austria</b>	Councillor Alt. Councillor				R. Dobrozemsky	R. Dobrozemsky
<b>Belgium</b>	Councillor Alt. Councillor	E. Thomas			R. Verheugen	J. Dupont
<b>Brazil</b>	Councillor Alt. Councillor					
<b>Bulgaria</b>	Councillor Alt. Councillor			E. Djakov	E. Djakov	E. Djakov
<b>Croatia</b>	Councillor Alt. Councillor					
<b>Czechoslovakia</b>	Councillor Alt. Councillor			J. Vana	R. Harman	R. Harman
<b>Czech Republic</b>	Councillor Alt. Councillor					
<b>Finland</b>	Councillor Alt. Councillor					P. Viitamen
<b>France</b>	Councillor Alt. Councillor	M. Berthaud	M. Berthaud	M. Berthaud M. S. Choumoff	M. S. Choumoff	M. S. Choumoff
<b>Germany (Fed. Rep. Germ.)</b>	Councillor Alt. Councillor	K. Diels H. Gruber	H. Gruber	H. Adam R. Ruhle	M. S. Choumoff	H. Adam
<b>German Democratic Republic</b>	Councillor Alt. Councillor					
<b>Great Britain</b>	Councillor Alt. Councillor	A. S. D. Barrett J. Yarwood	A. S. D. Barrett J. Yarwood	L. Holland J. Yarwood	L. Holland	J. Yarwood
<b>Hungary</b>	Councillor Alt. Councillor		G. Szigeti	G. Szigeti	I. P. Valko	I. P. Valko
<b>India</b>	Councillor Alt. Councillor				P. Vijendram	P. Vijendram
<b>Israel</b>	Councillor Alt. Councillor				M. Steiner	B. Raz
<b>Italy</b>	Councillor Alt. Councillor		P. della Porta	P. della Porta	P. della Porta	T. A. Giorgi
<b>Japan</b>	Councillor Alt. Councillor			H. Kumagai	H. Kumagai	H. Kumagai
<b>Korea</b>	Councillor Alt. Councillor					
<b>Mexico</b>	Councillor Alt. Councillor					
<b>Netherlands</b>	Councillor Alt. Councillor				J. Los	A. van Oostrom
<b>Pakistan</b>	Councillor Alt. Councillor					
<b>P R China</b>	Councillor Alt. Councillor					
<b>Poland</b>	Councillor Alt. Councillor		-	J. Groszkowski	J. Groszkowski	-
<b>Portugal</b>	Councillor Alt. Councillor					
<b>Romania</b>	Councillor Alt. Councillor					
<b>Russian Federation</b>	Councillor Alt. Councillor					
<b>Slovakia</b>	Councillor Alt. Councillor					
<b>Slovenia</b>	Councillor Alt. Councillor					
<b>Spain</b>	Councillor Alt. Councillor	L. Villena	C. S. Martin	C. S. Martin	C. S. Martin	C. S. Martin
<b>Sweden</b>	Councillor Alt. Councillor	G. Brogren				H. Ottosson
<b>Switzerland</b>	Councillor Alt. Councillor	R. Mercier	R. Mercier	R. Mercier	E. B. Bas	E. B. Bas
<b>Ukraine</b>	Councillor Alt. Councillor					
<b>USA</b>	Councillor Alt. Councillor	-	L. E. Preuss	H. W. Schleuning	J. M. Lafferty	J. M. Lafferty
<b>Yugoslavia</b>	Councillor Alt. Councillor	E. Kansky	E. Kansky	E. Kansky	E. Kansky	F. Lah

Table III. (Part 2 New) Officers and Councillors (1977-1992)

Country	Office	1977-1980	1980-1983	1983-1986	1986-1989	1989-1992
	<b>President</b>	L. Holland (GB)	J. M. Lafferty (USA)	J. Antal (H)	H. Jahrreiss (D)	J. L. de Segovia (E)
	<b>President-Elect</b>	J. M. Lafferty (USA)	J. Antal (H)	H. Jahrreiss (D)	J. L. de Segovia (E)	T. E. Madey (USA)
	<b>Past President</b>	A. Venema (NL)	L. Holland (GB)	J. M. Lafferty (USA)	J. Antal (H)	H. Jahrreiss (D)
	<b>Sec. General</b>	H. Jahrreiss (D)	H. Jahrreiss (DF)	M. J. Higsatberger (A)	T. E. Madey (USA)	J. S. Colligon (GB)
	<b>Treasurer</b>	P. S. Choumoff (F)	J. Imachi (J)	J. P. Hengevoss (CH)	J. Hengevoss (CH)	J. Hengevoss (CH)
	<b>Sci. Director</b>	L. E. Preuss (USA)	L. E. Preuss (USA)	L. E. Preuss (USA)	A. Van Oostrom (NL)	A. Van Oostrom (NL)
	<b>Sci. Secretary</b>	H. Ottosson (S)	H. Ottosson (S)	S-E. Karlsson (S)	S-E. Karlsson (S)	D. P. Woodruff (GB)
	<b>Rec. Secretary</b>		J. L. Robins (AUS)	-	J. S. Colligon (GB)	J. H. Leck (GB)
<b>Australia</b>	Councillor	D. L. Swingler	J. L. Robins	A. Simpson	A. Simpson	D. L. Swingler
	Alt. Councillor					J. L. Robins
<b>Austria</b>	Councillor	M. Auwarter	W. J. Chernoch	W. J. Chernoch	W. Husinsky	W. Husinsky
	Alt. Councillor				R. Dobrozemsky	R. Dobrozemsky
<b>Belgium</b>	Councillor	J. Dupont	J. Dupont	J. Dupont	R. Caudano	J. Vennik
	Alt. Councillor				J. Dupont	J. Dupont
<b>Brazil</b>	Councillor		N. G. Dhare	N. G. Dhare	R. A. Douglas	G. de Matos Gualberto
	Alt. Councillor				N. G. Dhare	R. A. Douglas
<b>Bulgaria</b>	Councillor	-	-	G. J. Grigorov		G. Grigorov
	Alt. Councillor					I. Martev
<b>Croatia</b>	Councillor					
	Alt. Councillor					
<b>Czechoslovakia</b>	Councillor	L. Zobac	L. Zobac	-	R. Harman	Z. Hulek
	Alt. Councillor					
<b>Czech Republic</b>	Councillor					
	Alt. Councillor					
<b>Finland</b>	Councillor	P. Viitamen	M. Pessa	M. Pessa		E. Ristolainen
	Alt. Councillor					R. Nieminen
<b>France</b>	Councillor	M. Croset	M. Croset	J-P. Langeron	J-P. Langeron	M. Baudron
	Alt. Councillor				S. Choumoff	S. Choumoff
<b>Germany (Fed. Rep. Germ.)</b>	Councillor	A. Benninghoven	A. Benninghoven	W. Bachler	W. Bachler	A. Benninghoven
	Alt. Councillor				H. Adam	W. Bachler
<b>German Democratic Republic</b>	Councillor	C. R. Weissmantel	C. R. Weissmantel	C. R. Weissmantel	C. R. Weissmantel	G. Leonhardt
	Alt. Councillor				G. Leonhardt	M. Krohn
<b>Great Britain</b>	Councillor	C. J. Todd	D. A. King	D. A. King	D. P. Woodruff	R. W. Joyner
	Alt. Councillor				J. H. Leck	J. H. Leck
<b>Hungary</b>	Councillor	J. Antal	P. B. Barna	P. B. Barna	I. Berecz	L. Guzzi
	Alt. Councillor				J. Gyulai	J. Gyulai
<b>India</b>	Councillor	G. K. Bhide	G. K. Bhide	C. K. Shah	P. Vijendran	K. L. Chopra
	Alt. Councillor				J. K. N. Sharma	A. K. Gupte
<b>Israel</b>	Councillor	M. Steiner	Y. Shapira	Y. Shapira	E. Grunbaum	E. Grunbaum
	Alt. Councillor				Y. Shapira	Y. Shapira
<b>Italy</b>	Councillor	T. A. Giorgi	A. Calcatelli	A. Calcatelli	U. Valbusa	J. F. Van der Veen
	Alt. Councillor				M. G. Cattania	C. Misiano
<b>Japan</b>	Councillor	J. Imachi	G. Tominaga	Y. Tuzi	Y. Tuzi	G. Horokoshi
	Alt. Councillor				G. Horokoshi	Y. Tuzi
<b>Korea</b>	Councillor					
	Alt. Councillor					
<b>Mexico</b>	Councillor				J. L. Pena	J. Rickards
	Alt. Councillor				J. Rickards	I. Hernandez-Calderon
<b>Netherlands</b>	Councillor	A. van Oostrom	M. J. van der Wiel	W. F. Van der Weg	J. F. Van der Veen	J. F. Van der Veen
	Alt. Councillor				W. F. Van der Weg	M. P. A. Viegiers
<b>Pakistan</b>	Councillor					
	Alt. Councillor					
<b>P R China</b>	Councillor			Z-Y. Hua	Z-Y. Hua	Z-Y. Hua
	Alt. Councillor					S-J. Pang
<b>Poland</b>	Councillor	-	-	-		J. Sobanski
	Alt. Councillor					A. Halas
<b>Portugal</b>	Councillor					M. I. Calado Ferreira
	Alt. Councillor					M. Aurea Cunha
<b>Romania</b>	Councillor					
	Alt. Councillor					
<b>Russian Federation</b>	Councillor					
	Alt. Councillor					
<b>Slovakia</b>	Councillor					
	Alt. Councillor					
<b>Slovenia</b>	Councillor					
	Alt. Councillor					
<b>Spain</b>	Councillor	J. L. de Segovia	J. L. de Segovia	M. Duart	J. Soria	J. Soria
	Alt. Councillor				J. Pajares	J. Pajares
<b>Sweden</b>	Councillor	S-E. Karlsson	S-E. Karlsson	R. Jacobsson	R. Jacobsson	A. Flodström
	Alt. Councillor				A. Flodström	J-E. Sundgren
<b>Switzerland</b>	Councillor	J. P. Hengevoss	J. P. Hengevoss	W. Groebler	J. P. Decosterd	J. P. Decosterd
	Alt. Councillor				W. Groebler	H. Diletti
<b>Ukraine</b>	Councillor					
	Alt. Councillor					
<b>USA</b>	Councillor	M. H. Francombe	M. H. Francombe	L. C. Beavis	L. C. Beavis	N. R. Whetten
	Alt. Councillor				J. A. Thornton	J. E. Greene
<b>Yugoslavia</b>	Councillor	F. Lah	J. Gasperic	J. Gasperic	A. Zalar	A. Zalar
	Alt. Councillor				M. Jenko	M. Jenko

Table III. (Part 3 New) Officers and Councillors (1992-2004)

Country	Office	1992-1995	1995-1998	1998-2001	2001-2004
	<b>President</b>	T. E. Madey (USA)	J. L. Robins (AUS)	D. P. Woodruff (GB)	M-G Barthés-Labrousse(F)
	<b>President-Elect</b>	J. L. Robins (AUS)	D. P. Woodruff (GB)	M-G Barthés-Labrousse(F)	U. Valbusa (I)
	<b>Past President</b>	J. L. de Segovia (E)	T. E. Madey (USA)	J. L. Robins (AUS)	D. P. Woodruff (GB)
	<b>Sec. General</b>	J. S. Colligon (GB)	J. S. Colligon (GB)	W. D. Westwood (USA)	W. D. Westwood (USA)
	<b>Treasurer</b>	R. Dobrozemsky (A)	R. Dobrozemsky (A)	H. Wahl (CH)	H. Wahl (CH)
	<b>Sci. Director</b>	D. P. Woodruff (GB)	U. Valbusa (I)	U. Valbusa (I)	M. Sancrotti (I)
	<b>Sci. Secretary</b>	U. Valbusa (I)	M-G Barthés-Labrousse(F)	M. Sancrotti (I)	J. W. Rogers Jr (USA)
	<b>Rec. Secretary</b>	J. H. Leck (GB)	J. H. Leck (GB)	R. J. Reid (GB)	R. J. Reid (GB)
<b>Australia</b>	Councillor	D. L. Swingler	D. J. O'Connor	D. J. O'Connor	B. King
	Alt. Councillor	D. J. O'Connor	A. Morton	A. Morton	D. French
<b>Austria</b>	Councillor	M. Leisch	M. Leisch	P. Varga	P. Varga
	Alt. Councillor	W. Husinsky	W. Husinsky	M. Leisch	M. Leisch
<b>Belgium</b>	Councillor	J. Vennik	J-J. Pireaux	J-J. Pireaux	J-J. Pireaux
	Alt. Councillor	J. Dupont	J. Dupont	R. de Gryse	R. de Gryse
<b>Brazil</b>	Councillor	R. A. Douglas	R. A. Douglas	D. Pereira	P. A. de P. Nascente
	Alt. Councillor	C. de Mouro Neto	C. de Mouro Neto	R. A. Douglas	V. J. Trava-Airoldi
<b>Bulgaria</b>	Councillor				
	Alt. Councillor				
<b>Croatia</b>	Councillor	H. Zorc	M. Milun	N. Radic	N. Radic
	Alt. Councillor	M. Milun	H. Zorc	P. Pervan	P. Pervan
<b>Czechoslovakia</b>	Councillor	Z. Hulek			
	Alt. Councillor	P. Lukac			
<b>Czech Republic</b>	Councillor		Z. Hulek	P. Hedbavny	P. Hedbavny
	Alt. Councillor		F. Tesar	P. Repa	T. Sikola
<b>Finland</b>	Councillor	E. Ristolainen	E. Ristolainen	E. Ristolainen	E. Ristolainen
	Alt. Councillor	J. Molarius	J. Koskinen	J. Koskinen	J. Koskinen
<b>France</b>	Councillor	M. Croset	M. Croset	J-P. Duraud	A. Roche
	Alt. Councillor	J-P. Langeron	J. Leclerc	G. Damamme	B. Agius
<b>Germany (Fed. Rep. Germ.)</b>	Councillor	H. Oechsner	H. Hoffmann	H. Hoffmann	M. Wuttig
	Alt. Councillor	W. Bachler	W. Bachler	O. Ganschow	W. Schwarz
<b>German Democratic Republic</b>	Councillor				
	Alt. Councillor				
<b>Great Britain</b>	Councillor	R. W. Joyner	G. J. Davies	R. J. Reid	R. Jackman
	Alt. Councillor	G. J. Davies	M. A. Chesters	M. A. Chesters	R. J. Reid
<b>Hungary</b>	Councillor	L. Guzzi	G. Radnoczi	G. Radnoczi	L. Kövér
	Alt. Councillor	G. Radnoczi	L. Kover	L. Kover	S. Bohétka
<b>India</b>	Councillor	A. K. Gupta	A. S. Raja Rao	A. S. Raja Rao	A. V. Sapre
	Alt. Councillor	R. Vijayraghavan	A. V. Sapre	A. V. Sapre	A. K. Sinha
<b>Israel</b>	Councillor	R. Tenne	Y. Siderer	G. Golan	Y. Shapira
	Alt. Councillor	Y. Shapira	R. Tenne	E. Grünbaum	E. Grünbaum
<b>Italy</b>	Councillor	B. Ferrario	M. Sancrotti	M. Anderle	M. Anderle
	Alt. Councillor	P. Picozzi	M. Anderle	M. Grazia Betti	M. Grazia Betti
<b>Japan</b>	Councillor	G. Horokoshi	G. Horokoshi	K. Nakayama	A. Yoshimori
	Alt. Councillor	K. Nakayama	K. Nakayama	A. Yoshimori	M. Ono
<b>Korea</b>	Councillor	T. S. Park	T. S. Park	T. S. Park	J-C. Woo
	Alt. Councillor	J. C. Kim	C. J. Kim	C. J. Kim	J-C. Kim
<b>Mexico</b>	Councillor	C. Falcony	C. Falcony	O. Zelaya-Angel	M. Lopez-Lopez
	Alt. Councillor	J. M. Dominguez	O. Zelaya-Angel	M. Lopez	M. M. Lira
<b>Netherlands</b>	Councillor	A. W. Kleyn	A. W. Kleyn	J-W. Niemantsverdriet	M. C. M. van de Sanden
	Alt. Councillor	F. H. M. P. Habraken	F. H. M. P. Habraken	A. W. Kleyn	L. J. F. Hermans
<b>Pakistan</b>					J. A. Bhatti
					M. A. Sabir
<b>P R China</b>	Councillor	Z-Y. Hua	Z-Y. Hua	Z-Y. Hua	S-J. Pang
	Alt. Councillor	S-J. Pang	S-J. Pang	S-J. Pang	Z. Xue
<b>Poland</b>	Councillor	M. Szymonski	M. Szymonski	M. Herman	A. Ciszewski
	Alt. Councillor	M. Herman	M. Herman	A. Ciszewski	M. Szymonski
<b>Portugal</b>	Councillor	M. I. Calado Ferreira	A. M. C. Mouthino	A. M. C. Mouthino	A. Cavaleiro
	Alt. Councillor	A. M. C. Mouthino	M. I. Calado Ferreira	M. I. Calado Ferreira	O. Teodoro
<b>Romania</b>	Councillor	G. Marin	G. Marin		
	Alt. Councillor	M. Vlad	G. Olaru		
<b>Russian Federation</b>	Councillor	V. A. Grazhulis	V. A. Grazhulis	P. K. Kashkarov	D. V. Bykov
	Alt. Councillor	V. F. Kuleshov	V. G. Stepaniants	D. V. Bykov	G. G. Bondarenko
<b>Slovakia</b>	Councillor		M. Vesely	M. Vesely	R. Redhammer
	Alt. Councillor		P. Lukac	P. Lukac	M. Vesely
<b>Slovenia</b>	Councillor	M. Jenko	M. Jenko	A. Pregelj	A. Pregelj
	Alt. Councillor	A. Zalar	A. Zalar	M. Jenko	M. Jenko
<b>Spain</b>	Councillor	J. Soria	J. L. de Segovia	J. L. de Segovia	M. C. Asensio
	Alt. Councillor	C. Ocal	J. M. Albella	J. Soria	J. M. Martinez-Duart
<b>Sweden</b>	Councillor	A. Flodström	L. Westerberg	L. Westerberg	L. Hultman
	Alt. Councillor	J-E. Sundgren	J-E. Sundgren	L. Hultman	L. Johansson
<b>Switzerland</b>	Councillor	H. Diletti	H. Wahl	U. Wälchli	U. Wälchli
	Alt. Councillor	H. Wahl	J. Ramm	A. Dommann	H. Brune
<b>Ukraine</b>	Councillor		V. T. Cherepin	V. T. Cherepin	V. T. Cherepin
	Alt. Councillor		A. G. Naumovets	A. G. Naumovets	A. G. Naumovets
<b>USA</b>	Councillor	N. R. Whetten	J. W. Rogers Jr	J. W. Rogers Jr	J. H. Weaver
	Alt. Councillor	J. E. Greene	G. E. McGuire	G. E. McGuire	J. E. Greene
<b>Yugoslavia</b>	Councillor				
	Alt. Councillor				

**Table IV. IUVSTA Executive Council Meetings**

Table IV. (Part 1) ECM (1962-1977)

ECM	President	Date	Place	
<b>GM1 (1962)</b>				
1	Welch	8 December 1962	Brussels, Belgium	
2		7 June 1963	Brussels, Belgium	
3		29 June 1964	Frankfurt am Main, Germany	
3(cont.)		30 June - 2 July 1964	Paris, France	
4		3-4 December 1964	Saclay, France	
5		29 June 1965	Brussels, Belgium	
<b>GM2 (1965)</b>				
6	Debiesse	1 July 1965	Stuttgart, Germany	
7		4 November 1965	Stuttgart, Germany	
8		28 September 1966	Saclay, France	
9		16 March 1967	Zagreb, Yugoslavia	
10		5 November 1967	Rome, Italy	
11		16 April 1968	Strasbourg, France	
				Manchester, UK
<b>GM3 (1968)</b>				
12	Diels	6 April 1968	Manchester, UK	
13		19 October 1968	Manchester, UK	
*(No quorum)		31 March 1969	Dijon, France	
14		21 September 1969	Cologne, Germany	
15		5-6 March 1970	Berlin, Germany	
16		8 October 1970	London, UK	
17		13 May 1971	Cannes, France	
18		10 October 1971	Portoroz, Yugoslavia	
				Boston, USA
<b>GM4 (1971)</b>				
19	Preuss	14 October 1971	Boston, USA	
20		18 May 1972	Boston, USA	
*(No quorum)		16 October 1972	Venice, Italy	
21		26 January 1973	Scheveningen, Netherlands	
22		29 September 1973	London, UK	
23		30 January 1974	Madrid, Spain	
24		25 March 1974	London, UK	
				Kyoto, Japan
<b>GM5 (1974)</b>				
25	Venema	29 March 1974	Kyoto, Japan	
26		2-3 October 1974	Kyoto, Japan	
27		21-22 March 1975	Sofia, Bulgaria	
28		28-29 October 1975	Münster, Germany	
29		9 April 1976	Philadelphia, USA	
30		4 September 1976	Amsterdam, Netherlands	
31		1 April 1977	Uppsala, Sweden	
32		13 September 1977	London, UK	
				Vienna, Austria

Table IV. (Part 2) ECM (1977-1992)

ECM	President	Date	Place
		<b>GM6 (1977)</b>	Vienna, Austria
33	Holland	16 September 1977	Vienna, Austria
34		30 March 1978	Amsterdam, Netherlands
35		15 September 1978	Loughborough, UK
36		20-22 March 1979	Budapest, Hungary
37		9-11 September 1979	Nice, France
38		13 April 1980	Bath, UK
39		24 September 1980	Cannes, France
		<b>GM7 (1980)</b>	Cannes, France
40	Lafferty	26 September 1980	Cannes, France
41		27-28 February 1981	Dresden, Germany
42		13-14 September 1981	Münster, Germany
43		7-8 April 1982	Florence, Italy
44		16 August 1982	Tampere, Finland
45		21-22 May 1983	Vaduz, Liechtenstein
46		28 September 1983	Madrid, Spain
		<b>GM8 (1983)</b>	Madrid, Spain
47	Antal	30 September 1983	Madrid, Spain
48		1 February 1984	Clearwater Beach, USA
49		12 August 1984	Täby, Sweden
50		22-23 April 1985	Princeton, USA
51		5-6 October 1985	Debrecen, Hungary
52		31 May - 1 June 1986	Spitz, Austria
53		26 October 1986	Baltimore, MD, USA
		<b>GM9 (1986)</b>	Baltimore, MD, USA
54	Jahrreiss	31 October 1986	Baltimore, MD, USA
55		14-16 March 1987	Strasbourg, France
56		4-6 December 1987	New Delhi, India
57		16-18 April 1988	Hale, Cheshire UK
58		23-25 September 1988	Portoroz, Yugoslavia
59		14-16 April 1989	San Diego, Calif., USA
60		23-24 September 1989	Cologne, Germany
		<b>GM10 (1989)</b>	Cologne, Germany
61	de Segovia	29 September 1989	Cologne, Germany
62		17-18 March 1990	Dresden, Germany
63		29-30 September 1990	Avila, Spain
64		9-10 February 1991	Clearwater Beach, USA
65		29-30 September 1991	Vienna, Austria
66		8-10 May 1992	Antibes, France
67		10-11 October 1992	The Hague, Netherlands

Table IV. (Part 3) ECM (1992-2004)

ECM	President	Date	Place
			<b>GM11 (1992)</b>
68	Madey	16 October 1992	The Hague, Netherlands
69		26-28 March 1993	The Hague, Netherlands
70		19-21 November 1993	Bolzano, Italy
71		17-19 June 1994	Orlando, Florida, USA
72		23-25 September 1994	Saltsjöbaden, Sweden
73		7-9 April 1995	Krakow, Poland
74		24 September 1995	Brdo, Slovenia
			<b>GM12 (1995)</b>
75	Robins	29 September 1995	Yokohama, Japan
76		26-28 April 1996	Yokohama, Japan
77		20-22 September 1996	San Diego, Calif., USA
78		23-25 May 1997	Segovia, Spain
79		21-23 November 1997	Debrecen, Hungary
80		21-23 March 1998	Port Stephens, Australia
81		28-30 August 1998	Bratislava, Slovakia
			<b>GM13 (1998)</b>
82	Woodruff	4 September 1998	Stratford-upon-Avon, UK
83		9-21 February 1999	Birmingham, UK
84		3-5 September 1999	Saillon, Switzerland
85		31 March-2 April 2000	Cancun, Mexico
86		7-9 October 2000	Namur, Belgium
87		14-16 March 2001	Portoroz, Slovenia
88		26-28 October 2001	Brighton, UK
			<b>GM14 (2001)</b>
89	Barthés-Labrousse	2 November 2001	San Francisco, USA
90		10 March 2002	San Francisco, USA
91		15 September 2002	Regensburg, Germany
92		22 March 2003	Smolenice, Slovakia
93		21 September 2003	Beijing, P R China
94		15 February 2004	Dubrovnik, Croatia
95		27 June 2004	Lyon, France
			<b>GM15 (2004)</b>
96	Valbusa	2 July 2004	Trento, Italy
			Venice, Italy

**Table V. IUVSTA Divisions**

<b>Division</b>	<b>Initials</b>	<b>Year Founded</b>	<b>Original Chairman</b>
Surface Science	SS	1980	A. van Oostrom (NL)
Thin Film	TF	1980	F. Abeles (F)
Vacuum Science and Technology (originally Vacuum Science)	VST	1980	K. Poulter (GB) W. Bächler (D)
Electronic Materials and Processing	EMP	1980	M. Francombe (USA) M. Croset (F)
Plasma Science and Technique (originally Fusion)	PST	1983	M. Kaminsky (USA)
Materials Engineering (originally Vacuum Metallurgy)	ME	1986	R. Bunshah (USA)
Applied Surface Science	ASS	1989	C. J. Powell (USA)
Nanometer Structures	NS	1995	J. S. Murday (USA)



**Table VI. IOVST and IUVSTA International Congresses and Conferences**

<b>Year</b>	<b>Location</b>	<b>Meeting</b>
1958	Namur	1st International Congress on Vacuum Technology
1961	Washington	2nd International Congress on Vacuum Science and Technology 8th National Vacuum Symposium (AVS)
1965	Stuttgart	3rd International Vacuum Congress
1968	Manchester	4th International Vacuum Congress
1971	Boston	5th International Vacuum Congress 1st International Conference on Solid Surfaces 18th National Vacuum Symposium (AVS)
1974	Kyoto	6th International Vacuum Congress 2nd International Conference on Solid Surfaces
1977	Vienna	7th International Vacuum Congress 3rd International Conference on Solid Surfaces
1980	Cannes	8th International Vacuum Congress 4th International Conference on Solid Surfaces 3rd European Conference on Surface Science
1983	Madrid	9th International Vacuum Congress 5th International Conference on Solid Surfaces
1986	Baltimore	10th International Vacuum Congress 6th International Conference on Solid Surfaces 33rd AVS National Symposium
1989	Cologne	11th International Vacuum Congress 7th International Conference on Solid Surfaces
1992	The Hague	12th International Vacuum Congress 8th International Conference on Solid Surfaces
1995	Yokohama	13th International Vacuum Congress 9th International Conference on Solid Surfaces
1998	Birmingham	14th International Vacuum Congress 10th International Conference on Solid Surfaces 5th International Conf. on Nanometre Science and Technology 10th International Conference on Quantitative Surface Analysis
2001	San Francisco	15th International Vacuum Congress 11th International Conference on Solid Surfaces 48th AVS International Symposium
2004	Venice	16th International Vacuum Congress 12th International Conference on Solid Surfaces 8th Internat'l Conf. on Nanometre-Scale Science and Technology 17th AIV Vacuum National Symposium

**Table VII. IUVSTA Visual Aids Modules**

**Original Parts/Modules**

Part 1.	Fundamentals of Vacuum	41 transparencies, 84 pages of text.
Part 2.	Vacuum Measurements & Gauges	48 transparencies, 53 pages of text.
Part 3.	Gas Transfer Pumps	68 transparencies, 132 pages of text.
Part 4.	Residual Gas Analysers	47 transparencies, 68 pages of text.
Part 5.	Thin Film Deposition*	36 transparencies, 79 pages of text.
Part 6.	Leak Detection	39 transparencies, 58 pages of text.
Part 7.	History of Vacuum Science	56 transparencies, 59 pages of text.
Part 8.	Capture Pumps	77 transparencies, 43 pages of text.
Part 9.	Vacuum Systems	39 transparencies, 40 pages of text.
Part 10.	Vacuum Materials	38 transparencies, 40 pages of text.
Part 11.	Electron Spectroscopies	33 transparencies, 41 pages of text.

**Modules available also in electronic format on CD ROM with PowerPoint® slides.**

Module 5	Thin Film Growth	128 PowerPoint® slides
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**Modules which will soon be available also in electronic format on CD ROM with PowerPoint® slides.**

Module 1	Fundamentals of Vacuum	65 PowerPoint® slides (approx.)
Module 2	Total Pressure Measurement and Gauges	47 PowerPoint® slides (approx.)
Module 4	Residual Gas Analyzers and Analysis	68 PowerPoint® slides (approx.)
Module 6	Leak Detection	50 PowerPoint® slides (approx.)
Module 11	Electron Spectroscopies	112 PowerPoint® slides (approx.)

**Table VIII. Welch Scholars**

<b>Year</b>	<b>Name</b>	<b>Country of Origin</b>	<b>Country of Study</b>
1969	J. Lopez-Sancho	Spain	USA
1970	M. Vesely	Czechoslovakia	USA
1971	S. Tabata	Japan	France
1972	E. Rieger	Hungary	Netherlands
1973	J. Czyzewski	Poland	USA
1974	O. Christensen	Denmark	France
1975	S. M. Ojha	India	USA
1976	H. Urbankova	Czechoslovakia	USA
1977	H. Kezuka	Japan	Germany
1978	L. Verheij	Netherlands	United Kingdom
1979	P. I. Cohen	USA	Not Used
1980	J. A. Kolaczkiwicz	Poland	Germany
1981	C. V. Dharmadhikari	India	USA
1982	P. A. Dowben	USA	Germany
1983	Antoni Ciszewski	Poland	USA
1984	Catherine Foley	Australia	USA
1985	Jan Paul	Sweden	United Kingdom
1986	Yumin Gao	China	France
1987	S. N. Sahu	India	Australia
1988	G. M. Sundaram	USA	United Kingdom
1989	Suda Uthanna	India	Germany
1990	Lars G. Hultman	Sweden	USA
1991	M.-A. Hassan	Iraq/Sweden	USA
1992	Jose del Barco	Argentina	France
1993	Wu Hong	China	USA
1994	Marlin Foltin	Slovakia	USA
1995	Wei Yang	China	USA
1996	Helmut Öfner	Austria	USA
1997	Sasha Gorer	Israel	USA
1998	M. Keidar	Israel	USA
1999	She Guan Wang	China/Israel	USA
2000	Erik Svedberg	Sweden	USA
2001	Christine A. Nicoll	Canada	United Kingdom
2002	Muhammad Tawalbeh	Jordan	Canada
2003	Rafli Shikler	Israel	United Kingdom
2004	Maksim Kireitseu	Belarus	USA