

IEA Triennial Report **1997 – 2000**



International Ergonomics Association



**IEA** Triennial Report

**1997 – 2000**



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IEA TRIENNIAL REPORT 1997 -2000

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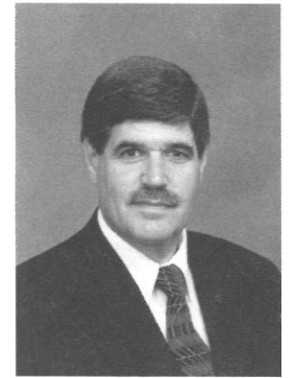
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## Message from the President of the International Ergonomics Association

Y. Ian Noy



It is my great pleasure to present this Triennial Report of the International Ergonomics Association for the period 1997-2000. Since this is the first Triennial Report to be widely disseminated, we are providing supplementary information concerning the IEA - its mandate, organization and main areas of activity - in addition to highlighting the major accomplishments during the reporting period. We hope that you will find this report informative and that it will stimulate both your interest and perhaps your participation in future IEA activities. We also invite persons or organizations interested in sponsoring IEA activities to contact us for further information.

I am proud to have been associated with the IEA during this three-year period of intense activity. I use the word "associated" to emphasize that the Executive Committee, together with members of the various Standing Committees, deserves the credit for the great amount of work that was undertaken. I thank those actively involved individuals for their contributions. Their efforts have made the IEA richer and stronger. It does not cease to amaze me how much activity this organization undertakes and supports and how much influence it wields, despite its very modest resources. When I was Treasurer, I was embarrassed by how few financial resources we actually had. Now as President, I am proud of how much we can accomplish with what we have.

Our strength lies in dedicated, talented people and an ability to leverage our efforts through international cooperation. For example, our triennial Congress is a large, complex undertaking with a budget which is nearly 20 times the annual budget of the Association. During the reporting period, the IEA has pursued a variety of important initiatives aimed at promoting our discipline within the developed world as well as in industrially developing countries while at the same time modernizing the way we function. We have also begun the important task of documenting the history of the IEA and establishing its formal archives. I invite you to read this report carefully to learn the full scope of our on-going activities and accomplishments.

Through a heightened synergy, the IEA Executive and the Council have achieved a number of important milestones. Together, we have reached consensus on definitions for the discipline of ergonomics and its domains of specialization - definitions that are concise, succinct, and unambiguous. This apparently small feat belies the complexity of the task we faced and the controversy that such a task sparks. While there exist regional differences in focus and approach to ergonomics, the Council responded to the need to promote understanding and communication within the ergonomics community as well as with professionals and lay people outside the field. The IEA definitions will be instrumental in communicating the essence of ergonomics, its unique knowledge content, and its differences from related disciplines. No doubt, the definitions will be elaborated in the future as the discipline continues to evolve.

Together we also completed a strategic plan, which will position the IEA to respond effectively to the needs of federated societies, the discipline and society as a whole. In producing the strategic plan, we had to re-examine our priorities and develop a shared vision of the IEA in the future. I am especially pleased that we did this in a participatory manner involving IEA member societies. The result is that our plans and priorities reflect an international consensus, representing the range of interests and views

within the ergonomics community. The strategic plan, reproduced as an Appendix to this report, is a living document which will require periodic review. However, it is an important first step and I am confident that it will serve to guide us well as we enter the new millennium.

Clearly, the scope and nature of IEA activities has increased considerably in recent years, placing an increasing burden on individuals who serve the IEA and who face similarly increasing demands associated with employment, family and other community service responsibilities. While we believe strongly that policy and program initiatives must continue to be formulated and implemented by prominent ergonomists on a voluntary basis, it is clear that much of the routine work involved in day-to-day administration could be contracted out to professionals who would provide the requisite support services and off-load Executive officers and committee members to provide direction and leadership. We have begun to plan for this eventuality. We have also embraced information technologies (IT) where it has proved an effective alternative to traditional business practices. We will continue to explore IT opportunities to conduct business, deliver services, promote ergonomics, and advance international cooperation in scientific and professional matters.

This Triennial Report coincides with the transition to a new century and a new millennium at a time when ergonomics should prepare itself to assume a key role in shaping the future of our society. We face a number of formidable challenges as well as important opportunities, as we learned during a special IEA symposium on this subject in Santorini, Greece, August 31- September 1, 1999. Because our discipline is very young, it faces the normal challenges of maturation - institutional, academic, political - and these challenges are exacerbated by profound changes now taking place that touch all aspects of society: changes in the nature of work and play; changes in global commerce and communication; changes in science and technology; and changes in world demographics. These profound changes cannot but influence the future course of the field since they relate to how people interact in an increasingly dynamic and complex world. However, these very changes also beckon ergonomics to play a more direct and vital role in shaping the society of the future.

National and regional ergonomics societies will need to assume an increasing role to connect professionals and provide the means for sharing knowledge. The IEA as the federation of ergonomics societies must be ready to support these societies in meeting local challenges.

As scientific and engineering innovations enable new solutions to problems arising from human enterprises, ergonomics will be called upon to guide designers, managers and decision-makers to solutions that are human-friendly, supportive and meaningful. But, for ergonomics to fulfill its promise it must be true to its namesake. The emphasis of ergonomics in the twentieth century was on "ergon", meaning work. That is, ergonomics of the past can be characterized by the following key words; empirical methods and data, intervention, case studies and design guidelines. The emphasis in the twenty first century must shift to "nomos", meaning laws. Ergonomics of the future must build a comprehensive body of knowledge based on theories of human-system interactions supported by generalized, quantitative, predictive models that can be readily applied to design.

To the extent that we can deliver the 'nomos', ergonomics will be a key science of the future.

*Y. Ian Noy*

## About the Discipline of Ergonomics

**Ergonomics** (or human factors) is the scientific discipline concerned with the understanding of the interactions among humans and other elements of a system, and the profession that applies theoretical principles, data and methods to design in order to optimize human well-being and overall system performance.

Practitioners of ergonomics, **ergonomists**, contribute to the planning, design and evaluation of tasks, jobs, products, organizations, environments and systems in order to make them compatible with the needs, abilities, and limitations of people.

### Domains of specialization

Derived from the Greek *ergon* (work) and *nomos* (laws) to denote the science of work, ergonomics is a systems-oriented discipline which now applies to all aspects of human activity. Practicing ergonomists must have a broad understanding of the full scope of the discipline, taking into account the physical, cognitive, social, organizational, environmental and other relevant factors. Ergonomists often work in particular economic sectors or application domains. These application domains are not mutually exclusive and they evolve constantly. New ones are created; old ones take on new perspectives.

Within the discipline, domains of specialization represent deeper competencies in specific human attributes or characteristics of human interaction:

**Physical ergonomics** is concerned with human anatomical, anthropometric, physiological and biomechanical characteristics as they relate to physical activity. *The relevant topics include working postures, materials handling, repetitive movements, work-related musculoskeletal disorders, workplace layout, safety and health.*

**Cognitive ergonomics** is concerned with mental processes, such as perception, memory, reasoning, and motor response, as they affect interactions among humans and other elements of a system. *The relevant topics include mental workload, decision-making, skilled performance, human-computer interaction, human reliability, work stress and training as these may relate to human-system design.*

**Organizational ergonomics** is concerned with the optimization of sociotechnical systems, including their organizational structures, policies, and processes. *The relevant topics include communication, crew resource management, work design, design of working times, teamwork, participatory design, community ergonomics, cooperative work, new work paradigms, organizational culture, virtual organizations, telework, and quality management.*



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**ABOUT IEA**

The International Ergonomics Association is the federation of ergonomics and human factors societies around the world. The mission of IEA is to elaborate and advance ergonomics science and practice, and to improve the quality of life by expanding its scope of application and contribution to society. The IEA is governed by the Council with representatives from the federated societies. Day-to-day administration is performed by the Executive Committee that consists of the elected Officers and Chairs of the Standing Committees.

A President, Secretary-General and Treasurer are elected by Council at the Triennial Congress to serve for a period of three years.

**Goals and Objectives**

The following are the principal goals of the IEA:

- To develop more effective communication and collaboration with federated societies
- To advance the science and practice of ergonomics at an international level
- To enhance the contribution of the ergonomics discipline to global society

**IEA Standing Committees**

The Standing Committees accomplish much of the work of the IEA. In turn, their subcommittees are responsible for specific functions or activities:

**Policy and Development Committee**

This committee explores and coordinates new policy options and proposals, and assist in the development and implementation of new programs and initiatives to improve the functioning and effectiveness of IEA. The committee develops and coordinates plans and proposals concerning IEA policies, operations, and structure, and assists in development of policy recommendations to better serve Federated Societies and the international ergonomics community.

**Professional Practice and Education Committee**

This committee compiles and disseminates information relevant to offerings in ergonomics at educational institutions, educational materials, including instructional methods, aids and standards

Formerly known as the Education and Training Committee, this committee has been renamed as the **Professional Practice and Education Committee**, to more accurately reflect its responsibilities. New goals for the Committee have been developed, in line with the IEA Strategic Plan, as follows:

- To develop internationally accepted guidelines for accreditation of ergonomics educational programs, including guidelines for ergonomics curricula, which satisfy IEA Competency Standards.

- To provide a process for the IEA endorsement of certifying systems, and certifying bodies, according to IEA Guidelines.
- To review the Directory of Ergonomics Education programs and develop firmer guidelines for inclusion of courses within the Directory; to encourage updating via the IEA home-page.
- To provide a resource in relation to educational programs available on the internet.
- To explore strategies to enhance support of ergonomics education programs.

**Science and Technology Committee**

This committee promotes and coordinates the exchange of scientific and technical information at the international level. There are presently twenty one subcommittees (known as Technical Committees) which address specific areas of technical interest.

There are five major objectives of the Science and Technology Committee:

- To identify and promote important research and application areas
- To promote and coordinate the exchange of scientific and technical information at the international level
- To advise and assist in the development of the technical program of IEA Triennial Congresses
- To advise and assist in the organization and conduct of IEA sponsored meetings
- To assist industrially developing countries in the assimilation of ergonomics practices and knowledge

**Publication and Promotion Committee**

This committee develops and distributes a variety of publications, including the IEA annual reports, a newsletter, *Ergonomics International*, Directory of Educational Institutions, Directory of Resources Centers, and promotional brochures. The committee manages the IEA Press, which serves as the publishing house of IEA. The committee also coordinates donations of educational materials to libraries in industrially developing countries through the IEA Book Fund.

**Industrially Developing Countries Committee**

This committee promotes, coordinates, and implements ergonomic activities in industrially developing countries by supporting local and regional initiatives concerning research, development, training, and conferences. The committee implements ergonomics development programs in industrially developing countries and collaborates with other IEA committees with interests in industrially developing countries.

The global and long-term goals of the Committee are:

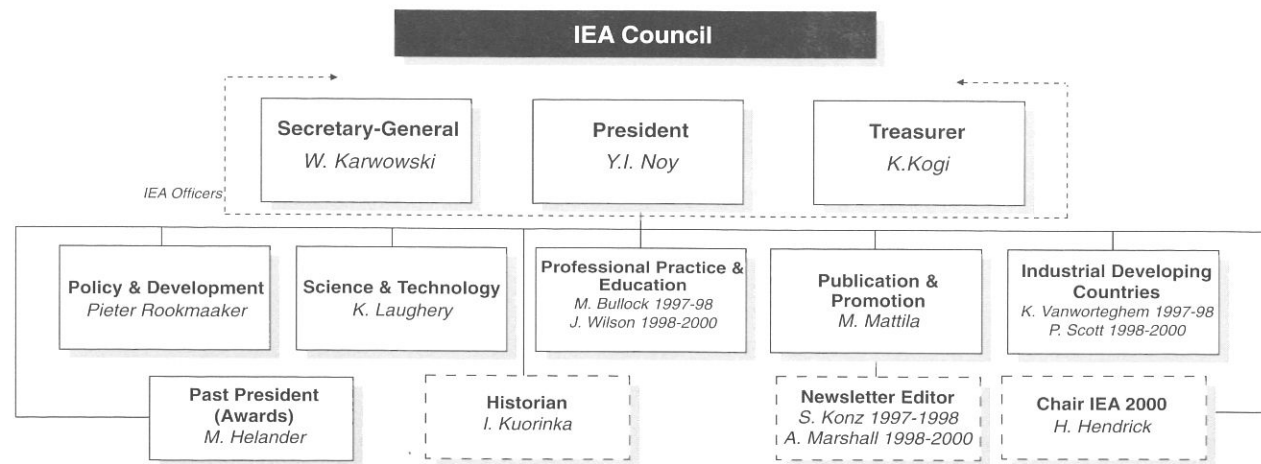
- To improve working conditions throughout IDCs
- To develop universal guidelines to assist local experts to identify problems, and to suggest appropriate intervention strategies.
- "To help others help themselves"
- To consolidate a global network of communication between key international and regional figures in IDCs.
- To support and encourage educational and training programs specifically focused on ergonomics in IDCs.

**Awards Committee**

This committee recommends to Council awards to individuals for their contributions to the field of ergonomics.

For description of the awards please refer to Part III (page 25).

**IEA Organizational Chart**



Executive Committee meeting before the IEA '97 Congress (standing from left, Hal Hendrick, Kamid Vanwongterghem, Markku Mattila, Odgen Brown, Holger Luczak, and sitting, Pieter Rookmaaker, Margaret Bullock, Martin Helander, Ian Noy and Waldemar Karwowski), June 1997.

## IEA Membership Structure

As of June 2000, the International Ergonomics Association has 35 federated societies, 1 affiliated society and 2 sustaining member organizations.

## IEA Federated societies

Federated societies are professional societies in ergonomics/human that have been admitted by the Council for having met and continuing to fulfill the eligibility criteria provided by the IEA Rules. They have voting rights and appoint representatives to Council based on the size of their membership.



### Federated Societies:

All-Ukrainian Ergonomics Association  
Asociación Española De Ergonomía (Spain)  
Belgian Ergonomics Society  
Associação Brasileira de Ergonomia (ABERGO)  
Association of Canadian Ergonomists/ Association Canadienne d'Ergonomie  
Chinese Ergonomics Society  
Sociedad Colombiana De Ergonomía (Colombia)  
Croatian Ergonomics Society  
Czech Ergonomics Society  
Ergonomics Society (UK)  
Ergonomics Society of Australia  
Ergonomics Society of the Federal Republic of Yugoslavia

Ergonomics Society of Korea  
Ergonomics Society of South Africa  
Ergonomics Society of Taiwan  
Gesellschaft für Arbeitswissenschaft (Germany)  
Hellenic Ergonomics Society  
Human Factors and Ergonomics Society (USA)  
Hungarian Ergonomics Society  
Indian Society of Ergonomics  
Inter-Regional Ergonomics Association /IREA (Russia)  
Irish Ergonomics Society  
Israel Ergonomics Society  
Societa' Italiana di Ergonomia (Italy)  
Japan Ergonomics Society

Nederlandse Vereniging voor Ergonomie (Netherlands)  
New Zealand Ergonomics Society  
Nordic Ergonomics Society  
Österreichische Arbeitsgemeinschaft Für Ergonomie (Austria)  
Polish Ergonomics Society  
Associação Portuguesa de Ergonomia (APERGO) (Portugal)  
Slovak Ergonomics Association  
Société d'Ergonomie de Langue Française (SELF)  
South East Asia Ergonomics Society (SEAES)  
Turkish Ergonomics Society

## IEA Affiliated Societies

Affiliated societies are those societies that are not eligible for federated membership status. Currently, there is one affiliated society:

### Human Ergology Society (Japan)

## IEA Sustaining Members

Sustaining members are organizations or individuals who support the work of IEA through annual financial contributions. There are several categories of sustaining membership.

### Gold Level

- Bureau of the Hungarian Council of Industrial Design and Ergonomics

### Platinum Level

- Research Institute of Human Engineering for Quality Life (Japan)



IEA Executive Committee Meeting in Malaysia, 1997.

## Founding of IEA

The roots of the International Ergonomics Association are closely linked with a project initiated by the European Productivity Agency (EPA), a branch of the Organization for European Economic Cooperation. The EPA established a Human Factors Section in 1955. In 1956, it invited nine specialists from European countries to visit the United States to observe human factors research. The next phase of the EPA project was a technical seminar on "Fitting the Job to the Worker" at the University of Leiden in 1957. There, a set of proposals was presented for the formation of an international association of work scientists.

A Steering Committee was appointed to develop the proposals and to organize an international association. The members of that committee were: Prof. H.S. Belding, Prof. G.C.E. Burger, Prof. S. Forsman, Prof. E. Grandjean, Prof. G. Lehman, Prof. B. Metz, Prof. K.U. Smith and Mr. R.G. Stansfield. Although there was some reluctance to use the term "ergonomics" in naming the new association because British scientists had founded the Ergonomics Research Society in 1949, the committee decided to adopt the name "International Ergonomics Association" on a preliminary basis until a better name could be found.

The Steering Committee then prepared and distributed a preliminary set of bylaws for the proposed international association. At the meeting in Paris in September, 1958, they decided to proceed with organizing an association and to hold an International Congress in 1961. The Steering Committee then designated itself as the "Committee for the International Association of Ergonomic Scientists", and elected Prof. G.C.E. Burger, President; Prof. K.U. Smith, Treasurer; and Prof. E. Grandjean, Secretary.

The Committee for the International Association of Ergonomic Scientists met in Zurich in March 1959 during a conference organized by EPA, and decided to retain the name "International Ergonomics Association." On April 6, 1959, at the meeting in Oxford, England, Prof. Grandjean declared the founding of the International Ergonomics Association. The Committee also met again in Oxford later in 1959 to agree formally upon the set of bylaws or statutes drawn up by the Secretary with the help of committee members and the EPA staff. These statutes were later approved by the Association's first General Assembly at the first IEA Congress in Stockholm in 1961. With this meeting, the preparatory phase of the foundation of the International Ergonomics Association was concluded.

## Major IEA Activities and Accomplishments

### The IEA Strategic Plan

During 1997-2000, the IEA undertook a review of its mission and developed a strategic plan that will position IEA to respond effectively to the needs of federated societies, the discipline and society as a whole. In Kuala Lumpur, Malaysia (1997), the Executive Committee developed an initial outline to be used as a basis for discussion and comment by member societies. This outline was also the subject of focus group discussions by Council in 1998 and 1999 to ensure that it reflects an international consensus. The revised strategic plan formed the basis of specific implementation plans that are being formulated by the IEA Standing Committees. The process adopted for the development of the plan ensured that our priorities are focused on our mission. An equally important objective was to accomplish this task in a participatory manner. At the 2000 Council meeting in San Diego, the Executive Committee presented the complete proposal for implementation (see Appendix I).

### IEA Definitions

Several studies have documented the existence of a diversity of definitions for ergonomics, there is thus a compelling need to promulgate an authoritative definition that can be widely referenced and that will help project a message and image that is professional and informative to the outside world. The IEA undertook to define the discipline of ergonomics and its branches in a way that is concise, succinct, and unambiguous. Definitions help clarify the field and promote understanding and communication within the ergonomics community as well as with professionals and lay people outside the field.

The task of the Executive Committee was to initiate and manage a process that engaged the international community in defining the discipline and its main domains of specialization. The IEA representatives reached consensus at the Council meeting in Santorini (1999) and the final version was presented to Council for approval at the IEA2000 Congress in San Diego.

## Professional Practice and Education Activities

### Background

The work of the Professional Practice and Education Committee has been taking place against a background of considerable activity with regard to the recognition of the profession of ergonomics and of ergonomics practitioners, across the world. Academic programs are under threat in some countries but are expanding rapidly in others. Certification bodies attached to some Federated Societies or groupings have reached some maturity of operation in the last three years whereas other Federated Societies are just beginning to set certification processes in motion. Equally, academic and legal requirements have accelerated the drive to produce criteria for ergonomics competencies and for accreditation of educational programs.



Plenary Address by John Wilson, Chair of the IEA Professional Practice and Education Committee, at the IEA '97 Congress, Tampere, Finland.

Given this background, the Committee has had to be extremely sensitive in its activities, moving forward relatively slowly so as to ensure that the whole international ergonomics community is broadly in agreement with IEA proposals and, subsequently, its guidelines and criteria.

### Committee Membership

This Committee largely works with a Chair, and sub-committees set up on an ad hoc basis. The Chair for 1997 to 1998 was Professor Margaret Bullock who retired by rotation, and from 1998 to 2000 has been Professor John Wilson. Currently there are three relevant sub-committees: Accreditation sub-committee (Chair: Professor Margaret



IEA Council Dinner in Santorini, Greece, September 1999.

Bullock); Certification Endorsement sub-committee (Chair: Professor Hal Hendrick); and Directory of Ergonomics programs sub-committee (Chair: Dr. Leon Straker).

Membership of the first of these committees is drawn from nominated educators within a number of the Federated Societies. For the second committee, several members of different Federated Societies have been appointed to a pool such that a sub-committee of experts with no potential conflicts of interest can be activated each time a body applies for approval. For the work of the third sub-committee we are still waiting for sufficient volunteers to enable us first to list, and then to carry out quality screening of the various ergonomics education programs worldwide.

### 1997- 2000 Activities

The activities of the committee over the past three years have largely been dictated by the mandate given at the IEA 1997 Congress and Council meeting. At that meeting, the Council provisionally approved a series of documents having to do with core competencies in ergonomics, guidelines for a certification process and IEA endorsement of certification processes to be discussed later by the federated societies. Subsequently, the 1998 Council Meeting approved the documentation as "living documents," that is, the documents should appear as IEA guidelines and/or procedures (where relevant), but that they are open to amendment by the federated societies on an annual basis at the Council Meetings. The mechanism agreed upon was that societies should communicate any objections or suggested amendments via their Council representatives or their Secretariat to the Professional Practice and Education Committee Chair over each 12 month period. Any such comments would be compiled and where there was a strong case made (either by weight of argument or weight of numbers), new proposals would be brought forward to Council Meetings. In the event there have been a number of requests for changes in the docu-

ments but these have been communicated informally. Therefore, such changes as have been made have been made by the Committee itself, largely in an attempt to integrate the various policies and documents and to ensure that their thrust and content are acceptable to all federated societies.

Articles about the certification and competencies documents have been written by the Chair and have appeared in Ergonomics International, The Ergonomist and the HFS Bulletin.

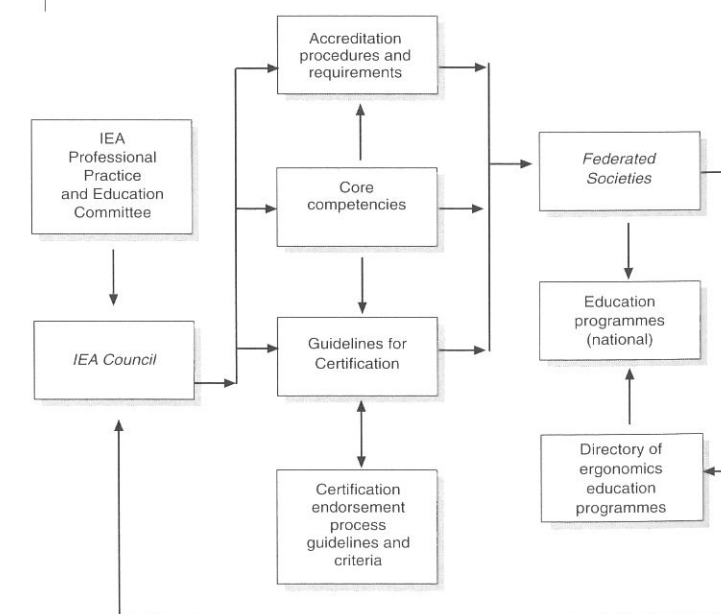
### Professional Recognition documentation

Approval (but living) documents concerning the recognition of professionalism, competency and quality of ergonomics have been loaded onto the IEA web site:

- Core Competencies for Practitioners in Ergonomics [short name: Competencies]
- Summary version - Full version
- Minimum Criteria for the Process of Certification of an Ergonomist [short name: Certification Criteria]
- Criteria for IEA Endorsement of Certifying Bodies [short name: Certification Endorsement]
- Guidelines for the Process of Endorsement of Certifying Bodies [short name: Endorsement Process]

During 1999 to 2000, the Federated Societies and their Council representatives have again been formally asked to comment to the Chair of the Committee about all the Professional Recognition documentation. At the 2000 Council meeting, all such comments were summarized and debated.

The inter-connections between the documents and other current initiatives are illustrated in the following diagram.



### Certification Endorsement sub-committee

In 1998, Hal Hendrick was appointed by the IEA Executive Committee as Chair of the Certification Endorsement Sub-Committee. He worked with the Chair of the Education and Training Committee, Margaret Bullock, in developing a draft set of criteria and procedures for endorsing professional certification agencies and programs.

In late 1988, the Education and Training Committee Chair formed a Certification Endorsement Sub-Committee. In addition to Hendrick, the members are: Harvey Cohen and Jerry Duncan (USA); Manfred Rentzsch (Germany), Francois Danniellou (France), Carol Slappendel (New Zealand), and Elizabeth Bunker (Australia).

The Certification Endorsement Sub-Committee recently received approval from the IEA Executive Committee to proceed with an initial certification endorsement pilot of its procedures. Hal Hendrick now is working on a draft set of more detailed procedures that will be circulated to the full committee for review and comment early in 2000. As soon as those procedures are established, one or two well-recognized certification agencies will be invited to submit an application for endorsement. The Committee already has been contacted by the BCPE in the US and the New Zealand Ergonomics Society indicating interest in applying for endorsement as soon as the IEA is ready.

Hal Hendrick has been monitoring the development of a similar endorsement program by the Human Factors and Ergonomics Society in the US, and IEA Committee member Jerry Duncan, is participating directly in that development process. Because the HFES Committee is using the IEA draft procedures and criteria as a starting point for their own detailed procedures, Hendrick anticipates that some of the HFES committee's work will be useful to the IEA Committee in fleshing out its procedures. The HFES procedures and criteria are expected to be available to the IEA's Committee in late January or early February, 2000.

### Accreditation sub-committee

Following approval at IEA 1997 an Accreditation Sub-Committee was established, chaired by Margaret Bullock (Australia) and with membership Herb Collie (USA), Bill Moroney (USA), Karen Piegorsch (USA), Tim Galwey (Ireland), David Stubbs (UK) and with Hal Hendrick (USA) and Bill Green (Netherlands/Australia) as consultants. After communicating electronically for about 30 months and taking soundings from colleagues in other countries or societies, they have produced a set of guidelines for the accreditation of ergonomics educational programs. These guidelines represent current ergonomics practice and an evaluative approach which is relevant to competency standards. The guidelines were presented at the 2000 Meeting, and Council was asked to gather opinions on their content and value from the IEA member societies and to

accept them as guidelines from the IEA at the 2000 or (at latest) 2001 Council Meeting.

### Directory of ergonomics educational programmes

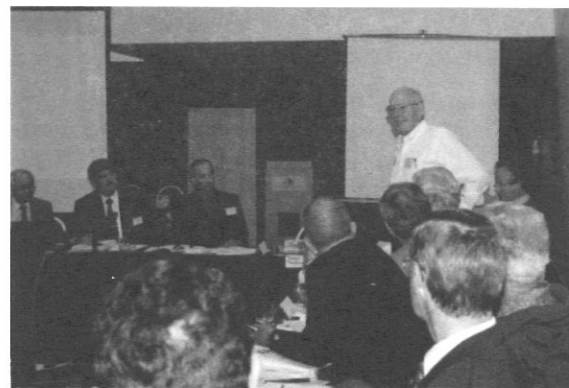
A 4th edition of the IEA International Directory of Ergonomics Programmes in Ergonomics/Human Factors is being produced in electronic form. Leon Straker (Australia), appointed Chair of the Sub-Committee in 1998, has convened a task force comprising Moh Ayoub (USA), Rachel Benedyk (UK), Rabindra Sen (India) and Annabel Cooper (student representative). They have produced guidelines based on the 3rd edition and have designed a skeleton electronic version, whose format, along with proposals for operation of the Directory - identification, selection, approval, quality assurance procedures etc. - were discussed at IEA Council 2000.

### Relationship to the IEA Strategic Plan

The work of the Professional Practice and Education Committee is central to the elements of the Strategic Plan defined in the strategies of objective B3. In particular, over the past three years, the Committee has contributed to:

- a) Iterative development of the whole Strategic Plan (the Chair of the Professional Practice and Education Committee is also a member of the Policy and Development Committee).
- b) Development and maintenance of Professional Recognition Documentation and Procedures (strategies B3.7, B3.8 and B3.9).
- c) On-going development of guidelines for accreditation of ergonomics educational programs and of a directory of approved ergonomics educational programs (strategies B3.5 and B3.6).

Once all the PRD components are in place the Committee will be in a position to support outreach into international standards and best practice and the promotion of ergonomics education and practice (strategies B3.3 and B3.4).



*Ken Laughery, Chair of the Science and Technology Committee, delivers his report to the IEA Council Meeting in Cape Town, South Africa, September 1999.*

## Science and Technology Activities

There are several types of activities that serve as a focus of the work of the Science and Technology Committee and the IEA Technical Committees. These activities include:

- Arranging and promoting scientific and technical conferences and meetings
- Assisting in developing the program for the IEA Triennial Congress
- Serving as a review body for IEA endorsement of conferences, journals and special publications
- Providing information for the IEA web site regarding the organization and activities of the Technical Committees

### IEA Technical Committees

There are currently 21 IEA Technical Committees as listed below. The names and contact information for the Chairs of the Technical Committees are listed in Appendix IV.

#### Aging

#### Agriculture

#### Building & Architecture

#### Consumer Products

#### Control Rooms

#### Cost-Effective Ergonomics

#### Hospital Ergonomics

#### Human Aspects of Advanced Manufacturing

#### Human-Computer Interaction

#### Human Reliability

#### Industrial Design

#### Musculoskeletal Disorders

#### Organizational Design and Management

#### Power Systems

#### Psychophysiology in Ergonomics

#### Quality Management

#### Rehabilitation Ergonomics

#### Safety & Health

#### Standards

#### Work Environment Design

#### Work Psychodynamics

## IEA Sponsored Conferences and Meetings

Each year the IEA supports many international scientific conferences organized by any of its Federated Societies or by other international bodies that have an interest in ergonomics or that are organizing a conference with a major ergonomics team. Support is given for conferences of five major types:

- IEA Triennial Congress
- IEA Conference
- Joint Conference
- Approved Conference
- Endorsed Conference

Since the 1997 IEA Triennial Congress in Finland, the IEA has approved/endorsed the following conferences and meetings:

July 1997	INTERACT '97: Sixth IFIP TC13 Conference on Human-Computer Interaction. Sydney, Australia.
July 1997	Pacific Workshop on Distributed Multimedia Systems. Vancouver, Canada.
August 1997	Seventh International Conference on Human-Computer Interaction jointly with the 13th Symposium on Human Interface. San Francisco, USA.
September 1997	Fifth European Conference on Computer Supported Cooperative Work. Lancaster, UK.
October 1997	Re-Visiting the Allocation of Functions Issue: New Perspectives. Galway, Ireland.
November 1997	WWDU '97: Work With Display Units. Tokyo, Japan.
November 1997	The ASEAN Ergonomics Society (SEAS) Conference. Kuala Lumpur, Malaysia.
January 1998	XIIIth Annual International Occupational Ergonomics and Safety Conference. Ann Arbor, MI USA.
July 1998	Sixth International Conference on Human Aspects of Advanced Manufacturing: Agility & Hybrid Automation. Hong Kong, China.
July 1998	The 5th Pan-Pacific Conference on Occupational Ergonomics. Kitakyushu, Japan.

August 1998	Sixth Congress on Human Factors in Organizational Design and Management. The Hague, The Netherlands.
September 1998	Global Ergonomics Conference. Cape Town, South Africa.
March 1999	Work, Stress, and Health 1999: Organization of Work in a Global Economy. Baltimore, USA
May 1999	International Conference on Computer-Aided Ergonomics and Safety. CAES '99, Barcelona, Spain.
June 1999	International Conference on TQM and Human Factors: Towards Successful Integration. Linköping, Sweden.
June 1999	The XVI International Seminar of Ergonomics Teachers: Certification and Accreditation of Ergonomics, Labour Protection and Work Safety Education. Leszno, Poland.
August 1999	Eighth International Conference on Human-Computer Interaction. Munich, Germany.
August 1999	Strengths and Weaknesses, Threats & Opportunities of Ergonomics in front of 2000. Santorini, Greece.
October 1999	International Conference on Safety of Industrial Automated Systems. Montreal, Canada.
February 2000	First International Conference on Occupational Risk Prevention. Tenerife, Spain.

## Conference Highlights

### ODAM 1998

The IEA Conference on Organizational Design and Management, ODAVI, held August 19-22, 1998, was very successful. Peter Vink, Steven Dhondt, Marc Peters and Ernst Koningsveld presented overviews titled: Balancing Organizational, Technical and Human Factors. The IEA is deeply indebted to the organizers for their hard work in continuing this excellent series of conferences.



Pedro Mondelo (Spain), Conference Chair and Gabriella Caterina of Italy at the IEA sponsored Conference on Computer-Aided Ergonomics and Safety, Barcelona, May 1999.



Steve Konz (front, right) shares a break with Executive Committee members in Cape Town, South Africa, September 1998.



Press Conference at the IEA '97 Congress, Tampere, Finland. (from left: Hanna Stalhammer, Nordic Ergonomics Society, Jorma Rantanen, Director of the Finish Institute of Occupational Health and Kazu Kogi of Japan).

### Global Ergonomics Conference 1998

The Global Ergonomics Conference held in Cape Town, South Africa, September 1998, was a resounding success, thanks to the work of Pat Scott and conference organizers. A large part of the program was devoted to ergonomics issues in industrially developing countries, primarily in Africa. A forum was held to explore ways in which the IEA could help promote ergonomics in IDC's. The IEA network of people interested in ergonomics in IDC's was created.

### Support of the IEA 2000 Triennial Congress

The IEA Technical Committees played an important role in the program for the Triennial Congress 2000 in San Diego. In addition to reviewing and selecting submissions for the technical program, many of the committees organized multiple-session symposia on topics central to the committee's ergonomic focus.

Following is a list of these Symposia:

Topic: Ergonomics and TQM  
Convenor: Ram Bishu (US)

Topic: Ergonomic Design by Means of Human Models  
Convenor: Heiner Bubb (Germany)

Topic: Inclusive Design and Usability  
Convenor: William S. Green (Netherlands)

Topic: Musculoskeletal Disorders for Upper Extremities  
Convenor: Antonio Grieco (Italy)

Topic: Applications of Psychophysiology in Macroergonomics  
Convenor: Robert A. Henning (US)

Topic: Macroergonomics Methods and Tools for Improved Performance and Well-Being in Various Environments  
Convenor: Brian M. Kleiner (US)

Topic: Rehabilitation Ergonomics  
Convenor: Shrawan Kumar (Canada)

Topic: Ergonomics in Agriculture and Food Production  
Convenor: Kurt Landau (Germany)

Topic: Human Factors in Power Systems  
Convenor: John M. O'Hara (US)

Topic: Control Room Ergonomics  
Convenor: John E. Wood (UK)

## IEA Publication Activities

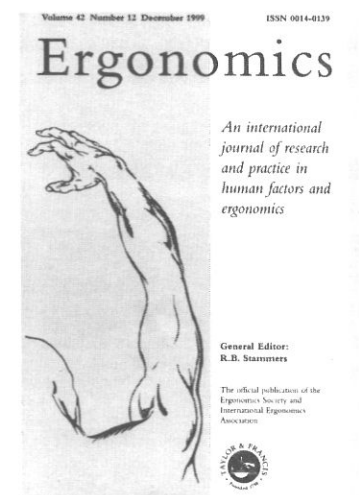
The IEA activities in the area of publication and promotion, coordinated by the Standing Committee on Publication and Promotion, focus on development and distribution of a variety of publications, including the IEA Newsletter, *Ergonomics International*, the *IEA Journal of Ergonomics Research*, Directory of Educational Institutions, Directory of Resources Centers, and the IEA promotional brochures.

IEA has developed an effective system for coordination of donations of educational materials such as books and journals to libraries in developing countries through the Information Distribution Centers.

*Journals published in cooperation with IEA*

### Official Journal of IEA

*Ergonomics*, published by Taylor & Francis, is the official journal of the International Ergonomics Association. *Ergonomics* was utilized to publish proceedings of the First IEA Congress in 1961.



### IEA Endorsed Journals

The following journals are being published in cooperation with IEA:

- *International Journal of Human-Computer Interaction*
- *Human Factors and Ergonomics in Manufacturing*
- *International Journal of Occupational Safety and Ergonomics*
- *International Journal of Cognitive Ergonomics*
- *International Journal of Industrial Ergonomics*
- *Applied Ergonomics*
- *Theoretical Issues in Ergonomics Science*

### IEA Journal of Ergonomics Research

In 1999, IEA began publishing in electronic form the *IEA Journal of Ergonomics Research*, a Web-based peer-review journal that publishes empirical studies reporting original

research, evaluative reviews of the literature, and articles dealing with development and evaluation of methods and theories. Such articles deal with human use of systems, machines, tools, computers, and products in various environments and for different tasks. *IEA Journal of Ergonomics Research* also publishes special issues on important topics.

The Journal, free to subscribers publishes three types of articles: regular articles, review articles and brief articles.

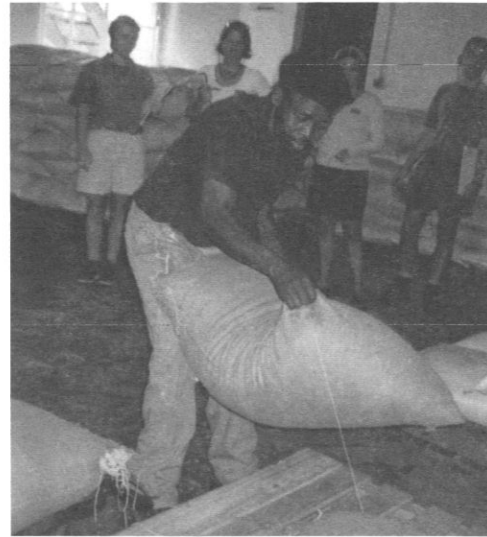
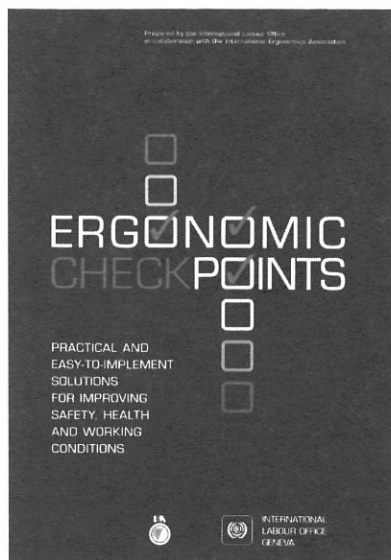
**Regular articles:** These are articles of 15-40 pages of length (double-spaced) and represent original contributions to ergonomics / human factors research. An article may be appropriate to report a major research effort, such as a series of experiments. This format is also appropriate for reporting methodological or theoretical developments.

**Review articles:** A review article represents a synthesis of published literature on a topic of interest to the readers. A review article must present an original perspective or integration of the literature, which will extend the understanding or knowledge in the field.

To submit papers or for more information please contact Editor-in-Chief, Martin G. Helander : mahel@ntu.edu.sg.

#### IEA/ILO Ergonomics Checkpoints

The IEA has authored a book published in conjunction with the ILO, entitled the 'Ergonomics Checkpoints: Practical and Easy to Implement Solutions for Improving Safety, Health and Working Conditions', ISBN 92-2-109442-1, ILO: Geneva, 1996. This book has received widespread and enthusiastic acceptance, and due to high demand has been translated and published in several other languages, including Chinese, Farsi (draft), French, Japanese, Korean, Polish, Spanish, and Vietnamese.



*Ergonomists in training- attendees of the IEA Ergonomics Checkpoints Workshop in South Africa observe manual lifting tasks.*

#### Ergonomic Checkpoints for Agriculture

The IEA and ILO have reached an agreement to develop and publish the next book 'Ergonomics Checkpoints for Agriculture'. Dr. Kazu Kogi (Japan) has invited potential authors to contribute to this project, being developed by IEA and the International Labour Office (ILO) through its Occupational Safety and Health Branch. This collaboration reflects the urgent need for ergonomic guidelines in agriculture and would complement ILO's efforts to establish new standards in safety and health in agriculture.

The target groups will include agricultural workers, farmers, farm managers, extension workers and trainers, tool and machine designers, occupational safety and health personnel and others concerned with ergonomic aspects of agriculture.

#### The IEA History Book

Ergonomics as a science has evolved considerably since its formative years not so long ago, alongside developments in technology. The first 25 years, however, are the cornerstone of the discipline, establishing both a foundation and a vision that continues to guide us to this day. History of the International Ergonomics Association: The First Quarter of a Century, edited by Ilkka Kuorinka, the IEA Historian, is the first volume in a series of historical works and is devoted to this important period. It documents the political, scientific and social context of an era that began to experiment with international cooperation as a means to achieving greater prosperity and other societal benefits. By the end of the 20th century, that experiment has resulted in extensive globalization of the economy and universal, high speed access to information and communication through the Internet. Similarly, it has entrenched the IEA as the

organization that promotes international cooperation in advancing the science and practice of ergonomics to enhance human quality of life. The history of the IEA is inextricably intertwined with the history of ergonomics, a fact that is clearly evident from the book. This fascinating book provides a rare glimpse into the founding of a science and a profession.

#### IEA Newsletter: Ergonomics International

*Ergonomics International* (EI) publishes four times a year on the internet, in the journal *Ergonomics*, and as a separate pamphlet mailed to 400 individuals in over 60 countries throughout the world. It is also emailed directly to over 50 newsletter editors and others. EI contains news from the federated societies, book reviews, IEA statistics, conference announcements, and reviews and other articles related to ergonomics.

The publishers, Taylor and Francis, Ltd., print and mail EI at no charge to the IEA.

Efficient use of the existing and new media is enhancing role of EI in communicating with IEA members and other stakeholders.

A three-year schedule has been devised as indicated in the first table below.

*Ergonomics International* is freely available on the IEA web site, including the back issues up to 1996.

EI has started to carry some longer articles than previously published in the newsletter. These include reports on IEA endorsed conferences and meetings, the work of the standing committees and the chairman, and the history of the IEA. The interest in these articles has been demonstrated by feedback from readers and the reproduction of the articles in federated societies' newsletters.

Some examples of the main or significant articles from each issue from the last three years are listed in the second table below:

	Year 1	Year 2	Year 3
Feb	Membership statistics	Membership statistics	Membership statistics
May	EC meeting report	EC meeting report	EC meeting report
Aug	Committee report(s)	Committee report(s)	Committee report(s)
Nov	Conference report Council report	Conference report Council report	Triennial congress report Council report

Production Date	Significant Feature
May 97	Ergonomics in Finland Ergonomics in Germany
Aug 97	New IEA officers IEA 97 Congress
Nov 97	Dutch Ergonomics Association
Feb 98	20 years of the Polish Ergonomic Association
May 98	Ergonomics in Mexico El boletín de factores humanos
Aug 98	Steve Konz's last issue as editor
Nov 98	IEA Guidelines on core competencies and certification
Feb 99	Ergonomics in Chile
May 99	History of the IEA
Aug 99	President's report to Council
Nov 99	Human Factor exhibition report (UK)
Feb 00	New Zealand Conference Report

The IEA continues to maintain and develop relationships with contributors from around the world. In the last three years many articles have arisen from outside Western Europe and North America. A wide range of countries including Africa, Brazil, Chile, Indonesia, Japan, Korea, Mexico, Poland and New Zealand have provided contributions, making EI a truly international publication.

#### Book Distribution in Industrially Developing Countries

Proceedings of the IEA sponsored conferences are provided on a complimentary basis to libraries and resource centers. A full list of these distribution centers is available on the IEA web site for use by individuals wishing to donate educational materials.

During 1997-2000, proceedings of the following conferences have been distributed to the Information Distribution Centers and to the IEA Library:

- 1st International Conference on Computer-Aided Ergonomics and Safety CAES '92
- 13th Triennial Congress of the International Ergonomics Association, IEA '97
- Allocation of Functions ALLFN '97
- 5th International Symposium on Human Factors in Organizational Design and Management ODAM '96
- ASEAN Ergonomics '97 - 5th SEAES Conference
- 4th International Conference on Computer-Aided Ergonomics and Safety CAES '99
- Global Ergonomics Conference, Cape Town, South Africa, 1998

#### Donations to the Book Fund

Individuals or institutions interested in donating such materials are requested to contact either the Secretary General or Chair of the Publication & Promotion Committee directly.

The Center coordinators have received following comments concerning this program:

Ricardo Montero, Cuba

*...very useful and contributing to the dissemination and development of ergonomics in Cuba*

Kamiel von Vanwongerghem, Belgium

*... distribution centers need basic material to follow the evolution in ergonomics and/or to find material to instruct or to help people looking for such surveys or basic texts. The centers are situated in a region where they could have contacts with those who may need this information. India, Indonesia and Thailand have contacts with organizations and individuals (students and experts) interested.*

Algis Vegys from Kaunas, Lithuania

*...the activities of the centers are very important as they distribute literature that is important for researchers and teaching. In their center the books are in the University library and they are easily accessible for scientists, teachers and students. These books are also often used by the persons of their Ergonomic department.*

Alexander Burov, Ukraine

*... this kind of activity is very important help for them. They have organized a mini-library on ergonomics and collect relative publications from members of their Association, books and journals. Their current needs are international journals on ergonomics, especially the main journal, Ergonomics.*

Adnyana Manuaba, Indonesia

*... until now collecting material and references for himself, his staff and post graduate students depended mostly on his opportunity to go abroad and participate congresses. He continues that he is managing a postgraduate course on ergonomics since 1995, and their first Master Degree students graduated already this year as they start practically April 1996. Their library consists mostly of his private collection and books owned by the other staff members. He states that this information center contribution is a good input for this library, and this procedure greatly supports the learning process of their students.*



*Meeting between Jorma Routti, (left) Director General of the DG XII, European Commission, Markku Mattila, Congress Chair, and Ian Noy at the IEA '97 Congress in Tampere, Finland.*

#### IEA Archives

Ilkka Kourinka, the IEA Historian, is preparing IEA documents to be archived at a major university library.

#### IEA Promotional Activities

The IEA promotes awareness of ergonomics on a global basis through various interactions with other international and national organizations as well as media and news agencies.

#### IEA home page on World Wide Web

The IEA home page address on the World Wide Web and the registered domain name is:

<http://ergonomics-iea.org>

#### EXPO 2000

The IEA was represented by Prof. Heiner Bubb on the Advisory Board at the World Engineers Convention at the World Exposition EXPO 2000, Hannover, Germany. The IEA participation on the Advisory Board of the Expo offered an exciting opportunity to promote ergonomics within the engineering community.

At the EXPO 2000, five professional congresses were organized under the following themes: Information and Communication; Environment, Climate and Health; Mobility; Energy; and Future Of Work. Further information about these events can be found on: [www.expo2000.de](http://www.expo2000.de).

#### Presentations by the IEA President

Ian Noy has met with representatives of various federated societies and presented opening or closing remarks at national and international conferences, including:

- Closing Remarks at The SEAES Conference, Kuala Lumpur, Malaysia, November 1997.
- Opening Plenary Address at the Global Ergonomics Conference, Cape Town, South Africa, September, 1998.
- Board of the Japan Ergonomics Society, Tokyo, May 1999.
- Opening Remarks at the International Symposium on Strengths and Weaknesses, Threats & Opportunities of Ergonomics in front of 2000. Santorini, Greece, August 1999.
- Plenary Address at the Annual Meeting of the Association of Canadian Ergonomists/Association Canadienne d'ergonomie, Hull, Canada, October 1999.
- Opening Plenary Address at the XXXIVème Congrès of the Société d'Ergonomie de Langue Française (SELF), Caen, France, September 1999.



*Opening of the Global Ergonomics Conference in Cape Town, South Africa, 1998 (from left-Miss Faisa Salie, the Chief Inspector of Occupational Health and Safety in SA, Pat Scott, Conference Chair, and Ian Noy)*

- Opening Plenary Address and Closing Remarks at the APERGO Second Congress, Lisbon, Portugal, April 2000.
- A meeting with Dr. Hatiar, Head of Ergonomics Department at the Institute of Preventive and Clinical Medicine and representative of the Slovak Ergonomics Society, Bratislava, June 1999.
- A meeting with Dr. J. Formánek of the National Institute of Public Health, Centre for Industrial Hygiene and Occupational Diseases, and past President of the Czech Ergonomics Society, and Dr. Milos Palecek, Director of Research Institute of Occupational Safety, Prague, June 1999.

#### Presentations by the IEA Secretary General

Waldemar Karwowski presented Opening Remarks at national and international conferences, including:

- The SEAES Conference, Kuala Lumpur, Malaysia, November 1997.
- The XVI International Seminar of Ergonomics Teachers: Certification And Accreditation of Ergonomics, Labour Protection and Work Safety Education, Wroclaw, Poland, June 1998.
- Sixth International Conference on Human Aspects of Advanced Manufacturing: Agility & Hybrid Automation, Hong Kong, China, July 1998.
- International Conference on Computer-Aided Ergonomics and Safety, Barcelona, Spain, May 1999.
- First International Conference on Occupational Risk Prevention, Tenerife, Spain, February 2000.

## Activities Focusing on the Industrially Developing Countries (IDC)

It is the mission of IEA to inculcate an awareness of the theoretical principles, practical application and benefits of ergonomics in industrially developing countries (IDCs), and to facilitate practical interventions designed to ameliorate the conditions of work in the sub-optimal labour intensive environments that characterize IDCs.

The Industrially Developing Countries Committee (IDCC), which was in a state of transition during 1998, has seen a significant amount of work accomplished by ergonomists around the globe. Most of the work was done in Asia, with others working in India, South America, Africa and China.

At the "Global Ergonomics Conference" held in Cape Town, Pat Scott took over as Chairperson of the IDCC. The first task was to acknowledge the work done by her predecessor, Kamiel Van Wouterghem, and to thank him for his efforts in initiating international communications, and for his continued efforts in seeking financial assistance in order to run various projects. The IDC meeting in Tampere was well attended. One of the main goals during 1999 was to set up an international communication network.

### International Communication Network

Due to the geographical spread of IDCs, the primary communication mode is Internet and World Wide Web: <http://www.ru.ac.za/hke/idcindex.html>.

### Ergonomics Workshops

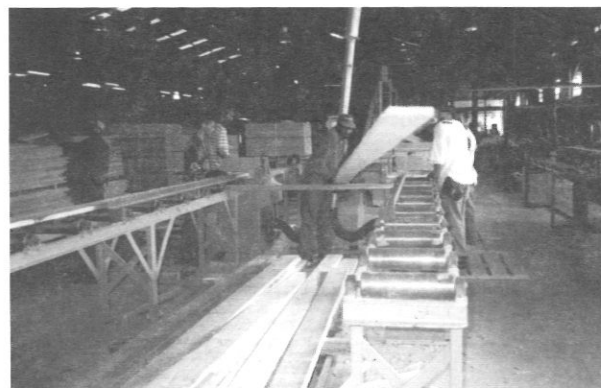
Houshang Shahnavaz conducted two successful workshops based on the "Ergonomic Checkpoints": one in Swaziland (Southern Africa) and the other in Mumbai (India). In both cases, because he involved local ergonomists in the running of these workshops, they should now be able to conduct similar workshops in local regions of their respective countries.

Kamiel Van Wouterghem successfully ran a four-day Ergonomics Workshop in South East Asia sponsored by the European Union. Consultancies and seminars have been conducted in several companies within South Africa with the 'Ergonomics Teams' being initiated to establish an ongoing awareness and commitment to ergonomics.

As Chairperson of the IDCC, Pat Scott was invited to address two meetings in South America in November 1999. The first of these was in Rio de Janeiro where there was a group workshop on Ergonomics at the Production Engineering Conference, and the second was at the Annual ABERGO 99 Ergonomics Conference in Salvador. These conferences, which were well attended by local people plus representatives from North, Central/West and South Africa, Cuba, Columbia and Argentina, offered a wonderful opportunity to discuss plans for cross-continental collaborative work.

## IDCC Cooperation with the ILO and WHO

Over the past years, there has been an ongoing liaison with the two international organizations most closely related to ergonomics, viz the ILO and WHO. It is one of the IDCC priorities to reinforce these associations through personal meetings in Geneva to discuss mutual areas of interest and reciprocal benefits. As both the ILO and WHO already have regional bases in many IDCs, it is our intention to try to work through these centers to establish and maintain relevant contacts.



Work in a timber industry in South Africa

### IDC Publication

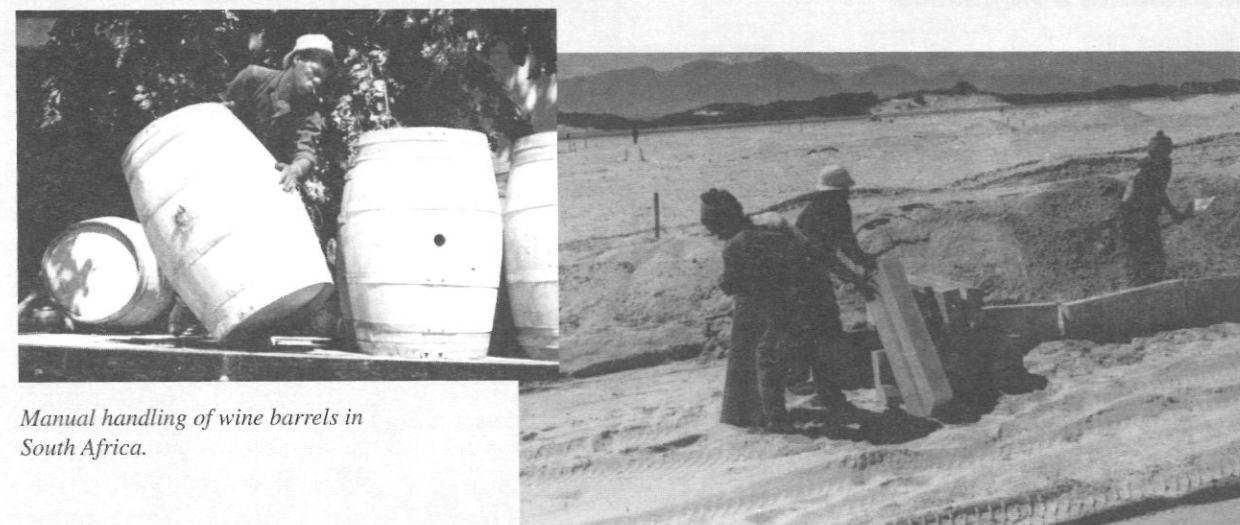
The IDC in conjunction with the Ergonomics SA, the Journal of the Ergonomics Society of South Africa has undertaken to publish papers with primary focus on ergonomics in the IDC.

### African Focus

Because of the magnitude of the tasks facing the IDCC, it is difficult to cover all countries in need simultaneously. Consequently, the IDCC has decided to focus in 2000 on Africa. This focus, Africa 2000, will culminate with an African Conference that will be coordinated by Benchekrout, Morocco, Karim Meckassoua, Republic of Central Africa and Pat Scott, South Africa.

The main objective for 2000 is to establish a good working knowledge of ergonomics principles and practical applications within as many areas as possible throughout Africa. Where contacts are available, information has been distributed, and seminars and workshops will be conducted whenever possible.

In close cooperation with SELF, through its Commission on Central Africa headed by Karim Meckassoua, an Ergonomics Conference in Bourkina Fassa is being planned for 2001. The emphasis will be on IDC ergonomics problems, with IDC solutions presented by IDC ergonomists.



Manual handling of wine barrels in South Africa.

Workers laying roads in South Africa

## Policy and Development Activities

IEA is continuously adapting and developing its rules and policies in order to continuously improve its organizational effectiveness. Because of its global character, such rules and policies aim to reflect the diversity of IEA and stimulate development of its member societies.

The changes adopted during 1997-2000 included:

- Amendment to IEA policy on the support of conferences in ergonomics (IEA Triennial Congresses, IEA Conferences, Joint Conferences, Approved Conferences, and Conference Endorsements), including finances, promotional support, and required procedures to enhance the value of these meeting to IEA members.
- A new policy for IEA endorsement of a variety of technical documents to ensure the merit and value of the IEA endorsed documents.
- A new policy for IEA endorsement of scientific journals, which would provide for discounted subscriptions to members of the IEA societies, and distribution of free copies of endorsed journals to the IEA distribution centres located in developing countries.

## IEA Relations With Other International Bodies

### Memorandum Of Understanding (MOU)

The IEA cooperates with other international bodies with common or similar goals. In some cases, the Memoranda of

Understanding have been established to facilitate information exchange and joint activities. An example of collaborative undertaking was the publication of the "Consensus Document on Upper Body Musculoskeletal Disorders," developed by IEA Technical Committee on Musculoskeletal Disorders in collaboration with ICOH.

At present time, MOUs have been signed with the International Commission on Occupational Health (ICOH), International Social Science Council (ISSC), and International Association of Applied Psychologists (IAAP). Others are in preparation.

### Official liaisons

The IEA maintains close liaison with the with the following world bodies:

- United Nations (UN)
- World Health Organization (WHO)
- International Labour Office (ILO)
- International Standards Organization (ISO)
- International Social Science Council (ISSC)

Recently, Markku Mattila (Nordic Ergonomics Society) represented the IEA Executive Committee at the meeting of World Health Organization Collaborating Centres in Occupational Health, held in Helsinki, June 7-9, 1999. The main focus of the meeting was implementation of the Global Strategy on Occupational Health for All, which sparked discussion on the relationship between the occupational health and sustainable development. An attendant scientific meeting discussed the issue of psychological stress at work.

## IEA Triennial Congresses

### IEA Congress 1997

The IEA '97 Congress held in Tampere, Finland attracted more participants than ever with a total of 1600 professionals and students from 59 countries. The magnitude and extent of the Congress can be judged from some statistics: 20 parallel sessions; 21 keynote speakers; 20 symposia; 73 special sessions, and 259 regular sessions (293 chairs, 1582 presentations with 1178 oral presentations and 404 posters).

The special sessions proved to be especially fruitful. The technical groups of the IEA, encouraged and coordinated by the Chair of the Science and Technology Committee, Prof. Holger Luczak, coordinated well with the local program committee chaired by Dr. Pentti Seppälä of the Nordic Ergonomics Society.

An essential part of IEA '97's success was from use of the Internet. The IEA '97 home page received over 22,000 visits. Many used it to post their abstracts and registration information.

The IEA '97 Congress Technical Program listed a total of 233 sessions, each with about 5-6 papers.

#### Most popular sessions and topics of the IEA '97 Congress:

No	%	Topic
42	18	Organizational design/management and manufacturing
29	12	Designing and standards
26	11	Musculoskeletal disorders
15	6	Aging
12	5	Occupational safety
12	5	Complex systems
12	5	Traffic / transportation
12	5	Occupational fields
11	5	Rehabilitation

The IEA '1997 Congress also arranged a special Student Program with the main objective to teach the students how to find and acquire the knowledge and ideas from the scientific congress, and learn how to present his/her own study. The primary target groups were graduate and postgraduate students. The number of students who participated was 83 in addition to 9 tutors, one coordinator and one program assistant. In general, the students, especially first-time attendees, were very satisfied with this new program and thought that the benefits included meeting various presenters well in advance of their presentation times, and discussing with them specific issues and problems of interest.



Ian Noy, IEA President at the closing plenary session of the IEA '97 Congress, Tampere, Finland.



IEA Exec Committee Meeting in Tampere, Finland, prior to IEA '97 Congress.

Sharing a laugh at the IEA '97 Congress, Tampere, Finland (from left: Susumu Saito and Munehira Akita of Japan, and Waldemar Karwowski, USA).



### IEA Congress 2000

The 14th Triennial Congress of the International Ergonomics Association will be held in conjunction with the Human Factors and Ergonomics Society's 44th Annual Meeting, July 30 through August 4, 2000 in San Diego, California at the Marriott Hotel on the downtown San Diego waterfront. The official theme of this Congress is "Ergonomics for the New Millennium".

The IEA 2000/HFES 2000 Congress is the fourteenth triennial gathering of an international audience composed of human factors/ergonomics professionals from around the world. Represented are 37 IEA federated and affiliated societies representing more than 50 countries. It is by far the largest ergonomics conference ever held, with over 2200 presentations scheduled. A special feature is the 33 international symposia, each with two-to-eight sessions. These symposia, covering research and applications of ergonomics in a broad spectrum of industries and topic areas, should prove highly useful to practitioners as well as researchers. Another special feature is the inclusion of 24 plenary speakers who are leading experts in their respective areas of specialization. The plenary speakers are also scheduled to meet informally during box lunch seminars for students and others who wish to attend. The topics and speakers selected for the plenary talks were suggested by the Congress International Scientific Advisory Board of over 80 distinguished ergonomists from around the world. In addition to a half-day grand opening session and 12 plenary sessions, there are 388 parallel sessions and 9 half-day poster sessions (with approximately 40 posters each) scheduled.

A unique feature of this Congress is the 21 technical area informal meetings/receptions during the late afternoon on Tuesday and Wednesday of the Congress week. These social gatherings were organized by the HFES Technical Groups. They are an exceptional opportunity for ergonomists from around the world who have similar professional interests to meet and network.

In addition, twenty-four full and half-day professional development workshops also are scheduled, with continuing education credits provided through Rice University. Many of these workshops are held on the weekend immediately prior to the Congress. A few are held during the Congress itself.

Early on, the Congress organizers established a WWW site and have updated it regularly, providing for electronic forms for submitting abstracts, registering for the meeting, and reserving accommodations. The site also has posted the full schedule of sessions and other events, so that attendees could plan their schedule in advance.



A major goal for the Congress was to encourage participation and attendance by our colleagues in Central and South America. That goal influenced the location of the venue adjacent to Mexico. One outcome of this effort was that Brazil had more submissions to the Congress than any other Country outside of the US.

A special edition in English of Wojciech Jastrzebowski's classic 1857 article, "An

Outline of Ergonomics or the Science of Work" will be provided to each Congress participant as a commemorative gift prepared for the Congress by the Central Institute of Labour Protection in Warsaw, Poland, in cooperation with Congress Organizing Committee.

In addition to electronic submission of proposals, another first for this Congress is publication of the proceedings on compact disk. The proceedings also are available for purchase in hard copy.

Special arrangements for economical housing for students and participants from industrially developing countries are provided at the University of San Diego.

The Congress has been arranged by an Organizing Committee, IEA Scientific Program Committee, HFES Technical Program Committee, a Host Committee, International Scientific Advisory Board, International Scientific Advisory Committee, the HFES Central Office staff, and Prestige Accommodations, our professional conference organizer.

Those aspects of the technical program that were identical to a typical HFES Annual Meeting were handled by the HFES Technical Program Committee assisted by 21 HFES Technical Groups and IEA Technical Committees. Approximately two-thirds of the technical program was handled by this group, including single session symposia, panel sessions, paper sessions, colloquia, demonstrations, poster sessions and workshops. The remainder of technical program was handled by the IEA Scientific Program Committee, which organized 33 multi-session symposia, 24 plenary speakers, and the noontime box lunch seminars.

A number of pre- and post-conference tours were arranged by the professional conference organizer, Prestige Accommodations.

San Diego offers an exceptional vacation venue for the families accompanying Congress attendees. In addition to its Mediterranean-style climate, beautiful seaside location, the San Diego Zoo, Sea World, numerous cultural activities, and outstanding restaurants, Congress participants and families could visit Mexico, only 30 minutes away by car.

## IEA Congress 2003

### Seoul, Korea

The 15th Triennial Congress of the International Ergonomics Association, Seoul, Korea, 2003, will offer the exciting opportunity to discover the wonder of Korean tradition and culture. Referred to as the hub of Korean politics and economy, Seoul is international city, yet uniquely Korean as well. Blending her 5,000-year-old history with the cutting edge in technological and economic progress makes Seoul an exciting international city and popular tourist destination.

The Congress welcomes proposals for paper presentations, panel sessions, multiple-session international symposia, demonstrations, single-session symposia, poster sessions, debates, research/review/case study papers, colloquia, and workshops. Deadline for abstracts will be announced later. Contributions are invited in any of the subject areas listed below or in other related areas.

Paper submissions are invited in all areas of ergonomics, including - but not limited to - the following topics:

- Advanced manufacturing
- Aerospace systems
- Aging and gerontechnology
- Biomechanics
- Cognitive ergonomics
- Communications
- Community ergonomics
- Computer-aided ergonomics and safety
- Consumer products
- Cost-effective ergonomics
- Cultural ergonomics
- E-business & Internet
- Ecological ergonomics
- Education and qualification of agronomists
- Ergonomics and the Internet
- Ergonomics quality
- Forensics
- Human-computer interaction
- Individual differences in performance
- Industrial ergonomics and design
- Industrially developing countries
- Industries and applications, including:
  - aerospace, agriculture and food, building and construction, forestry, hospital and health care
  - military, mining, and office.
- Occupational well-being, health and safety
- Organizational change and development

- Organizational design and management
- Information technology
- Learning organizations
- Macroergonomics
- Materials handling
- Medical systems
- Mobile networking
- Musculoskeletal disorders
- Nuclear power plant design
- Participatory ergonomics
- Power systems
- Professional standards
- Psychophysiology in ergonomics
- Rehabilitation ergonomics
- Research, test and evaluation
- Safety and accident prevention
- Standardization
- Stress and mental load
- System development
- Technology transfer
- Theories and methodologies
- Training and training systems
- Transportation and traffic
- Universal design
- Virtual environments
- Visual performance
- Work psychodynamics
- Work physiology
- Special issues

Please send all inquires to:

**Secretariat of IEA 2003**  
#37-12, 6F, Nonhyun Bldg.  
Jamwon-dong, Seocho-gu  
Seoul, Korea 137-030  
Tel) 82-2-3446-2451  
Fax) 82-2-3446-2465  
E-mail: papers@iea2003.org

## Part III.

### Awards of the International Ergonomics Association

#### Categories of IEA Awards

The objective of the IEA Awards is to provide formal recognition to individuals who have made outstanding contributions to the field of ergonomic on an international level. The immediate Past President of IEA serves as Chair of the Awards Committee.

The IEA awards are:

- IEA Distinguished Service Award
- IEA Founders Award
- IEA Outstanding Educators Award
- IEA Ergonomics of Technology Transfer Award
- IEA Ergonomics Development Award
- IEA President's Award
- The Liberty Mutual Prize and Medal in Ergonomics and Occupational Safety
- K.U. Smith Student Award
- IEA Fellow Award

Recipients for the first five awards are selected by the Awards Committee based upon nominations from federated societies. The IEA Council and Executive Committee nominates recipients for the IEA President's Award. Final approval for this award rests with the IEA President. Winners of the Liberty Mutual Prize, the Liberty Mutual Medal, and the K.U. Smith Student Award are selected by specially-constituted review committees.

Except for the IEA/Liberty Mutual Prize which is presented annually, the IEA awards are presented at the IEA Triennial Congress.

### IEA Awards

#### IEA Distinguished Service Award

The IEA Distinguished Service Award is presented to individuals for outstanding contributions to the promotion, development and advancement of the IEA. In 1997, it was given to Past President Dr. Hal Hendrick, USA.

#### IEA Founders Award

The IEA Founders Award is presented to persons who were highly influential in founding either of IEA or of an IEA Member Society. In 1997, the recipient was Dr. W. Floyd, U.K.

#### IEA Outstanding Educators Award

The IEA Outstanding Educators Award is presented to persons in recognition of outstanding contributions in the area of ergonomics education for having

- Developed ergonomics education programs
- Produced new methodology and/or materials for teaching ergonomics, or
- Graduated persons who have become outstanding ergonomists

In 1997, this award was given to Dr. M.M. Ayoub, USA.

#### IEA Ergonomics of Technology Transfer Award

The IEA Ergonomics of Technology Transfer Award is presented to a person, persons or organization, which has:

- Developed methodology for facilitating technology transfer
- Developed effective ergonomic programs for technology transfer, or
- Contributed significantly to the development of human-machine systems in developing countries

In 1997, this award was presented to Prof. Rabindra Sen, India.

#### IEA Ergonomics Development Award

The IEA Ergonomics Development Award is presented to persons who have had an international impact on ergonomics in terms of making a contribution or development which:

- Significantly advances the state of the art of existing ergonomics sub-speciality, or
- Opens up a new area of ergonomics research and/or application

This award was given in 1997 to Dr. David Meister, USA.

#### IEA President's Award

The IEA President's Award is presented to persons who have made outstanding contributions to ergonomics or the furthering of ergonomics, and whose contribution does not clearly fall into one of the other award categories. Persons qualifying for this award do not necessarily have to be ergonomists. Nominations may come from the IEA Council or the IEA Executive Committee. Final approval of this award rests with the IEA President.

In 1997, the recipient was Dr. Tom Leamon, USA.

### K.U. Smith Student Paper Award

The IEA K.U. Smith Student Award was launched in 1997 through an agreement with the St. Paul Foundation, which provides overall management of the Fund. The award provides a tangible means by which the IEA can encourage the development of the discipline, foster scholarship and recognize worthy achievements. The purpose of the award is to honor a deserving student responsible for an application of or contribution to ergonomics.

The award consists of a cash amount of US \$ 3,000. Any student enrolled in an accredited post-secondary institution (college, university, technical or vocational school) is eligible to apply for the award. All areas of ergonomics are eligible for consideration. Examples of applicable projects include an applied ergonomics project, a human performance study or analysis, a design project or product, a research project undertaken in the laboratory or field, or a theoretical/conceptual contribution to ergonomics. This study endeavor should be documented in a paper submitted to the IEA Congress.

In 1997, this award was given to Ms. L. Ritmiller, Simon Fraser University, Canada



After presentation of the first IEA K.U. Smith Student Paper Award, June 1997, Tampere, Finland (from left: Hal Hendrick, Michael J. Smith, Laurel Ritmiller-winner, Kaisa Nolimo-finalist, and Thomas J. Smith.)

### The IEA/Liberty Mutual Prize In Ergonomics And Occupational Safety

The IEA/Liberty Mutual Prize in Ergonomics and Occupational Safety was instituted in 1998. The award of US \$ 5,000 seeks to recognize outstanding original research leading to the reduction or mitigation of work-related injuries and/or to the advancement of theory, understanding, and development of occupational safety research.

In addition, every three years, the IEA/Liberty Mutual Medal in Ergonomics and Occupational Safety, is given to the best of the three awardees during the last three years. This award consists of a medal and US\$ 15,000 and will be handed out for the first time at the Congress in San Diego, 2000.

The Liberty Mutual Prizes and Medals promote excellence in ergonomics and are effective in raising awareness of ergonomics within private and public sectors, academia and the general public. We hope that the Liberty Mutual awards will stimulate other organizations to find similarly creative ways to express their support for the science of ergonomics.



Celebration party of the New Zealand Ergonomics Society Annual Conference, Christchurch, New Zealand, November 1999. (from left: Tom Lemon, Liberty Mutual; Shirley Ann Gibbs, Australia - recipient of the IEA / Liberty Mutual Prize in Ergonomics and Occupational Safety for 1999, and Martin Helander, Chair, IEA Awards Committee).

To be considered for the Liberty Mutual Prize, the applicant must submit a letter of application and a research paper. The paper must be:

- An original report of laboratory, field, or intervention research
- Relevant to the field of occupational safety and ergonomics
- Non-proprietary
- Unpublished at the time of submission
- Thirty pages or fewer, single-spaced.

Relevant disciplines include: ergonomics, epidemiology, biomechanics, cognitive and behavioral psychology, design, physiology, economics and optimization, etc.

The 1998 recipient was Dr. Andrew Imada, USA.

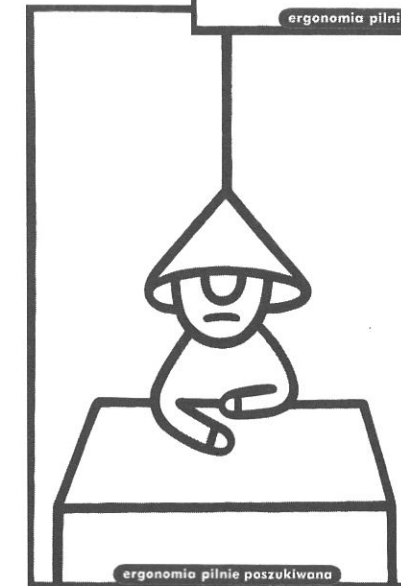
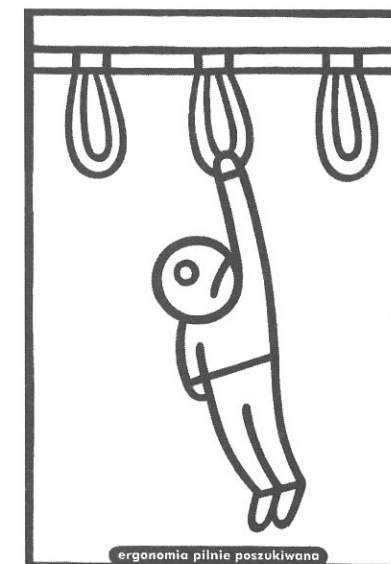
The 1999 recipient was Dr. Shirley Ann Gibbs, Australia.

### IEA Fellow Award

To be considered for IEA Fellow Award, one must meet two eligibility criteria: International Service and Membership in Society. In addition, a Fellow, an ergonomics professional, must have made outstanding contributions to ergonomics/human factors. There are many ways in which this contribution can be demonstrated. The candidate could have had the primary responsibility for the technical direction, supervision or management of a significant effort during a sustained period of time. The Candidate could be a renowned researcher, designer, or consultant of great distinction.

1997 was the first time IEA Fellowships were bestowed. At this time, all living Past Presidents of IEA received this honor.

- Professor Bernard Metz, France (1970-1973)
- Professor E. Bonjer, The Netherlands (1973-1976)
- Professor Alphonse Chapanis, USA (1976-1979)
- Professor Sadao Sugiyama, Japan (1982-1985)
- Mr. Harry Davis, USA (1985-1988)
- Dr. Ilkka Kuorinka, Finland (1988-1991)
- Professor Hal Hendrick, USA (1991-1994)
- Professor Martin Helander, Sweden (1994-1997)



"Ergonomics urgently needed" — Illustrations by Petr Šmalec

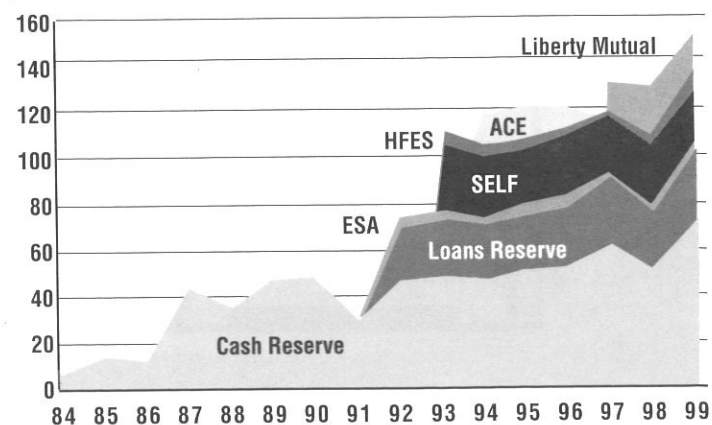
**Financial Report**

As a non-profit federation of ergonomics and human factors societies around the world, the IEA finances its activities through membership fees, capitation fees, donations and other income. The IEA operates accounts in U.S. Dollars (USD). The fiscal year-end is December 31. Financial statements are prepared using the cash basis of accounting; i.e., revenues are recognized when received and expenses are recognized when paid. The balance sheet and the Statement of Operations for the period 1997-2000 are attached.

The growth of IEA equity components since 1984 is indicated in Figure 1. The total assets at the start of 1997 were equivalent to USD \$ 129,270. At the end of 1999, the total assets were equivalent to USD \$153,233. The total assets, however, include Funds that are created and used for specific purposes and are thus not expected to remain stable. The loan reserve of \$35,000 was established to ensure that adequate funds are available to provide seed money for conferences as approved by the Council from time to time. The amount of the assets is affected by changes in currency exchange rates.

The IEA's financial performance has been stable over the period. The financial health of the IEA is indicated by the Cash Reserve since this is the amount available for discretionary spending. The cash reserve at the start of 1997 was equivalent to USD \$55,925. At the end of 1999, the cash reserve was equivalent to USD \$70,070, maintaining a constant level over the three-year period. The cash reserve is sufficient for our current level of activity and it is normal for non-profit organizations to keep on hand a reserve equal to their annual budget. To expand our current level of activities and programs as envisioned by the strategic plan, however, new sources of revenues are urgently required.

Figure 1 IEA Equity History

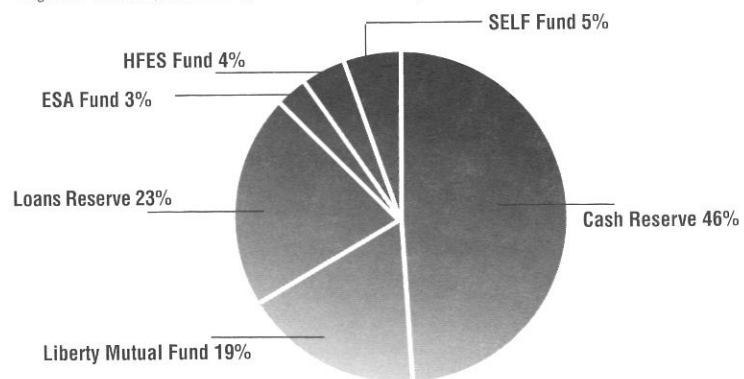


**Net Worth**

The total assets of the IEA as at December 31, 1999 were equivalent to USD \$153,233. Twenty percent of the assets were held in current accounts with the Scotiabank of Canada; 40% were invested in guaranteed term deposits, 35% in US Dollars term deposits, and 5% were monies receivable (from loans provided as seed money).

Figure 2 shows the current liabilities and equity of the IEA as at December 31, 1999. There are no amounts owed to external parties. The cash reserve represents the amount available for operational expenditures. The balance of the assets is held in reserves or funds as shown in the Figure 2.

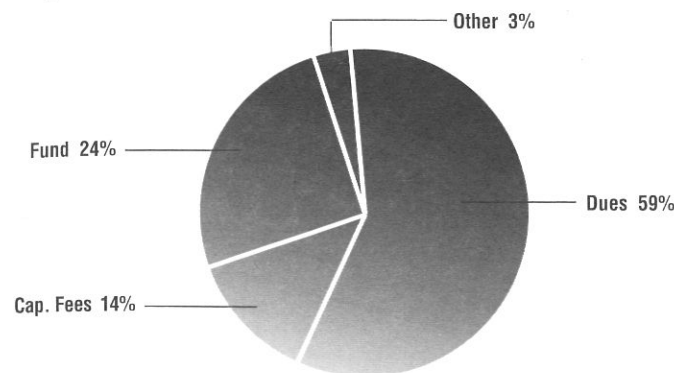
Figure 2 Liability and Equity as of December 31, 1999



**Revenue Sources**

Figure 3 shows the proportion of income from membership fees, capitation fees, contribution to IEA Funds and miscellaneous sources such as interest. The principal sources of operating capital were derived from membership fees and capitation fees. About 59% of the total income was raised through membership fees. The income from capitation fees accounted for 14% of total income, and contributions to Funds accounted for 24% of total income. It should be noted that the IEA has not increased its membership fees formula since 1986. Since membership fees have not kept up with inflation and are subject to fluctuations in the Swiss Francs-US Dollar exchange rates, capitation fees and other sources have become increasingly important in defraying increased operating expenses.

Figure 3 Revenue Sources 1997-2000



**Capitation fees**

A new capitation fee schedule applicable to IEA supported conferences has been adopted. The new schedule is expected to increase revenues for the IEA in the future. During the period 1997-2000, capitation fees were received as follows:

• IEA'97	\$24,400
• ODAM96	\$1,007
• Human Ergology Conference	\$435
• Psychophysiology in Ergonomics Conference	\$353
• CybErg99	\$562

**Operations**

The main categories of expenditures included executive and administrative expenses, committee expenses, provision of grants, the publication of Ergonomics International, the printing of brochures, meeting costs, and miscellaneous other expenses. The expenditures for the three-year period amounted to USD \$151,541, or an average of about USD \$50,500 per year. The executive expenses including travel costs and administrative expenditures accounted for 35% and the expenses by the committees accounted for 49% of total expenditures. The relative proportion spent in these main areas during the period 1997-2000 is depicted in Figure 4.

**Grants**

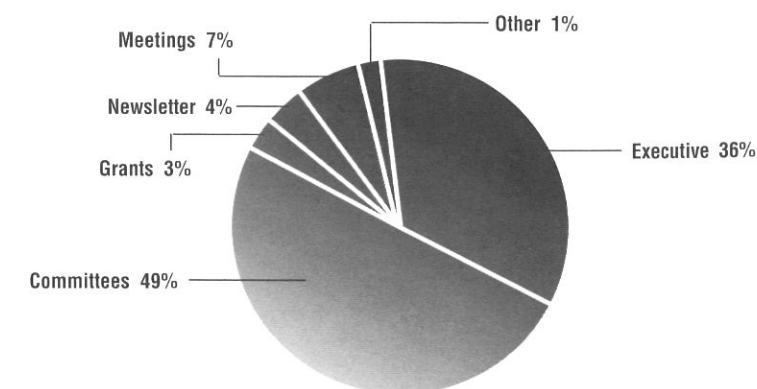
The following grants were awarded during the reporting period.

Purpose	Amount
Grants to IDC delegates to attend IEA'97	\$18,074
SEAES Conference	\$2,000
Global Ergonomics Conference	\$1,000
ODAM'98	\$1,000

**Funds Administered by the IEA**

At the present time, the IEA manages four special funds. Three of these funds have been established from surplus income by societies that have hosted IEA Congresses. The ESA Fund for Southeast Asia, the HFES Fund for Ergonomics in Developing Countries and the SELF Fund are used to promote ergonomics in industrially developing countries and to support the organization of conferences, seminars and meetings in these countries. The HFAC/ACE Fund was established after the 1994 IEA Congress in Toronto to help delegates from IDC's attend IEA'97. The HFAC/ACE fund was retired in 1998, with the small amount remaining after the grants were awarded transferred to the HFES Fund. The fourth fund, the Liberty Mutual Fund, was created for operating the Liberty Mutual Prizes, which are awarded to individuals for an original activity leading to a better understanding of preventing or mitigating occupational accidents. It is expected that more funds will be created in the future. A policy was established for the creation and management of funds which ensures that funds will be managed in accordance with the wishes of the organizations that have created the funds.

Figure 4 Expenditures 1997-2000



### Bequests and Endowments

The policy regarding bequests and endowments has been created to facilitate this form of fund-raising. Individuals who wish to support the discipline that has given them the opportunity to make a meaningful contribution to society through their teaching, research, and practice can consider making general or specific gifts to the IEA. No tax receipts are available at the present time since the IEA is not registered as a charity in any one country. Such gifts will help the IEA to develop professional societies in new regions, promote educational programs in industrially developing countries, participate in the activities of UN organizations, harmonize professional standards for certification, develop strategic directions for the discipline, facilitate the exchange of scientific and technical information and promote international collaboration.

### Sustaining Memberships

There are three categories of sustaining membership established for international corporations. These are Gold Level, Platinum Level and Diamond Level. See Part VI for description of Sustaining Membership Program.

### BALANCE SHEET COMPARISON FOR 1997, 1998 AND 1999

	1999 \$	1998 \$	1997 \$
<b>ASSETS</b>			
Current Assets			
Cash Accounts	31,229	35,961	38,550
Term Deposits	114,969	79,015	79,505
Seed Funds Receivable	7,035	13,035	12,035
<b>Total</b>	<b>153,233</b>	<b>128,011</b>	<b>130,090</b>
<b>EQUITY</b>			
ESA Fund for South East Asia	4,968	4,825	4,957
HFES Fund for Erg. In IDCs	6,467	5,081	5,733
SELF Fund	7,727	7,505	8,178
Loans Reserve	35,000	35,000	35,000
ACE Fund	-	-	119
Liberty Mutual Fund	29,001	21,603	15,000
Cash Reserve	70,070	53,997	61,102
<b>Total</b>	<b>153,233</b>	<b>128,011</b>	<b>130,089</b>

### STATEMENT OF OPERATIONS COMPARISON FOR 1997, 1998 AND 1999

	1999 \$	1998 \$	1997 \$
<b>REVENUE</b>			
Membership Dues	35,042	36,447	40,541
Capitation Fees	-	-	26,195
Interest	1,940	2,853	153
Contribution towards HFES Fund	1,236	-	1,459
Contribution towards Liberty Mutual Fund	15,000	15,000	15,000
Miscellaneous	83	305	92
<b>Total</b>	<b>53,301</b>	<b>54,605</b>	<b>83,440</b>
<b>EXPENDITURES</b>			
<b>Executive &amp; Administrative Expenses</b>			
Office-related expenses	2,190	3,547	11,370
Travel	10,486	9,275	9,238
Clerical	2,250	4,400	1,095
<b>Committees</b>			
Awards	8,437	8,997	5,165
Policy and Development	1,664	1,678	4,954
Futures Task Force	-	-	3,522
Science and Technology	1,120	3,913	2,367
Professional Practice and Training	1,954	5,295	6,521
Industrially Developing Countries	1,648	1,171	6,307
Promotion and Publication	1,680	3,776	4,721
Newsletter	1,161	3,923	1,694
<b>Meeting costs</b>	4,048	3,252	3,307
<b>Fees and bank charges</b>	475	497	443
Grants	-	2,000	2,000
<b>Total</b>	<b>37,113</b>	<b>51,724</b>	<b>62,704</b>
<b>OPERATING SURPLUS (DEFICIT)</b>	<b>16,188</b>	<b>2,881</b>	<b>20,735</b>

## Part V.

### IEA Funds

The IEA is pursuing ways to promote ergonomics in industrially developing countries (IDC's) as a matter of priority. Recent accomplishments include joint co-operation with the International Labour Organization (ILO) on publication of the Ergonomics Checkpoints book, organization of local conferences, provision of grants to various groups and individuals, and the organization of roving seminars involving IEA experts/lecturers.

As part of the IDC program, the IEA manages a number of funds, which have been established through donations from individuals, member societies and other organizations. These funds help promote ergonomics training and practice in industrially developing countries by providing seed money for local conferences, subsidizing special projects, awarding scholarships and supporting other activities. Different Funds have different objectives and criteria as described herein.

#### Applications

Applications for grants should be sent to the IEA Treasurer and include the following information:

- objective of the event
- program description
- expected audience
- qualifications of organizers of event
- organization structure and milestones
- detailed budget
- estimate of financial needs and status of applications to other funding sources

#### Contributions

Individuals or organizations wishing to create or contribute to an IEA Fund are urged to contact the IEA Treasurer for additional information.

### DESCRIPTION OF IEA FUNDS AND RELATED PROGRAMS

#### ESA FUND FOR SOUTHEAST ASIA

This fund, which promotes ergonomics in IDC's, primarily in Southeast Asia, was created by the Ergonomics Society of Australia in 1988. The Fund provides grants and seed funds to eligible societies or groups and has supported roving seminars in Southeast Asia.

#### SELF FUND

Created by the Société d'Ergonomie de Langue Française in 1993, this fund supports the organization of conferences, seminars and meetings within ergonomically underdeveloped areas such as Africa and South America.

#### HFES FUND

Established in 1992, this general fund is maintained through annual voluntary contributions from members of the Human Factors and Ergonomics Society to promote ergonomics in IDC's.



A lunch break at the Concil meeting in Santorini, Greece, September 1999 (from left Kazu Kogi, Japan and Luc Desnoyers of SELF).

## Part VI.

### Sustaining Membership

Sustaining memberships represent an important source of income for the IEA. The IEA will be launching a campaign to increase the number of sustaining members in order to permit full implementation of the strategic plan. Membership in IEA provides cost/effective means for enterprises, organizations and institutions to demonstrate their support for ergonomics and at the same time gain valuable exposure within and outside the international ergonomics community. Certain levels of sustaining memberships offer other tangible benefits. Organizations are encouraged to consider joining at a level most suitable to them.

#### Levels of Sustaining Memberships

Three levels of membership exist for enterprises, organizations and institutions, each offering benefits as outlined below. Membership fees are payable annually.

#### Gold level/ US \$ 1,000

Benefits:

- Complimentary subscription to *Ergonomics International*
- Listings in printed IEA Directories as well as World wide web listings.
- Sustaining Member Plaque with company name inscribed

#### Platinum Level/ US \$ 5,000

Benefits:

- All benefits at the Gold level.
- Official listings in the programs of IEA Congresses and Conferences.
- Two complimentary registration fees for the forthcoming IEA Congress
- Company logo on IEA home page with active links

#### Diamond Level/ US \$ 10,000

Benefits:

- All benefits at the Platinum level
- Free space at exhibitions organized at IEA congresses, subject to approval by Congress organizer
- Access to the IEA International Data Bank of Individuals in Ergonomics.
- Exposure of company logo at IEA conferences and congresses
- Other benefits are negotiable.

#### Individual Sustaining Member

Individuals can support IEA activities by becoming Sustaining members. There is only one class of membership.

Individual IEA Sustaining Member / US \$ 200

Benefits:

- Complimentary subscription of *Ergonomics International*
- Listing in IEA directories.
- Sustaining Member Plaque with name inscribed.

## Bequests

The International Ergonomics Association, as a federation of societies, is dedicated to the advancement of the discipline of ergonomics and human factors. The mandate of the IEA is to promote the knowledge and practice of ergonomics by initiating and supporting a wide variety of international activities and cooperative programs. Because no remuneration is paid to the members of the IEA Executive Committee or its many working committees, all donations are used to support various IEA initiatives and programs.

Additional information about the IEA and its programs can be obtained by contacting Secretary-General of IEA.

### The Purpose of Bequests

Gifts, such as bequests, have greatly benefited the development of disciplines such as engineering and medicine. In recent years, there has been an increase in the number of individuals who have expressed an interest in making a bequest for ergonomics. Benefactors wish to donate to a discipline that has enriched their lives and given them the opportunity to make a meaningful contribution to society through their teaching, research, and practice.

There are essentially two types of bequest: general and specific. The general bequest permits the IEA to pursue initiatives that will further its fundamental objectives of increasing the body of ergonomics-related knowledge, promoting the teaching and practice of ergonomics, and sponsoring international activities. Specific bequests are used to support ergonomics-related programs in industrially developing countries to promote particular branches of the discipline, and provide scholarships and prizes which stimulate research and recognize significant achievements in the field.

Individuals or organizations who wish to support the IEA through other means, such as sustaining membership or donations, should contact the IEA Treasurer for information.

### Making a Bequest

Making a bequest to the IEA is not difficult. If you have named the IEA in your will or are contemplating giving this type of gift, suggested wording for making your bequest is provided below. Since countries have different legal traditions, donors are urged to obtain legal advice when naming the IEA as a beneficiary and to contact the IEA

Treasurer to ensure their wishes can be carried out properly. Members of IEA Federated societies may wish to direct their bequest to their national society.

### Donors

Individuals may also make financial gifts to the IEA during their lifetime. Annual donations entitle individuals to be listed in the IEA brochure and other material. Like bequests, donations may also be general or specific. Financial support helps the IEA to develop professional societies in new regions, promote educational programs in industrially developing countries, participate in UN organizations, harmonize professional standards for certification, develop strategic directions for the discipline, facilitate the exchange of scientific and technical information and promote international collaboration.

### Example of a General Bequest

I give and bequeath to the International Ergonomics Association (IEA) the sum of \_\_\_\_\_ dollars (or x% of my estate), to be used for the purposes and benefit of the Association in such manner as the Executive Committee may decide.

### Example of a Specific Bequest

I give and bequeath to the International Ergonomics Association (IEA) the sum of \_\_\_\_\_ dollars (or x% of my estate), to be used for the purposes of \_\_\_\_\_.

If, in the opinion of the Executive Committee, it is at any time impractical or inadvisable to use the said sum for the purposes specified above, the sum may be used for the purposes and benefit of the Association in such manner as the Executive Committee may decide.

### Inquiries

For more information regarding IEA activities, please contact the Secretary General.

## Invitation to Participate in the IEA Activities

The IEA is constantly in search of volunteers/leaders for new and existing committees. Service at the international level is rewarding and meaningful. If you are interested in contributing actively to an existing committee or would like to initiate a new activity, please let us know of your interests. Similarly, if you are aware of individuals in your society who are willing and able to serve the international ergonomics community, please contact the Secretary General or another Executive member.

## APPENDIX I. IEA Strategic Plan

### Purpose

The IEA Strategic Plan is a living document that aims to guide the IEA in establishing new initiatives and priorities for action. The current plan reflects many of the ideas generated during the focus groups held during the Cape Town 1999 Council meeting, and the extensive consultations with the IEA Council in 1999 and 2000.

### IEA Mission Statement

The International Ergonomics Association is the federation of ergonomics and human factors societies around the world. Working closely with its constituent societies and related international organizations, its mission is to elaborate and advance ergonomics science and practice, and to expand its scope of application and contribution to society to improve the quality of life.

## IEA Goals

### GOALS: THE FOLLOWING PRINCIPAL GOALS REFLECT THE IEA MISSION

- To develop more effective communication and collaboration with federated societies
- To advance the science and practice of ergonomics at an international level
- To enhance the contribution of the ergonomics discipline to global society

### A. GOAL: TO DEVELOP MORE EFFECTIVE COMMUNICATION AND COLLABORATION WITH FEDERATED SOCIETIES

*OBJECTIVE: A1.*

*Support The Work Of Member Societies*

Strategies:

- Facilitate visibility of each member society through the IEA home page and other means of communication
- Facilitate joint events between member societies when this will not conflict with the operations of these societies
- Support member societies in taking proactive and reactive positions on major public issues and in their use of the media
- Support member societies to disseminate ergonomics knowledge at various levels
- Support participation of the industrially developing countries in IEA activities (e.g., support for travel to conferences)

- Support the continuing growth of ergonomics in industrially developing countries (IDC) by training and education.
- Provide industrially developing countries with ergonomics knowledge by stimulating the existing IEA mechanisms (e.g. book fund, expert consultants)
- Show best practices in order to stimulate the growth of ergonomics

*OBJECTIVE: A2.*

*Improve IEA Operational Effectiveness*

Strategies:

- Develop mechanisms for effectively involving member societies in IEA activities (e.g. possibilities for strategic discussions)
- Improve communication with member societies (e.g. through consultation, exchange of action plans and soliciting feedback)
- Facilitate the exchange of views and experiences among the leaders of member societies (e.g., through workshops, sessions, special interest groups)
- Initiate campaign to increase the numbers of sustaining IEA members when this will not conflict with the operations of member societies
- Increase revenues from donations, endowments and funds when this will not conflict with the operations of member societies (e.g. from international bodies)

### B. GOAL: TO ADVANCE THE SCIENCE AND PRACTICE OF ERGONOMICS AT AN INTERNATIONAL LEVEL

*OBJECTIVE: B1.*

*Stimulate Development and Acceptance of Ergonomics*

Strategies:

- Define and clarify the field of ergonomics
- Elaborate and promote the benefits of ergonomics to improve the quality of life for individuals, organizations and society
- Identify and elaborate cultural and economic differences on ergonomic design
- Identify future needs for development of ergonomics (e.g. through the Technical Committees of the Science & Technology Committee)

**OBJECTIVE: B2.**

*Facilitate Knowledge Exchange and Collaboration*

Strategies:

1. Support and promote specialized conferences and workshops in collaboration with member societies.
2. Provide appropriate support of regional groups in ergonomics (e.g. NEES) when this will not conflict with the operations of member societies.
3. Promote IEA publications suited to knowledge dissemination by IEA

**OBJECTIVE: B3.**

*Enhance The Quality Of Professional Practice And Education In Ergonomics*

Strategies:

1. Continue to promote a broad view of ergonomics and its aims
2. Consider development of procedures for the IEA endorsements of various activities, in particular journals and books
3. Develop international professional standards and guidelines and promote best practices in ergonomics (code of ethics, code of professional practice, etc.)
4. Encourage educational institutions to offer ergonomics programs consistent with "IEA Core Competencies for Practitioners in Ergonomics" criteria
5. Promote sharing of quality ergonomics education programs available on the Internet through the IEA home page
6. Develop IEA guidelines for accreditation of ergonomics educational programs
7. Maintain the IEA Criteria for Endorsement of Certifying Bodies and implement a system for such endorsement
8. Maintain the IEA Core Competencies for Practitioners in ergonomics
9. Maintain and disseminate IEA minimum criteria for the process of certification of an ergonomist

**C. GOAL: TO ENHANCE THE CONTRIBUTION OF THE ERGONOMICS DISCIPLINE TO GLOBAL SOCIETY**

**OBJECTIVE: C1.**

*Promote Recognition Of Ergonomics Discipline*

Strategies:

1. Identify specific areas where greater international exchange of information is needed, and develop appropriate means for dialogue
2. Promote ergonomics in geographical regions where particular support is needed
3. Increase public awareness of the benefits of ergonomics through mass media communications
4. Provide information about ergonomics/IEA for listing in international directories and reference publications
5. Expand and strengthen links with other international bodies and form alliances with affiliated societies in the related fields (e.g., industrial design and engineering, psychology, safety, health care, economics)
6. Expand IEA prizes to reward and publicize ergonomics innovations
7. Develop more effective use of IEA conferences to promote added value of ergonomics to society

**OBJECTIVE: C2.**

*Promote Applications of Ergonomics in All Aspects of Life*

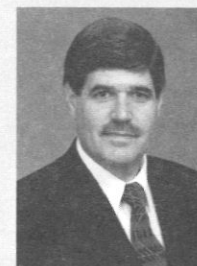
Strategies:

1. Promote ergonomics as a means to improve the quality of human life, work effectiveness and economic benefits
2. Mobilize ergonomics profession to address major global challenges
3. Promote collaboration in ergonomics projects among government and international bodies
4. Stimulate the involvement of ergonomics in the emerging fields of application (e.g. management sciences and mass communication)

**APPENDIX II:  
IEA Executive Committee (1997-2000)**

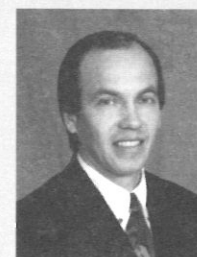
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## APPENDIX VI: Past Officers of IEA

The following individuals served as elected Officers of the International Ergonomics Association:

<b>1961-1964:</b>	President	S. Forssman
	Secretary-Treasurer	E. Grandjean
<b>1964-1967:</b>	President	G. Lehman
	Secretary-Treasurer	E. Grandjean
<b>1967-1970:</b>	President	P. Ruffell-Smith
	Secretary-General	E. Grandjean
	Treasurer	A. Wisner
<b>1970-1973:</b>	President	B. Metz
	Secretary-General	F. Bonjer
	Treasurer	A. Wisner
<b>1973-1976:</b>	President	F. Bonjer
	Secretary-General	R. Sell
	Treasurer	J. de Jong
<b>1976-1979:</b>	President	A. Chapanis
	Secretary-General	R. Sell
	Treasurer	H. Scholz
<b>1979-1982:</b>	President	J. Rosner
	Secretary-General	H. Davis
	Treasurer	H. Scholz
<b>1982-1985:</b>	President	S. Sugiyama
	Secretary General	H. Davis
	Treasurer	J. Rutenfranz/ B. Shackel
<b>1985-1988:</b>	President	H. Davis
	Secretary-General	I. Kuorinka
	Treasurer	B. Shackel
<b>1988 -1991:</b>	President	I. Kuorinka
	Secretary-General	H. Hendrick
	Treasurer	B. Shackel
<b>1991-1994:</b>	President	H. Hendrick
	Secretary-General	P. Rookmaaker
	Treasurer	I. Noy
<b>1994-1997:</b>	President	M. Helander
	Secretary General	P. Rookmaaker
	Treasurer	I. Noy
<b>1997- 2000:</b>	President	I. Noy
	Secretary-General	W. Karwowski
	Treasurer	K. Kogi

## APPENDIX VII: Recipients of the IEA Awards

### IEA Distinguished Service Award:

1982:	A. Chapanis, E. Grandjean
1985:	M. Oshima, A. Wisner
1988:	P. Davis, N. Lundgren, W. Singleton
1991:	J. Rosner
1994:	H. Davis
1997:	H. Hendrick
2000:	M. Helander

### IEA Founders Award:

1991:	J. Scherrer
1994:	K.U. Smith
1997:	W. Floyd
2000:	W. E. Woodson

### IEA Outstanding Educators Award:

1991:	E.N. Corlett
1994:	W. Rohmert
1997:	M. M. Ayoub
2000:	J. Long

### IEA Ergonomics of Technology Transfer Award:

1991:	A. Wisner
1994:	H. Shahnavaz
1997:	R. Sen
2000:	N. Meshkati

### IEA Ergonomics Development Award:

1991:	K. Kogi
1994:	J. Leplat
1997:	D. Meister
2000:	H. Schmidtke S. Kumar

### IEA President's Award:

1997:	T. Leamon
2000:	N. Moray

### IEA/Liberty Mutual Prize in Ergonomics and Occupational Safety

1998:	A. Imada
1999:	S. A. Gibbs
2000:	Peter J. McAlindon

### IEA/Liberty Mutual Medal in Ergonomics and Occupational Safety

2000:	A. Imada
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### K.U. Smith Student Award:

1997:	L. Ritmiller
2000:	C. Winner

## APPENDIX VIII: Past IEA Triennial Congresses

1961	Stockholm, Sweden
1964	Dortmund, Germany
1967	Birmingham, United Kingdom
1970	Strasbourg, France
1973	Amsterdam, The Netherlands
1976	College Park, USA
1979	Warsaw, Poland
1982	Tokyo, Japan
1985	Bournemouth, United Kingdom
1988	Sydney, Australia
1991	Paris, France
1994	Toronto, Canada
1997	Tampere, Finland
2000	San Diego, USA

### Future IEA Congresses

The Fifteenth and Sixteenth Triennial Congresses of the International Ergonomics Association are scheduled as follows:

2003	Seoul, Republic of Korea
2006	Maastricht, The Netherlands



*The IEA Council Meeting in Tampere, Finland, June 1997.*

## APPENDIX IX: Past Meetings of the IEA Council

The IEA Council has held meetings annually as follows:

1964	Dortmund, Germany
1965	Paris, France
1967	Birmingham, United Kingdom
1967	Brighton, United Kingdom
1969	Noordwijk, The Netherlands
1970	Strasbourg, France
1971	Brussels, Belgium
1972	Schipol, The Netherlands
1973	Amsterdam, The Netherlands
1974	Amsterdam, The Netherlands
1975	Dortmund, Germany
1976	College Park, USA
1977	Hayes, USA
1978	Luxemburg and Munich, Germany
1979	Warsaw, Poland
1980	Bournemouth, United Kingdom
1981	Rochester, USA
1982	Tokyo, Japan
1983	Turin, Italy
1984	Toronto, Canada
1985	Bournemouth, United Kingdom
1986	Vancouver, Canada
1987	Stuttgart, Germany
1988	Sydney, Australia
1989	Noordwijk, The Netherlands
1990	Kyoto, Japan
1991	Paris, France
1992	Berlin, Germany
1993	Warsaw, Poland
1994	Toronto, Canada
1995	Rio de Janeiro, Brazil
1996	Breckenridge, CO, USA
1997	Tampere, Finland
1998	Cape Town, South Africa
1999	Santorini, Greece
2000	San Diego, USA

## APPENDIX X: Recent IEA Executive Committee Mid-Year Meetings

1997	Kuala Lumpur, Malaysia
1998	London, United Kingdom
1999	Barcelona, Spain
2000	Canary Islands, Spain



*The IEA Executive Committee members on their way to a meeting in Santorini, Greece, 1999.*

## References

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