



IEA

International Ergonomics Association

2012-2015
TRIENNIAL REPORT

IEA TRIENNIAL REPORT 2012-2015

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Cover Design Idea

In Chinese culture, people think that they live in the world with dome-like sky and flat land.

The circle symbolizes the sky or mother nature that dynamically interacts with environment. It also implies harmonic relationship between human and environment. This is exactly how hard ergonomics works with human, machine and environment.

The circle is an ancient Chinese pictorial character which means "sun". The stroke under the sun is the "horizon". The combination of "sun" on top of horizon makes the Chinese character of "sunrise". The IEA logo in the rising sun guarantees the bright future of ergonomics.

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President's Address

Be ready for the Growing Ergonomics Demands and Issues

Eric Min-yang Wang, President

My Encounter with IEA

My very-first encounter with International Ergonomics Association was in the IEA Triennial Congress of 1991 in Paris. I went to Paris from Sweden as a doctorate student with my family.

To me, a naïve PhD student, the IEA Triennial Congress in Paris was a huge event. I attended the Congress everyday throughout the program until the closing ceremony. My impression was: "Wow! So many participants! So many sessions! The proceedings is so thick and heavy! How do the organizers handle a complex congress like this one? This is different from other smaller conferences I've attended, ... , etc." That was my first encounter with IEA. However, at that time, I had little information about IEA and knew nobody in this important international ergonomics organization!

Since then, along with my academie career, through attending and hosting international ergonomics conferences, as well as interactions with international academia, I became more and more acquainted with IEA and the IEA family members. In addition, my colleagues in Taiwan and I realized that an ergonomics society plays a very important role of promoting ergonomics. Early in 1993, Ergonomics Society of Taiwan (EST) was founded and joined IEA as a Federated Society in 1995. I attended my first IEA Council meeting as the council member for EST in 1996 in Breckenridge, Colorado, USA. This opened my increasing involvement with IEA activities.

Ergonomics Demands and Issues

Serving as IEA Vice President and Secretary General from 2009 to 2012 as well as the President since 2012 has given me an excellent opportunity to look at and think about the global ergonomics community and its ergonomics development, the ergonomics demands and the issues in various countries and regions. Through interactions with local ergonomics society and researchers, professionals, practitioners, and participants of the events, I found that different countries and regions have quite different ergonomics demands and issues that need us pay more attention on providing necessary support.

For instance, I've met ergonomists, industrial safety and health professionals in some industrially developing countries (IDCs). They are eager to learn ergonomics and human factors and to use the knowledge and skills in their work and work environment. However, due to the economics condition and the limited ergonomics education resources, most of the problems they are dealing with are of physical ergonomics, according to IEA definition, but not that much in cognitive or organizational aspects. Same interesting ergonomics research topics relate to the traditional way of working which

are significantly important for the local people and society. The outcome of the ergonomics researches would certainly benefit local people and local industries.

In addition to the physical ergonomics, researchers, ergonomists, and professionals in industrially developed countries (DCs) are dealing with cognitive and organizational issues and demands. This is happening in accordance with the development of technology and new products as well as new types of working, e.g., human-computer interaction, human error, collaborative work, organizational design and management, etc. These issues also bring up big impact to the modern life. As new technology and new product are growing faster than ever, the ergonomics issues may not be noticed until a later time when they become serious and prevalent. It is the time that we need to pay more attention on this problem and to more actively participate in R&D and influence the process in early stage to ensure satisfying ergonomics demands.

We are still Ergonomically Developing Countries

Ergonomics and human factors are so complicated, we only know very little part of the whole knowledge in this field. It is surprised that there are so many ergonomics issues and demands to be studied and solved. No matter where we are, in IDCs or DCs, that is the fact! Therefore, in terms of ergonomics development, there are only "ergonomically developing countries" in the world! The only difference on ergonomics civilization among countries is the experience of ergonomics research and practica. Some countries have more experience and some others have less but all countries need to work harder to learn and practica more. As a result, all these effort must fulfill our goal of benefit local people and industries and maximize human wellbeing.

From many countries' experiences and facts, it becomes clear that the more ergonomics is researched and practiced, the more a society is developed, and the easier and enjoyable the life is! Ergonomics has been applied in many products, environment, and systems, in both local and global levels. Yet there are many ergonomics issues to be solved!

Let's Write the History for IEA Together

IEA was founded in 1959, it will be its sixtieth anniversary in 2019, just four years from now! The IEA history is significantly important for us. It is the IEA history and the good models set by our founding executives and pioneers that encourage us to keep going. It will also be the power for the future ergonomists to continue the effort. The endless ergonomics issues and demands are not only our challenges but also the opportunities. I truly believe that "Ergonomics is a promising discipline!"

Are you ready for the growing ergonomics demands and issues? Let us be well prepared for this trend! Let us hold our hands in hands in promotion ergonomics! Let us keep on writing the history for IEA, and for human wellbeing, together.

Thank you for your support!

About the discipline of ergonomics

IEA definition 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 optimise human well being and overall system performance.

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

Domains of specialisation

Derived from the Greek *ergon* (work) and *nomos* (laws) to denote the science of work, ergonomics is a systems-orientated 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, organisational, environmental and other relevant factors. Ergonomists often work in particular economic sectors or application domains. These application domains, which are not mutually exclusive, evolve constantly. New ones are created old ones take on new perspectives.

Within the discipline, domains of specialisation 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 interactions, human reliability, work stress and training as these may relate to human-system design.

Organisational ergonomics is concerned with the optimisation of socio-technical systems, including their organisational 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, organisational culture, virtual organisations, telework and quality management.

Birth and development of IEA

The International Ergonomics Association was founded in 1959. At the time, only three ergonomics societies were operating (in the United Kingdom, the USA and Germany). Members of the IEA were not societies, but individuals. In 1976, due to the growing number of national or regional societies on one hand and to the will of being able to interact with world organisations like the World Health Organisation (WHO) or the International Labour Organisation (ILO) on another hand, the IEA decided to become a federation of societies.

Since then, the history of IEA and of ergonomics has been a story of expansion. Expansion first in terms of the number of Federated Societies (from 11 in 1976 to 49 in 2015) or of number of individuals belonging to member societies (11,689 in 1976 to an estimated 25,000 currently).

Expansion has also occurred in terms of scope of interests: the range of topics covered by the Triennial Congresses has manufacturing, standards, human reliability, quality management, aging agriculture, rehabilitation, etc. Attendance has grown (120 participants in 1961, 519 in 1976, 1600 in 1997, 3100 in 2000, and 1400 in 2006). Variations in attendance IEA Congresses are influenced by the location in the world, and global events at the time including SARS, wars, and global financial crises.

Finally, expansion has occurred in the integration of ergonomics into society. Ergonomics is not only today an academic discipline, it is a profession. This has led to the development of professional certification systems in ergonomics and of training programs in the ergonomics discipline.

The IEA is now a mature organisation, with responsibilities at an international level. The IEA interacts with WHO and ILO for specific actions, developing and implementing ergonomics programs in small and medium size companies in manufacturing, as well as in agriculture. Special emphasis has been given to developing countries in Africa, Asia and South America.

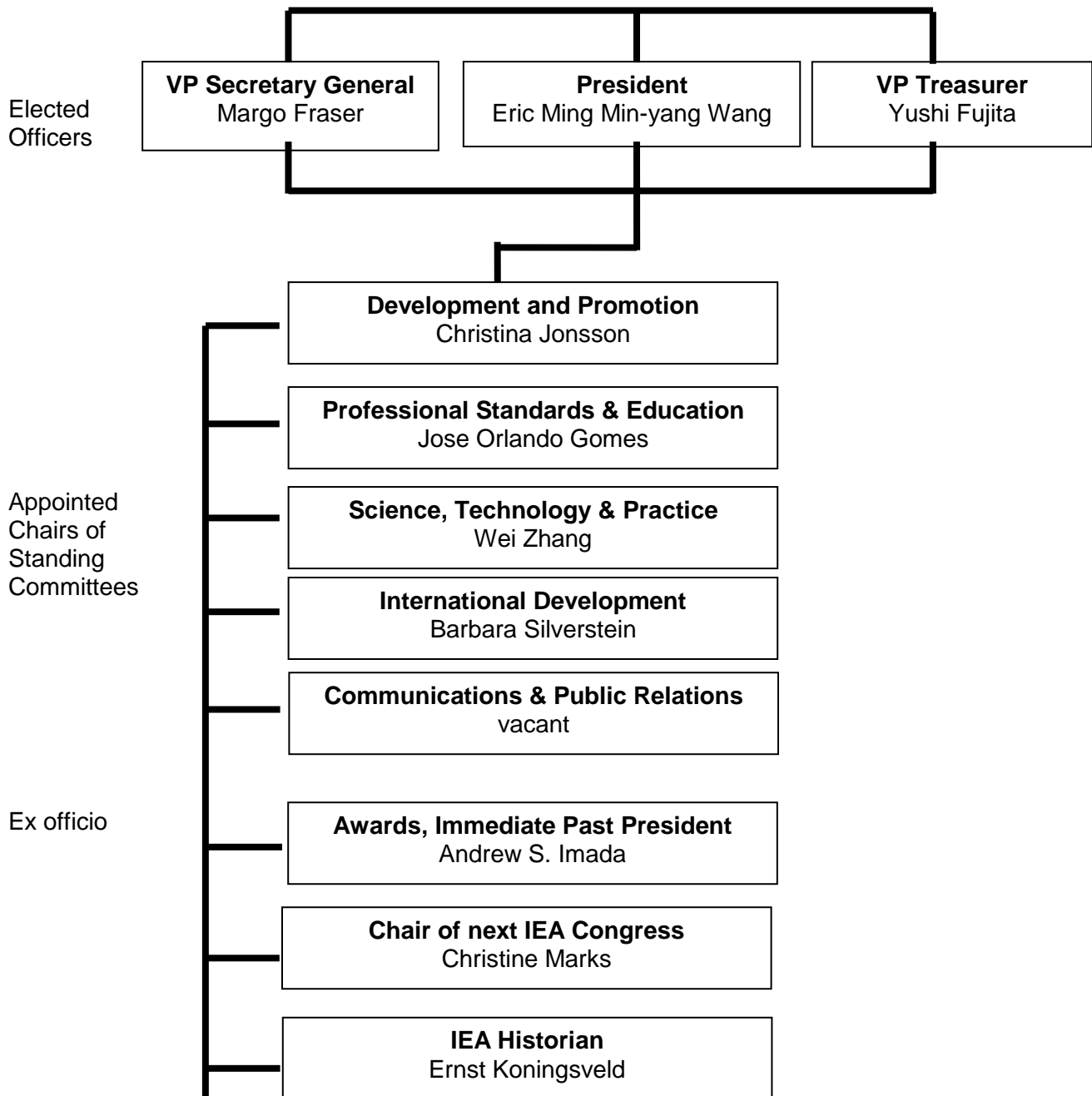
The IEA has been working towards a program to encourage ergonomic design processes in the area of consumer product development, with respect to application of human-centre principles in processes of design.

The IEA Archives are currently hosted by CNAM in Paris, France.

The IEA was re-registered in Zurich, Switzerland in 2009 as an international not-for-profit organization. However, the requirement to register the bylaws in German has created an administrative difficulty given that English is the working language of the IEA. Other registrations locations have been considered and a proposal is being made to move the registration to Geneva.

About IEA

IEA Executive Committee 2012 - 2015



The International Ergonomics Association is the federation of ergonomics and human factors societies around the world. The mission of the 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, which consists of the elected IEA Officers, Chairs of the Standing Committees and Chair of the next IEA Congress.

A President, Secretary General and a 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 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 sub-committees are responsible for specific functions or activities.

Communications and Public Relations

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 virtual publishing house of the IEA. The committee also coordinates donations of educational materials to libraries in industrially developing countries through the IEA Book Fund.

Development and Promotion

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

International Development

This Standing committee promotes, coordinates, and implements ergonomics 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.

Professional Standards and Education

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

Science Technology and Practice

The IEA Science, Technology and Practice Committee undertake the following activities, in cooperation with the Technical Committees and Special Task Committees set up to support its role:

- Initiate development of committees in various ergonomics technical interests
- Promote dissemination of technical knowledge through the Ergonomics Compendium
- Support the organization of scientific and technical events
- Assist in the planning of the IEA Triennial Congress scientific program
- Review applications for IEA endorsement of scientific events and publications
- Provide information for

Awards

This Committee recommends to council awards to individuals for their contributions to the field.

Awards for which this committee is responsible include:

- IEA Fellow Award
- IEA Distinguished Service Award
- IEA President's Award
- IEA Outstanding Educators Award
- IEA Award for Promotion of Ergonomics in Industrially Developing Countries
- IEA Ergonomics Development Award
- IEA / Liberty Mutual Prize and IEA / LM Medal Award
- IEA / Elsevier John Wilson Award
- IEA Human Factors and Ergonomics Prize
- IEA KU Smith Student Award

IEA Membership

As of July, 2015, the International Ergonomics Association has 49 Federated Societies, two affiliated societies, three networks, three sustaining member organisations and three individual sustaining members.

IEA Federated Societies

Federated Societies are societies that have the main aim of promoting ergonomics. They are bodies that elect a governing council from within their own membership and encourage the publication of research material and the development of ergonomics practice.

Argentina	Spain
Australia	Switzerland
Austria	Taiwan
Belgium	Thailand
Brazil	Tunisia
Canada	Turkey
Chile	Ukraine
China	United Kingdom
Colombia	USA
Croatia	
Czech Republic	
Ecuador	
French Language Ergonomics Society	
Germany	
Greece	
Hong Kong	
Hungary	
India	
Indonesia	
Iran	
Ireland	
Israel	
Italy	
Japan	
Latvia	
Malaysia	
Mexico	
Netherlands	
New Zealand	
Nordic Countries	
Peru	
Philippines	
Poland	
Portugal	
Russia	
Serbia	
Singapore	
Slovakia	
South Africa	
South Korea	

IEA Affiliated Societies

Affiliated Societies are other national or international professional societies that are ineligible for federated member status or have an interest in ergonomics but have their main aim in an associated area.

- Human Ergology Society of Japan
- Nigeria (Ergonomics Society of Nigeria ESN)

IEA Networks

The growing size of the IEA has led to a revision of its membership structure, by creating IEA networks. Societies federated in the IEA may work together in networks, when a need is felt to do so. Examples of such needs can be geographical proximity, sharing of a common language, promotion of common interests. The IEA Council gives its agreement to the creation of the network, on the basis of a proposal from networked societies stating membership and goals. These networked societies are granted the status of IEA Network. These networks report on their activities to IEA

There are three networks in Europe, Latin America and Southeast Asia.

- Federation of the European Ergonomics Societies – FEES
- South East Asian Network of Ergonomics Societies – SEANES
- Union of Latin-American Ergonomics Societies – ULAERGO

IEA Sustaining Members

Academicians and practitioners accomplish the work of the IEA. However, many initiatives vital for the development to ergonomics as a unique science and profession cannot be funded with existing resources. Funds are then needed to support the development of ergonomics worldwide, including in industrially developing countries. To disseminate ergonomic knowledge to the industry and to society at large, to promote ergonomics education and competency standards, and to support the work of our Technical committees

The IEA Sustaining Membership program supports the science and application of ergonomics worldwide. The program provides exposure and enhances the image of institutional members.

IEA is an international not-for-profit organisation. No monetary benefits are given to people involved in the operational of the IEA. This means that 100% of IEA funds support the implementation of the IEA goals.

There are four levels of support on a three year basis, and each level offers specific benefits. The granting of IEA Sustaining Membership does not imply IEA endorsement or approval of company products or services.

Organizational Sustaining Members

Diamond Level - US \$ 10,000 per year

- **Liberty Mutual Research Institute for Safety**
Ian Noy
USA
- **Elsevier**
Gaia Lupo
UK

Platinum Level- US \$ 5,000 per year

Gold Level - US \$ 1,000 per year

- **Korean Occupational Safety & Health Agency (KOSHA)**
Lee, Young Soon, President
KOREA

Individual Sustaining Members

- Kazutaka Kogi
- Michelle Aslanides
- Andrew S Imada

Corporate Sustaining membership benefits

Gold level US \$ 1,000/year

Individual members US \$ 200/year

- Listings in printed IEA directories as well as in the IEA website
- Complimentary copy of the quarterly updates from the IEA President to the federated Societies.
- Sustaining Member Plaque with company name inscribed

Platinum level US \$ 5,000/year

- All benefits at the Gold level
- Official listings in the programs of IEA conferences and congresses
- Two complimentary registrations for the forthcoming IEA congress
- Company logo on IEA website home page with active links

Diamond level US \$ 10,000/year

- All benefits at the Platinum level
- Free space at exhibitions organized at IEA congresses, subject to approval by congress organizer
- Exposure of company logo at IEA conferences and congresses
- Direct links between new company products with relevant sections of the IEA website
- Other benefits such as a speech by an IEA officer can be negotiated

Star level US \$ 25,000/year

- All benefits at the Diamond level
- Additional three complimentary registration for the next IEA congress
- Acknowledgements on the first page (covers) of the Congress proceedings
- Free distribution of promotional materials at IEA Congress
- Additional benefits can be negotiated

Technical Committees

- Activity Theories for Work Analysis and Design
- Aerospace HFE
- Affective Product Design
- Aging
- Agriculture Ergonomics
- Anthropometry
- Auditory Ergonomics
- Building and Construction
- Ergonomics for Children and Educational Environments
- Ergonomics in Design
- Ergonomics in Manufacturing
- Gender and Work
- Healthcare Ergonomics
- Human Aspects of Advanced Manufacturing
- Human Factors and Sustainable Development
- Human Simulation and Virtual Environments
- Mining
- Musculoskeletal Disorders
- Organizational Design and Management
- Process Control
- Psychophysiology in Ergonomics
- Safety & Health
- Slips, Trips and Falls
- Transport
- Visual Ergonomics
- Work With Computing Systems - WWCS

IEA Strategic Plan 2012-2015

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 organisations, 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.

Goals: The Following Goals Reflect the IEA Mission

- A. Contribute to the development of federated societies.
- B. Advance the science and practice of ergonomics at an international level
- C. Enhance the contribution of the ergonomics discipline to global society

GOAL A: Contribute to the development of federated societies

SUBGOAL A1: Develop more effective communication and collaboration between and with federated societies.

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

SUBGOAL A2: Develop ergonomic societies through the world.

1. Support the continuing growth of ergonomics in industrially developing countries by training and education
2. Provide industrially developing countries with ergonomics knowledge by stimulating the existing IEA mechanisms

SUBGOAL A3: Improve IEA operational effectiveness

1. Develop mechanisms for effectively involving member societies in IEA activities
2. Improve communication with member societies
3. Facilitate the exchange of views and experiences among the leaders of member societies
4. Initiate campaign to increase the numbers of sustaining IEA
5. Increase revenues from donations, endowments and funds when this will not conflict with the operations of member societies (e.g. from international bodies)

GOAL B: Advance the Science and Practice of Ergonomics at an International Level

SUBGOAL B1: Stimulate Development of the Ergonomics discipline

1. Define and clarify the field of ergonomics
2. Identify and elaborate cultural and economic differences affecting ergonomic science and practice
3. Identify future needs for development of ergonomics
4. Support and promote specialised conferences and workshops in collaboration with member societies
5. Promote IEA publications suited to knowledge dissemination by IEA

SUBGOAL B2: Enhance the quality of professional practice and education in Ergonomics

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
10. Show best practices in order to stimulate the growth of ergonomics

GOAL C: Enhance the Contribution of the Ergonomics Discipline to Global Society

SUBGOAL C1: Promote Recognition of the Ergonomics Discipline

1. Identify specific areas where greater international exchange of information is needed, and develop appropriate means for dialogue
2. Increase public awareness of the benefits of ergonomics through mass media communications
3. Provide information about ergonomics/IEA for listing in international directories and reference publications
4. Expand and strengthen links with other international bodies
5. Expand and strengthen links with societies working in related fields
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
8. Elaborate and promote the benefits of ergonomics to improve the quality of life for individuals, organisations, and society.

SUBGOAL C2: Promote Applications of Ergonomics in All Aspects of Life

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).
5. Support member societies in taking positions on major public issues and in their use of the media
6. Promote ergonomics in geographical regions where particular support is needed
7. Develop program of certification of ergonomic quality in design

IEA Achievements – 2012-2015

GOAL A – Contribute to the development of federated societies

1. Communication

The major thrust to assist the federated societies participate at a global level has been to improve **communication**. During this Executive a number of initiatives have been continued.

1.1 IEA Website.

The Japan Ergonomics Society (JES) has graciously provided programming assistance and hosting of the IEA website since late 2012. The design of the site was updated and a society membership area is due for release in the near future. Content continues to be developed for the site.

1.2 Facilitate visibility of each member society through the IEA home page and other means of communication.

The website explains the IEA endorsement process and allows member societies to apply for IEA endorsement. Interested parties can see the member society's events in upcoming events on the IEA home page.

2. Collaboration between ergonomics societies.

The members of the "IEA family" have provided opportunities for federated societies to directly assist and support each other. Examples include:

- The Tunisian Ergonomics Society (TSE) supported the foundation of ERGOAFRICA in cooperation with Ergonomics Society of South Africa (ESSA), Nigeria Ergonomics Society (NES), Brazilian Ergonomics Association (ABERGO), and ULAERGO.
- Mexican Ergonomics Society (SEMAC) invited and hosted IEA President, Costa Rica Ergonomics Society, ULAERGO, and ABERGO in its 2013 congress. In the 2014 congress SEMAC invited IEA Vice-President & Treasurer and ABERGO..
- ULAERGO supported the Ecuador Ergonomics Association to organize the 4th. Latin American Ergonomics Congress in Quito, in September 2013 with the presence of the President of IEA.
- Ecuador Ergonomics Association invited and hosted representatives of the following societies for the 4th. Latin American Ergonomics Congress: Cuba, Brazil, Mexico, Chile, and ULAERGO.
- ABERGO invited the following societies for its conferences in 2012, 2013, 2014: Cuba, Argentina, Mexico, Venezuela, Chile, Peru, ULAERGO, Colombia, Ecuador, Uruguay, France, Ukraine, South Africa, and Bolivia. The IEA President and Vice-President & Treasurer were invited and hosted for the 17th. Brazilian Ergonomics Congress in 2014.
- Tunisian Ergonomics Society supported the foundation of the Algeria Ergonomics Association as well as Morocco Ergonomics Association in cooperation with ERGOAFRICA and ABERGO.

- ULAERGO and its affiliate societies structured a Doctorate Program on Ergonomics for Latin America & Africa with the participation of the 25 international invited professors from Americas, Europe and Africa to be started up in 2016 with a Consortium of the 3 Cuban Universities: CUJAE-Instituto Superior Politecnico Jose Antonio Echevarria, University of Matanzas, and University of Holguin.
- ABERGO supported Chile Ergonomics Society to structure its certification body from 2012 to 2013.
- ULAERGO is supporting the organization and foundation of ergonomics societies in the following countries: Panama, Dominican Republic, Paraguay, and Honduras.

3. Global Ergonomics Month

This initiative was commenced in 2008 to focus on October as the month where the federated societies share programs and resources at local and international levels to promote ergonomics outreach activities. HFES and FEES, who have been conducting ergonomics month activities in the USA and Europe respectively, have provided the leadership for this program. This program now showcases all of the activities on the IEA and has subsequently brought collaboration from other ergonomics societies as an example of sharing resources to promote ergonomics to the community.

4. IEA registration

The IEA has a registered mailing address with the HFES in the USA and a bank account in Canada. In 2009 the IEA was officially registered in Zurich, Switzerland through the Registry of Commerce. In order to avoid cumbersome clerical works associated with translation into German, which is required by the Zurich government, a new place for registration was explored. At the Melbourne Council meeting, Vice President and Treasurer Yushi Fujita will propose to change the IEA registration to Geneva, Switzerland.

5. Council meeting as a mechanism for involving members in IEA activities

The IEA Council meeting continues to include a welcome reception on the evening prior to the Council. This provides an opportunity for new and current Council members to meet each other informally and to share experiences relating to the federated societies prior to the Council meeting.

During the Council meeting, the delegates participate in a series of informal discussions or workshops to further promote their contribution to the council on behalf of their federated society and to share and learn from each other. Council has been discussing how to build upon the Future of Ergonomics work done in the previous triennial period and agreed to fund a marketing project, which is in process via the Development and Promotions Committee. Discussions around the future of the IEA as an organization were also conducted. Methods to balance services that provide IEA membership benefits with those that promote ergonomics/human factors to users and potential users of ergonomics services are on-going.

6. Formation of new societies

The IEA was pleased to approve 2 new Federated Societies during the 2012-2015 period. The first was the Human Factors and Ergonomics Society of Malaysia (HFEM) and the other was the Peruvian Ergonomics Society. We hope to receive an application from Venezuela in the near future.

Other societies that have been founded or revitalized are located in Uruguay, Cuba, Algeria and Morocco. ULAERGO is currently supporting the development of societies in Panama, Paraguay, Honduras and Dominican Republic.

7. Financial Support

The IEA has supported ergonomists from Industrially Developing Countries (IDCs) to attend the IEA 2015 Triennial Congress. These \$1000USD stipends were awarded at the recommendation of the federated societies. Each IDC was allocated one stipend. Additionally, the IEA 2015 organizing committee provided special registration fees for attendees from IDCs to encourage their participation.

8. IEA Dues

In response to a question raised by a federated society, an ad hoc committee (the Dues Subcommittee chaired by David Caple) was formed to review the current dues mechanism. Recommendations proposed by the subcommittee have been submitted to the IEA Council for consideration at the 2015 Council meeting in Melbourne. Important recommendations are (1) that the maximum membership fee paid by a member society is limited \$20,000 per year, and (2) that the minimum membership fee is raised to \$100 US per year from the current \$50.00 per year.

9. Online Banking

Due to the termination of the manual overseas remittance service by Scotiabank, an online system (the Scotia Connect service) has been introduced.

10. IEA Historian

To help federated societies and the IEA maintain its rich heritage, we revived the role of the IEA Historian. In 2012 Patrick Waterson (IEHF) interviewed several prominent ergonomists and organized a special IEA session at IEA2012 with a group of experts who shared their perspectives on our history. This builds on the rich history already documented in Ilkka Kuorinka's book on the first quarter century and the 50th Anniversary Booklet published in 2006 by IEA under Pierre Falzon's presidency.

Early 2015 President Eric Wang invited Ernst Koningsveld (NL) to accept the role of IEA Historian. This is an ex officio position within the IEA Executive Board. The intent is to publish a next volume on the history of the IEA, with the perspective of international developments and those in our discipline. We aim to launch this publication at a special symposium on the 60th anniversary of IEA in 2019.

Ernst accepted this role. His almost 45 years of experience in IEA is a sound basis for this role; he attended 30 IEA council meetings, 13 IEA triennial congresses and many smaller conferences, and was the chairman of the 2006 IEA congress in Maastricht. He has also been very active in European and national ergonomics organisations.

The publication will be based on contributions of current and former IEA officers, and will include information by key persons in education, certification, IEA networks and industrially developing countries.

Table 1

IEA Visits to Federated Societies and Partners

Location	Representative	Date	Participation
Hong Kong, China	Eric Wang, IEA President	May 26, 2012	Invited and attended HKES Scientific meeting and presented a talk entitled "Challenges and needs on Ergonomics: A View from Taiwan to East Asia".
Langkawi, Malaysia	Yushi Fujita, IEA VP and Treasurer	July 2012	Represented IEA for SEANES 2012 Conference
Beijing, China	Eric Wang, IEA President	August 11, 2012	Invited and attended the 3rd International Asia Conference on Industrial Engineering and Management Innovation and delivered a speech entitled "Steve Jobs' and Apple's Innovation to Success: Design For People's Mind".
Kuala Lumpur, Malaysia	Eric Wang, IEA President	September 20, 2012	Invited and attended the 2012 IOHA congress and presented the keynote entitled "Designing Out Human Error". Reaffirmed the partnership among the three associations and discussed collaboration work on Risk Communication with the Presidents of IOHA and ICOH.
Shanghai, China	Eric Wang, IEA President	October 26 to 28, 2012	Invited and attended the 2012 International symposium on work injury prevention and rehabilitation and delivered a speech entitled "The role of ergonomics in preventing work injuries".
Moline, Illinois, USA	Andrew S. Imada, IEA Past President, and Klaus Zink	October 28, 2012	To seek funding for another lighthouse project on improving agricultural productivity and safety in Africa. No funding received, but developed a relationship with the Foundation head.

Beijing, China	Eric Wang, IEA President, and EC members	November 30 to December 2, 2012	Chaired the IEA EC meeting and attended 2012 CES conference. Invited and presented a keynote speech on “Re-think and the challenges of the development of ergonomics: GLOBALization + LOCALization”
Cambridge, UK	Eric Wang, IEA President Margo Fraser, VP and Secretary General Yushi Fujita, VP and Treasurer and Andrew S. Imada, Past President	May 2013	EC meeting in conjunction with the IEHF annual conference.
Tokyo, Japan	Eric Wang, IEA President, and Yushi Fujita, VP and Treasurer	June 1, 2013	Invited and attended 50th JES annual conference and presented a talk entitled “Towards a Harmonic World: Ergonomics Avenue”.
Sao Paulo, Brazil	Eric Wang, IEA President	July 31, 2013	Invited and attended ABERGO conference and delivered a speech entitled “The Challenge of Human Factors and Ergonomics: GLOBALization + LOCALization ”.
Paris, France	Eric Wang, IEA President, and EC members.	August 24 to 28, 2013	Chaired IEA EC meeting and the IEA council meeting. Invited and attended SELF 50th anniversary, presented a congratulations speech and encouraged SELF extends its influence to non-French speaking regions.
Geneva, Switzerland	Eric Wang, IEA President	August 29 to 30, 2013	Represented IEA visiting ILO (Dr. Shengli Niu) and WHO (Dr. Evelyn Kortum) for the Collaboration Programs.
Quito, Ecuador	Eric Wang, IEA President	September 4 to 6, 2013	Attended 2013 ULAERGO Congress and presented a talk entitled “From Enhanced Human Factors Analysis Classification System (EHFACS) to Global and Local Ergonomics Needs”.

Taipei, Taiwan	Eric Wang, IEA President	December 3 to 4, 2013	Invited to attend 2013 International Workplace Health Promotion Summit. Delivered a speech on “Hidden Problems in Workplace Health: Psychological, Social, and Technical Awareness”
Merida, Mexico	Eric Wang, IEA President	April 2 to 5, 2014	Invited to deliver a keynote speech on “Ergonomics, Ergonomically Developing Countries, and Localization” in Mexico Ergonomics Society Annual Congress. Encouraged the participants to conduct research and implement the solutions for satisfying local ergonomics needs. Chaired Regional Ergonomics Development Meeting for Central America in which 11 representatives from the ergonomics societies of the region participated. and Caribbean Area
Yasmine Hammamet, Tunisia	Eric Wang, IEA President, and EC members	May 5 to 6, 2014	Chaired IEA Executive Committee Meeting and Delivered a speech entitled “Ergonomics in the History and for the Future” in the Tunisia Ergonomics Society (STE) Congress. Encouraged the participants learn from the past for the future. Encouraged Algerian ergonomics professionals to found their own Ergonomics Society.
Zagreb, Croatia	Eric Wang, IEA President	May 30, 2014	Delivered a congratulations speech for the 40th anniversary of Croatia Ergonomics Society and chaired a meeting with Croatian ergonomics colleagues to find out their ergonomics needs.
Taipei, Taiwan	Eric Wang, IEA President, and EC members	June 20 to 26, 2014	Chaired IEA Executive Committee Meeting and Council meeting prior to the 4th International Conferences on Healthcare Systems Ergonomics and Patient Safety hosted by Ergonomics Society of Taiwan. Also chaired some scientific presentation sessions for HEPS Conference.

Sao Carlos, Sao Paulo State, Brazil.	Eric Wang, IEA President, Yushi Fujita, VP and Treasurer, Jose Orlando Gomes, PSE Chair	September 16 to 19, 2014	Invited by XVII ABERGO to the Annual Ergonomics Congress. Delivered a keynote speech on "Relationship between Global and Local Ergonomics Demands", satisfying local ergonomics demands was prioritized.
Lima, Peru	Eric Wang, IEA President, Yushi Fujita, VP and Treasurer, Jose Orlando Gomes, PSE Chair	September 24 to 27, 2014	Invited to attend Peruvian Ergonomics Society (SOPERGO) Congress and gave a keynote speech on "Ergonomics: A Global and Local Perspective". Introduced IEA organization and operation and invited SOPERGO apply for IEA membership.
Bali, Indonesia	Eric Wang, IEA President	October 21 to 23, 2014	Attended International Conference on APCHI-ERGOFUTURE-PEI-IAIFI 2014. Presented a talk entitled "Experience on Ergonomics" in which a recent effort on successful legislation of proactive ergonomics intervention on prevention of repetitive strain injury in Taiwan was introduced.
Medellin, Colombia	Eric Wang, IEA President	November 3 to 8, 2014	Invited and presented a talk entitled "The role of ergonomics in preventing work injuries" in the 13th Colombian Congress of Ergonomics and the 20th Week of Occupational Health.
Guwahati, Assam, India	Eric Wang, IEA President, Margo Fraser, VP and Secretary General, Yushi Fujita, VP and Treasurer and Jose Orlando Gomes	December 1 to 9, 2014	President chaired IEA Executive Committee Meeting and represented IEA to deliver a speech on "IEA Briefing: What is IEA? What is IEA doing?" for HWWE 2014 participants. EC members assisted with chairing sessions.
Taoyuan, Taiwan	Eric Wang, IEA President	January 21 to 23, 2015	Invited to attend the 2nd International Conference on Ambient Intelligence and Ergonomics in Asia and gave a keynote speech on "The Ultimate Ergonomics: Honoring the Mother Nature".
Baltimore, USA	Yushi Fujita, VP and Treasurer	April 2015	Represented IEA at ISO/TC159 Plenary Meeting

Beijing & Changsha, China	Eric Wang, IEA President	May 4 to 9, 2015	Meeting with Dr. Shengli Niu from ILO and Professor Min Zhang from CDC to discuss on promotion Ergonomics Checkpoints in China. Discussed and promoted a new collaboration publication between IEA and ILO on Ergonomics Checkpoints in Human Care Work. Introduced the Ergonomics Checkpoints for Human Care Work to two local hospitals and received positive feedback.
Seoul, Korea	Eric Wang, IEA President, and EC members	May 29 to June 5, 2015	Chaired IEA Executive Committee Meeting. Represented IEA and delivered a congratulations message to the 31st ICOH Congress. Co-chaired a plenary session for ICOH Congress.
Brela, Makarska, Croatia	Eric Wang, IEA President	June 7 to 12, 2015	Invited and attended 7th International Scientific Conference of MOTSP 2015 (Management of Technology – Step to Sustainable Production) and delivered a keynote speech on “Ergonomics: An inseparable part in sustainable production”.

GOAL B – Advance the science and practice of ergonomics at an international level

1 Certification

The Professional Standards and Education Standing Committee revitalized the subcommittee to explore new perspectives on certification with the support of the Japanese Certification Body.

The goal was to expand the certification system to countries/or regions other than the already endorsed bodies by IEA. Two main actions were proposed: one at the AHFE 2014 in Poland and the second one at the IEA2015.

1.1 The first activity was a special session at the AHFE 2014 to discuss the certification including the following organizations:

Country	Certification body	IEA Endorsed
USA	BCPE	yes
Japan	JESCPPE	yes
China	In discussion	Not yet
Brazil	SISCEB-ABERGO	Not yet
South Africa	In development	Not yet
Russia	In discussion	Not yet
Japan	HCDNet (usability)	Not IEA family
Germany	CPUX-F (usability)	Not IEA family

The participants provided overviews of the various facets of certification in their countries.

1.2 The second activity to discuss the certification is planned for the IEA2015 in Australia with a 3 hour special session including 13 participating organizations as listed in the table below. The goal is to move forward in the expansion of the certification system worldwide and try to include new areas like usability as well as new professional domains such as engineering in the certification process. Representatives from the following organizations will participate.

Country	Certification body	IEA Endorsed
USA	BCPE	yes
Europe	CREE	yes
Japan	JESCPPE	yes
Canada	CCCPE	Not yet
Australia	CBHFESA	yes
New Zealand	CCNZE	yes
China	In discussion	Not yet
Brazil	SISCEB-ABERGO	Not yet
Mexico	CEM	Not yet
South Africa	Under construction	Not yet
India	In discussion	Not yet
Japan	HCDnet (usability)	Not IEA family

2. Research Awards

The IEA promotes research through two major awards. First, the Liberty Mutual Medal in Occupational Safety and Ergonomics recognizes 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. The award consists of a cash amount of US\$ 10,000 and a Medal.

The winners of his prestigious award during this triennial period include:

2012

- Paul Schepers and Berry P.L.M. den Brinker

2013

- Sean Gallagher and John R. Heberger

2014

- Priyadarshini R. Pennathur , David Thompson, James H. Abernathy III, Elizabeth A. Martinez, Peter J. Pronovost, George R. Kim, Laura C. Bauer, Lisa H., Lubomski, Jill A. Marsteller, & Ayse P. Gurses

2015

- Bob Muffett, John R. Wilson, Theresa Clarke, Anthony Coplestone, Emma Lowe, John Robinson, Stuart Smith

Second, the IEA has instituted an new award – the IEA/Elsevier John Wilson Award. This award is presented in honor of John Wilson (1951-2013), Professor of Human Factors at the University of Nottingham, where he was Director of the Institute of Occupational Ergonomics until his departure and Head of the Human Factors Group (until 2006). Professor Wilson was the co-Editor-in-Chief of Applied Ergonomics, former president of the IEHF, and long-term affiliate with the IEA (IEA Council member, member of the IEA Executive Committee in 2000-2003). The IEA/Elsevier John Wilson Award recognizes major contributions in the field of applied ergonomics. As Editor of the journal, Professor Wilson demonstrated tremendous leadership and transformed the journal into one of the best human factors and ergonomics journals. This triennial award will be presented to an individual or team with a monetary prize of US \$5,000, which is sponsored by Elsevier.

The winners of the inaugural IEA/Elsevier John Wilson Award are:

- Peter Hancock
- Mitsuo Nagamachi
- Gavriel Salvendy

The KU Smith Award encourages research and presentation by students at the Triennial IEA Congress. Due to the generosity of the Smith family and the investment of funds through their HFES, the IEA is now able to provide two awards. Tom Smith has secured additional funding to ensure that this award will continue to be presented to deserving and aspiring students. Each award is valued at US\$3,000. The winners of the KU Smith Award for 2015 were

- Ademola James Adeyemi from Malaysia
- Ben Sawyer from the USA.

3. Recognition for Individual Contributions

An important function of the International Ergonomics Association is to award formal recognition to members of Federated Societies who have made outstanding contributions to the field of ergonomics on an international level. All awards are presented during the IEA Triennial Congress. As prescribed by the Rules, Past President David Caple, served as Chair of the Awards Committee.

The Awards Committee, based upon nominations from federated societies, selects recipients for the first four awards listed below. The IEA President, who may receive nominations from the Council and Executive Committee, selects the IEA President's Award.

IEA Triennial Distinguished Service Award is presented to individuals for outstanding contributions to the promotion, development and advancement of the IEA.

IEA Triennial 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; and graduated persons who have become outstanding ergonomists.

IEA Triennial Award for Promotion of Ergonomics in Industrially Developing Countries is given to a person(s) who has made significant and outstanding contributions to the development of infrastructure of ergonomics in an industrially developing country. This may be manifested through development of teaching/training programs, implementation of ergonomics design in industry, development of R&D programs, organization of ergonomics professionals, and extensive collaboration with international bodies such as the United Nations.

IEA Triennial 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-specialty; opens up a new area of ergonomics research and/or application.

IEA Triennial 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.

IEA Human Factors and Ergonomics Prize is presented to a group, institution or organization that has made significant contributions to research and development, and/or application of knowledge generally in the field of human factors and ergonomics. This award will be made triennially in conjunction with the IEA Congress. Nominations must come from federated societies or and the IEA Executive Committee and are submitted to the Chair of the Awards Committee. The winner of the inaugural IEA Human Factors and Ergonomics Prize is:

- The Liberty Mutual Research Institute for Safety

3.1 Triennial Award Recipients – 2012 – 2015

IEA Triennial Award for Distinguished Service:	• Jan Dul
IEA Triennial Award for Ergonomics Development:	• Peter Hancock
IEA Triennial Award for Outstanding Educator:	• Helmut Strasser
IEA Triennial Award for Promotion of Ergonomics in Industrially Developing Countries	• Kazutaka Kogi
IEA Human Factors and Ergonomics Prize:	• Liberty Mutual Research Institute for Safety
IEA Triennial Presidents Award:	• Halimahtun Khalid

3.2 IEA Fellow Award

The IEA Fellowship Award is given to recognize extraordinary or sustained, superior accomplishments of an individual. To be considered for a fellowship two eligibility criteria must

be satisfied. In addition, the candidate's distinction as an ergonomics professional must be demonstrated.

New IEA Fellows – 2012 – 2015

Peter Buckle
Don B. Chaffin
Ekkehart Frieling
Karl E. Kroemer
Adnyana Manuaba
Maury Nussbaum
Richard Pew
Susumu Saito
Eduardo Salas
Penelope Sanderson
Richard So
Sheng Wang
Christopher Wickens

4. Promoting Ergonomics through Technical Committees

Under the leadership of Karen Jacobs, the Science Technology and Practice Committee has overseen involvement in 26 active Technical Committees within the IEA. Technical Committees form a vital pathway for professionals to be involved in the IEA Congress. Their coordination and control of symposia, reviews and technical matters are vital to the active involvement of professionals to the specialty areas.

The different Technical Committees provide opportunities for IEA members with similar research and practice interests to interact in relation to their work and to participate in programs such as special editions of technical journals and to organise and participate in conferences together. The Technical Committees also utilize websites and chat rooms to share information.

In 2011, the IEA hosted the Healthcare Ergonomics & Patient Safety (HEPS) Conference in Oviedo. This was a collaborative program between the ergonomics societies in Italy and Spain to focus on the needs of this technical area of the ergonomics domain. The leadership provided by the Italian Ergonomics Society with this conference is greatly appreciated.

5. IEA 2015 Melbourne, Australia

The Triennial Congress of the IEA is an incredibly important event for bringing members together to form new friendships, partnerships and collaborations and for advancing the discipline and practice. The IEA is extremely pleased to be going to Melbourne, Australia for the 19th Triennial Congress. We are deeply grateful to the Human Factors and Ergonomics Society of Australia (HFESA) and the Human Factors and Ergonomics Society of New Zealand (HFENZ) for organizing the Congress under the leadership of Christine Marks, Organizing Committee Chair. We very much appreciate the Chairs of the Technical Committees for their contributions to the Congress program through coordinating the expertise in their areas of interest and reviews. We could not do it without the specialized knowledge about the research and practice that these experts possess.

6. IEA Strategy for Human Factors/Ergonomics (HFE)

The strategy for human factors/ergonomics (HFE): developing the discipline and profession was adopted by the Council 2012 in Recife. The strategy has two main strategic directions: (1) to

strengthen the demand for high-quality HFE by increasing awareness among powerful stakeholders of the value of high-quality HFE by communicating with stakeholders, by building partnerships and by educating stakeholders, and (2) is to strengthen the application of high-quality HFE by promoting the education of HFE specialists, by ensuring high-quality standards of HFE applications and HFE specialists, and by promoting HFE research excellence at universities and other organizations.

A name change of IEA adding Human Factors (HF) was discussed at the Council meeting 2013 as a step in the direction the strategy points to. The positions and opinions differed significantly among the Federated Societies and no decision was taken. At the Council meeting 2014 in Taipei a position paper on adding Human Factors (HF) to the IEA name was presented. But it was concluded that further defining the IEA brand should help to determine whether Human Factors should be added to the IEA name. Hugo Bos and Christina Jonsson from the Development and Promotion Committee proposed to develop a marketing plan for IEA. A marketing plan would support the implementation of the strategy and guide the Council's decision regarding the future direction for IEA, including a name change and new logo. The Council agreed to proceed with the marketing plan. The intention was to engage a marketing company, but none of the contacted marketing companies were willing to take on the task. The work was postponed. The plan is to restart the development of a marketing plan in September 2015.

GOAL C: To Enhance the Contribution of the Ergonomics Discipline to Global Society

The promotion of ergonomics in research and application has been enhanced through our partnerships with external bodies.

1. Tripartite Memorandum of Understanding

The IEA continues to work in the framework of the MOU with the International Commission on Occupational Health (ICOH) and the International Occupational Hygienists Association (IOHA) signed in 2008. The MOU was renewed in 2013 with a significant revision based on mutual trust and willing of continuing collaboration. The MOU shall automatically be renewed in a five-year period if neither of the associations provides a written notice to terminate the collaboration. This reinforces the commitment for each international association to recognize each other and open the possibility for long-term collaboration to promote their areas of related activities.

Examples of these activities have included:-

1.1 ICOH Congress in 2015

The IEA President was invited and delivered a congratulations speech at the opening ceremony of the 31st International Congress on May 31, 2015 in Seoul, Korea. He was also invited to chair a plenary address at the ICOH Congress.

1.2 Initiative on collaboration work on Guidelines for Risk Communication

During the IOHA International Scientific Conference 2012 in Kuala Lumpur, Malaysia the IEA President, IOHA President and ICOH President discussed and agreed to work together on Guidelines for Risk Communication. Since then the progress of mutual cooperation in this particular area has been limited. It needs further development of communication among the three associations. Continuing the appointed goal of mutual collaboration, during the ICOH Congress 2015 in Seoul, Korea, ICOH President Dr. Kazutaka Kogi suggested forming a team of two scholars from each of the associations (IEA, ICOH, IOHA) which will be dedicated to produce a work plan and outline of the Guidelines for Risk Communication. This idea is to be further discussed, developed, executed and realized.

2. World Health Organisation (WHO)

2.1 Visit to WHO

The President of IEA visited WHO in Geneva, Switzerland, in August 2013. The meeting with WHO official Dr. Evelyn Kortum was a very good opportunity for WHO and IEA to understand each other better. The mission of WHO and their expectations on IEA were understood and continuing of mutual collaboration was reaffirmed.

2.2 IEA / WHO Relations Extended

IEA remains the NGO status to WHO and will contribute in the WHO Network for 2014-2016. The work involved includes MSD Toolkit, Healthy Workplace Training Modules, and join a WHO Working Group developing WHO Guidelines on Minimum Standards for Workplace Health Protection. This work will be continued.

2.2 Wendy Macdonald Official Liaison to WHO

Wendy Macdonald during many years of dedicated work has achieved significant contributions in the connection of IEA and WHO. She has been playing a key role in communication and work

with WHO representing IEA. The outcome would be more fruitful if more technical support and participation could be possible from the IEA Technical Committees.

3. International Labour Organisation (ILO)

3.1 Visit to ILO

While visiting Geneva in August 2013, an important mission for the President of IEA was to visit ILO. During the interesting and productive talk with ILO official Dr. Shengli Niu, the review of the mutual cooperation from the past has been done with special accent on Ergonomics Checkpoints series. The decision for continuing of successful and productive cooperation has been agreed.

3.2 IEA/ILO Checkpoints Series

3.2.1. IEA Checkpoints 2nd Edition in China

In 2013 the Ergonomics Checkpoints has been translated into Chinese language that was a key for successful promotion in China. The translated materials have been used for promotion of ergonomics practice in some of the main industries in China. The promotion has been performed with cooperation with Chinese National Workers Unit, as well it resulted with positive feedbacks. These promotional activities are to be continued due to quit good preliminary outcomes.

In early May 2015, the President of IEA visited ILO Beijing branch. During the meeting with Dr. Shengli and Professor Min Zhang who did the translation in Chinese language, IEA President received feedbacks and realized the promotion of Ergonomics Checkpoints in China is very successful. Furthermore this experience can be used as a good model for other countries.

3.2.2 Ergonomic Checkpoints for Human Care Work

This Ergonomics Checkpoints is drafted by Human Ergology Society of Japan, and the complete draft has been presented in 2012. The main idea is this Ergonomics Checkpoints to be published in cooperation of Human Ergology Society of Japan, IEA and ILO. It is to be a part of IEA ILO Checkpoints series.

In May 2015, President of IEA visited two hospitals in Changsha, China. The President delivered a speech to hospital officials about Ergonomics Checkpoints for Human Care Work. The audience from the hospital gave positive feedbacks and consider this to be a very valuable tool to be utilized in daily work and operations in hospital. Furthermore the tools from Ergonomics Checkpoints for Human Care Work have been implemented in several hospitals in Japan and Vietnam with very satisfactory and positive results.

For assuring the high standards and quality requirement the table of content and sample chapters have been sent to ILO for their comments and feedback. Furthermore an expert review process related to this issue will be hold during the IEA Congress 2015 in Melbourne, Australia. After this it is expected Ergonomics Checkpoints for Human Care Work to be published soon in cooperation with ILO.

4.0 Initiative of Ergonomics Research Journal for IDCs

The President of IEA in 2012 presented the need of researches from area of IDCs to publish their researches related to ergonomics issues in developing countries. It is important to create a platform for them, as currently there may not be a suitable academic journal that provides opportunity for researchers to share their work related to ergonomics issues in developing countries. The aim of this journal is consider to be providing a platform with international high quality standards but with focus on ergonomics issues in developing countries. This will motivate

scientists to conduct researches concerning the local needs. This is a long term project and for its successful implementation and development the support from scientists from both developed and developing countries is needed.

5.0 International Standards Organisation (ISO)

Three liaisons are collaborating to work with ISO.

- TC159 : Yushi Fujita
- TC159/SC1/WG5 : Ralph Bruder
- SC1, 3, 4, and 5 : Yushi Fujita (main contact to ISO)
: Wei Zhang (communications with the IEA Technical Committees)

Following a proposal made by the IEA, ISO/TC159/SC1/WG5 (Ergonomics Processes) was formed to draft new standards for defining processes to integrate ergonomics at different levels in companies (Executive level, Management level, Specialist level). ISO27500 (Executive level) was circulated as DIS. A working draft of ISO27501 (Management level) will be finalized soon. A new work item proposal for the specialist level standard will be circulated soon.

ISO/TC159 proposed a cross-classified table, which specifies possible collaborations between ISO/SCs and IEA/TCs. At an ISO/TC159 Plenary meeting in Baltimore (April 2015), the IEA reaffirmed their willingness to collaborate with ISO, and stressed the need for sharing understanding of the cross-classified table.

6.0 Industry Partnerships

6.1 4C Association and ECOM – Coffee bean harvesting project in Nicaragua - Update

One of the highlights for the IEA during the 2009-12 executive was a Lighthouse Project to demonstrate the value of ergonomics, especially in IDCs. Barbara Silverstein brought this project to the IEA's attention that involved a participatory methodology to improve the design of coffee bean harvesting baskets for workers in Nicaragua. The 4C Association aims at uniting all relevant coffee stakeholders in working toward the improvement of the economic, social and environmental conditions of coffee production and processing to build a thriving, sustainable sector for generations to come.

4C Association and IEA (through the JES Fund for IDCs) supported this project that was done in collaboration with the University of Washington and the National University of Nicaragua (UNAN-Leon). This project created a prototype harvesting basket that is designed to be more productive and safer by reducing harvesters' risk of back and shoulder injuries. The second phase of this project, which IEA funded through the HFES Fund for IDCs and ECOM, will focus on validating the design during the 2011-12-crop season and will identify ways of transporting the harvested coffee down mountainous terrain.

The first phase of this study evaluated the impact of coffee harvesting on the musculoskeletal system of 19 coffee harvesters in northern Nicaragua, when using the traditional basket and a prototype bag with waist and shoulder straps. Musculoskeletal symptoms questionnaires, surface electromyography (EMG) measures of trapezius and erector spinae muscle activity, and soliciting worker opinions were used to assess the difference in impact between basket and bag. There were no statistically significant differences between bag and basket for symptoms or muscle load. The greatest EMG ratings and risk were identified for lifting and carrying 60kg plastic bags of coffee cherries on the back and shoulders. Workers reported liking the prototype bag better than the basket, with important suggestions for how to make the bag better.

The IEA wants to show the way of implementing practical ergonomics solutions that can demonstrate the unique contribution of our discipline to simultaneously optimize human well-being and system effectiveness. We believe that this is such an example.

A number of ideas were suggested at the 2013 IEA Council meeting for how to get the coffee down the mountain. Delegates suggested having a contest for new engineers and those with the most promising ideas would be supported to go to Nicaragua to test their methods. Unfortunately, a severe draught destroyed much of the shade grown coffee farms that have still not recovered.

6.2 Planned Work – Bangladesh Garment Factories

The IDC committee has been deeply concerned about the deadly conditions in the Bangladesh garment factories. Plans were made on 3 different occasions to visit Bangladesh garment factories. The committee had secured commitment from several large US manufactures operating in Bangladesh and several others. Dr Hassanat Aligmir (University of Texas and from Bangladesh) will be able to secure additional small and large factories to participate in the review. The committee will use a systems approach to identify areas for improvement and methods of implementing and sustaining those improvements. Professor Klaus Zink provided the IDC committee with some tools that can be adapted to assessing garment factories in Bangladesh. The committee was on the verge of making the trip on two separate occasions in the last year but was stopped by floods and riots just as they were to fly to Bangladesh. Another visit will be attempted in November-December 2015 when the weather is better.

6.3. Sustaining Members

Liberty Mutual has been the major sponsor of the most significant award hosted by the IEA relating to research in the area of occupational health and safety. Their sustaining membership status is the Diamond level. Elsevier has upgraded their status from the Platinum level to the Diamond level. A new IEA/Elsevier John Wilson Award was created. Korean Occupational Safety and Health Agency (KOSHA) retrieved their contribution in 2015 at the Gold level.

Financial Report

Yushi Fujita, Treasurer

There are three (3) active accounts all of which are at Scotiabank in Canada:

- US\$ cash account opened in June 1998 – basic account
- CD\$ account opened in July 2011 – not in use
- Investment Account including two Guaranteed Investment Certificates (GICs)

Accounting rules are essentially the same as those adopted in previous years. The followings summarize the important rules:

- All financial operations are done in U.S. Dollars (US\$).
- The IEA fiscal year coincides with the calendar year, January 1 through December 31.
- Revenues are noted and recorded when received, and expenses are noted and recorded when paid.
- Membership dues of previous years paid during a year are allocated to the Revenues of that

year.

- Membership dues paid for coming years are allocated to the Liabilities.
- The interest of GIC was added to the principal. It is not explicitly allocated to “Revenues.”
- The followings accounting titles are used. The “Website” is newly added after the renewal of the IEA website.

Revenues

- Member ship dues (FS and AS combined)
- Sustaining member contributions
- Funds
- Capitation fees
- Seed money returned
- Miscellaneous

Expenditures

- Meeting
- Travel executives (officers and standing committee chairs)
- Office
- Standing Committees
 - Awards Standing Committee
 - Communications and Public Relations Standing Committee
 - Development and Promotion Standing Committee
 - International Development Standing Committee
 - Professional Standards and Education Standing Committee
 - Science, Technology and Practice Standing Committee
- Grants
- Seed money
- Bank charges
- Website – new title
- Miscellaneous

The use of PayPal was given up because of difficulty of setting up an account.

Assets, Liabilities and Equity

Table 3-5 present the Assets, Liabilities and Equity between 2012 and 2014. The total assets as of December 31, 2014 were US\$353,296 plus CD\$4,484 (Table 3). 32 percent of the assets is in the cash account and 68 percent in the GICs.

Figure 1 (the trend of Assets for four three-year periods between 2003-2005 and 2012-14) the assets have been increasing steadily. Due to increasing difficulty of international remittance of small moneys, more member societies pay membership fees in cash (Table 3), sometimes for multiple years (Table 4). The IDC funds have been increasing (Table 5). It is because of the facts that the Nicaragua coffee beans project was over and new projects have not been launched yet.

Table 3
Assets of 2012–14

Assets	Y2014	Y2013	Y2012
Cash	\$2,594	\$817	\$301
Saving Account	\$114,005 CD\$4,484	\$140,363 CD\$4,484	\$88,964 CD\$4,484
Check	\$0	\$0	\$59
Term Deposit (GIC)	\$241,353	\$232,115	\$224,548
PayPal Account	NA	NA	NA
Seed Fund Receivable	\$0	\$0	\$3,500
Total	\$353,296 CD\$4,484	\$373,296 CD\$4,484	\$317,373 CD\$4,484

Table 4
Liabilities of 2012–14

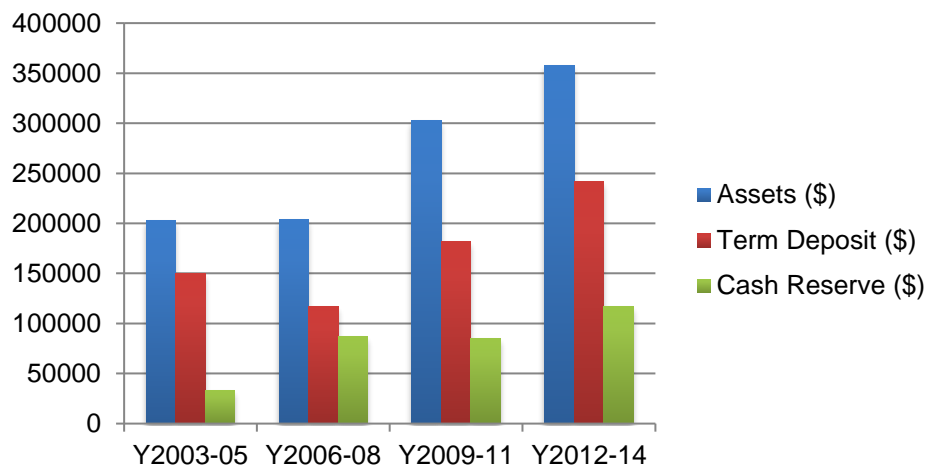
Liabilities	Y2014	Y2013	Y2012
Advance Received	\$485	\$140	\$250
Total	\$485	\$140	\$250

Note: EST (Thailand) and ABERGO (Brazil) paid for Y2015.

Table 5
Equity of 2012–14

Equity	Y2014	Y2013	Y2012
IDC Funds	\$61,849	\$61,025	\$46,486
Cash Reserve	\$295,618 CD\$4,484	\$312,131 CD\$4,484	\$267,207 CD\$4,484
Total	\$357,467 CD\$4,484	\$373,156 CD\$4,484.00	\$313,693 CD\$4,484

Figure 1
Trend of Assets for 2003-05 to 2012-14 (UA\$)



Revenue and Expenditures

Table 6-7 present the Revenues and Expenditures between 2012-2014. The Revenues of 2014 (US\$30,410) appear to be significantly smaller than that of a previous year: \$69,384 (2013). This is due to the delay in receiving sustaining membership fees. On the other hand, the Expenditures

appear to be significantly larger than that of a previous year, but about at the same level as that of 2012: \$55,671.27 (2012), \$17,528.77 (2013), and \$54,991.41 (2014). The payment of the Liberty Mutual Award was shifted to 2015 because of delay in processing. On the other hand, the Travel Executives appear to be significantly larger: \$6,522.37 (2013), \$37,015.63 (2014). The reason for the increase in the Travel Executives was that an Executive Committee Meeting originally scheduled for 2013 was shifted to 2014. The Travel Executives accounts for 67% of the total expenditures. The expenditure associated with the Website appeared to be \$7,242.13. This included the expenditure associated with works done in Y2013. The expenditure associated with works done in 2014 was \$4,242, which was within the original budget (\$5K). Note, the Website is a new title that has been introduced as a result of the renewal of IEA website that took place in 2013.

Figure 2 shows the trend of total revenues, total expenditures, total balance and total dues four three-year periods between 2003-2005 and 2012-14. The Total Revenues (blue line) of the period of 2012-14 appears to be significantly smaller than that of previous periods. The lower Revenues of 2014 (\$30,410.58) contributed to the decrease in the Total Revenues for the period of Y2012-14. As explained earlier, the decrease was caused by accidental rather than systematic reasons. It is interesting to see that the Total Expenditures (red line) shows a steady decrease, which in turn caused a steady increase in the Total Balance. Total surplus for the last two periods (2009-11 and 2012-14) amounts to \$133K. This corresponds to a yearly surplus of \$22K on average for the six years. The Dues (green line) looks steady except the period of 2012-14.

Figure 3 shows the breakdowns of the Revenues for the period of 2012-14. The Membership dues including the contribution of sustaining members accounts for 72% of the total revenues. It is exactly the same as the fraction of 2009-11 (72%). The Capitation fee accounts for 24%, which appears to be higher than that of 2009-11 (14%). More or less, however, the Revenues structure seems to remain the same across the periods. It is the same observation made in a previous Triennial Report (2009-2011).

Figure 4 shows the breakdowns of the Expenditures for the period of 2012-14. The fraction of the Office, Meeting, and Bank Charge are 12 %, 12%, and 2%, respectively. The fractions of the same titles for 2009-11 are 12%, 12%, and 1%, respectively. A total of the Travel Executives and the Standing Committee is 67%, whereas the sum of the same categories for 2009-11 is 61%. It is fair to point out that the Expenditures structure seems to remain the same across the periods. It is also the same observation made in a previous Triennial Report (2009-2011).

Table 6
Revenues for 2012-14

Revenues	Y2014	Y2013	Y2012
Membership Dues	\$29,586	\$64,318	\$40,432
FS and AS	\$29,386	\$40,482	\$40,432
SM	\$200	\$24,352	\$0
Capitation Fees	\$0	\$0	\$43,926
Seed money returned	\$0	\$3,500	\$0
Funds	\$824	\$1,109	\$3,430
Miscellaneous/Others	\$0	-\$59	\$1,666
Total	\$30,410	\$69,384	\$86,714

FS : Federated Societies
AS : Affiliated Societies
SM : Sustaining Members

Table 7
Expenditures for 2012-14:

Expenditures	Y2014	Y2013	Y2012
Meeting	\$5,829	\$0	\$9,968
Travel Executives	\$37,015	\$6,522	\$0
Office	\$0	\$0	\$15,499
Standing Committees	\$4,000	\$10,000	\$28,429

Expenditures	Y2014	Y2013	Y2012
Seed Money	\$0	\$0	\$0
Bank Charges	\$903	\$484	\$600
Website	\$7,242	\$0	NA
Miscellaneous	\$0	\$521	\$1,174
Total	\$54,991	\$17,528	\$55,671

Note: The Travel Executives in Y2012 are included in the Standing Committees.

Figure 2

Trends of the total Revenues, total Expenditures, total Balance, and total Dues for the periods of 2003-05 to 2012-14 (US\$)

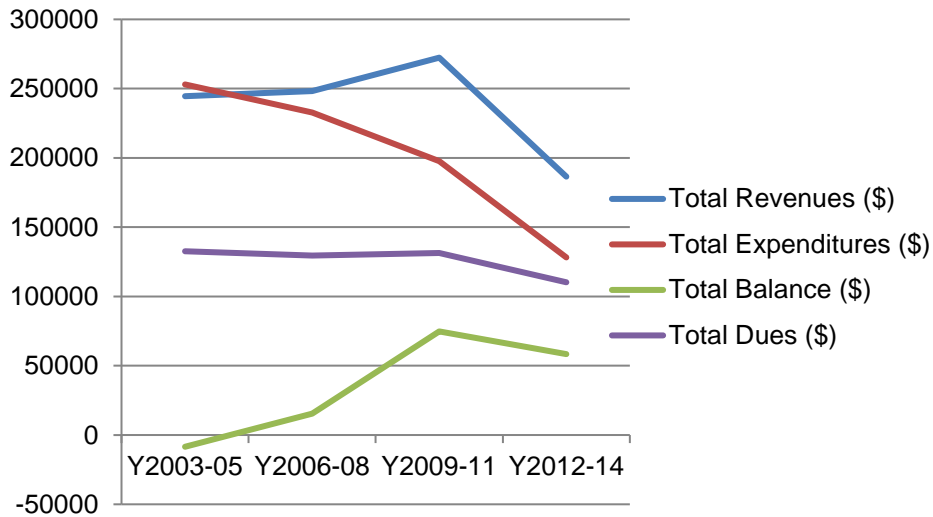


Figure 3

Breakdown of the total Revenues for the period of 2012-14

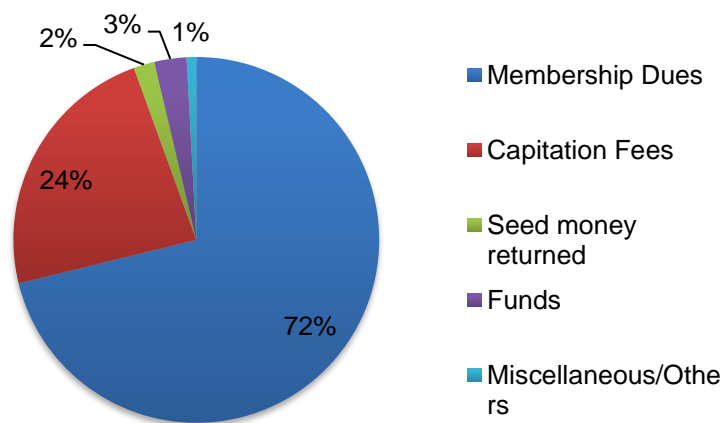
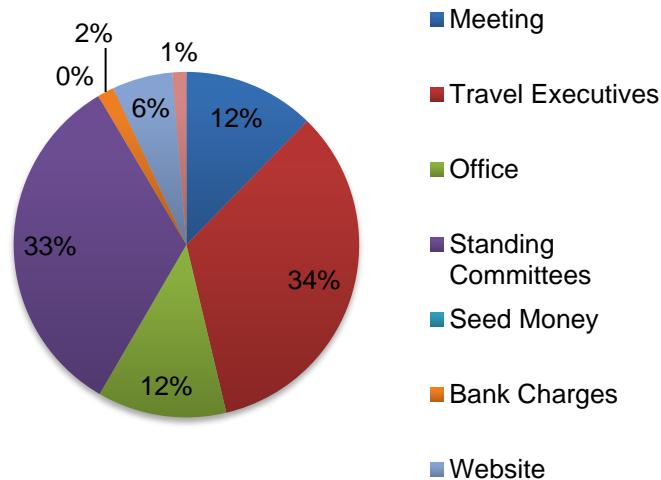


Figure 4

Breakdown of the total Expenditures for the period of 2012-14



Concluding Statements

Although year-to-year fluctuation is significant, IEA's financial performances seem steady in terms of the three-year period governed by triennial congresses. This also appears to be true for 2012-14.

Even though IEA's financial performances are steady, there are a few issues identified in the period of 2012-14. These include the followings:

- The bank operation is becoming more unreliable and inefficient. It is hoped that the introduction of an online system (Scotia Connect) will improve the situation.
- The Assets have been increasing steadily. It probably is a sign that the activity level of the IEA has been decreasing. It is strongly recommended to work out good project plans and implement them urgently. A reasonable fraction of the reserves should be invested in coming years. In the long run, external resources need to be explored systematically.

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Past Officers

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

2000-2003:	President Secretary General Treasurer	W. Karwowski P. Falzon K. Kogi
2003-2006:	President Secretary General Treasurer	P. Falzon S. Bagnara K. Laughery
2006-2009:	President Secretary General Treasurer	D. Caple P. Carayon M. Chung
2009-2012	President VP Secretary General VP Treasurer	A. Imada E. Wang K. Zink
2012-2015	President VP Secretary General VP Treasurer	E. Wang M. Fraser Y. Fujita

Past IEA Triennial Conferences

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
2003 Seoul, Republic of Korea
2006 Maastricht, Netherlands
2009 Beijing, China
2012 Recife, Brazil
2015 Melbourne, Australia

Past Meetings of IEA Council

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, German
1979 Warsaw, Poland
1980 Bournemouth, United Kingdom
1981 Richester, 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 Santorin, Greece
2000 San Diego USA
2001 Florence, Italy
2002 Santiago, Chile
2003 Seoul, Korea
2005 Funchal, Madeira
2005 San Diego, California, USA
2006 Maastricht, Netherlands
2007 Boston, USA
2008 Reykjavik, Iceland
2009 Beijing, China
2010 Brugge, Belgium
2011 Grahamstown, South Africa
2012 Recife, Brazil
2013 Paris, France
2014 Taipei, Taiwan
2015 Melbourne, Australia

Photos of IEA Activities

Final Meetings of IEA Council



1964 Dortmund, Germany
 1965 Paris, France
 1967 Bonn, Germany
 1967 London, United Kingdom
 1968 Amsterdam, The Netherlands
 1970 Strasbourg, France
 1971 Brussels, Belgium
 1973 The Hague, The Netherlands
 1975 Amsterdam, The Netherlands
 1976 Amsterdam, The Netherlands
 1978 Dortmund, Germany
 1979 College Park, USA
 1981 Seoul, South Korea
 1982 Warsaw, Poland
 1983 London, United Kingdom
 1984 Richmond, USA
 1985 Tokyo, Japan
 1986 Toronto, Canada
 1987 Garmisch, United Kingdom
 1988 Adelaide, Australia
 1989 Stockholm, Sweden
 1990 Kyoto, Japan
 1991 Paris, France
 1992 Berlin, Germany
 1993 Warsaw, Poland
 1994 Toronto, Canada
 1995 Rio de Janeiro, Brazil
 1996 Brookings, CO, USA
 1997 Tampere, Finland
 1998 Cape Town, South Africa
 1999 Santoln, Greece
 2000 San Diego, USA
 2001 Florence, Italy
 2002 Santiago, Chile
 2003 Seoul, Korea
 2004 Istanbul, Turkey
 2005 San Diego, California
 2006 Maastricht, Netherlands
 2007 Boston, USA
 2008 Reykjavik, Iceland
 2009 Beijing, China
 2010 Bridge, Belgium
 2011 Garmisch, South Africa
 2012 Recife, Brazil
 2013 Melbourne, Australia
 2014

↑ 2014-05-04 IEA EC meeting in Yasmine Hammamet, Tunisia. From left: Yushi Fujita, Christina Jonsson, Eric Min-yang Wang, Margo Fraser, Jose Orlando Gomes, Barbara Silverstein, and Andrew Imada.



↑ 2014-06-21 IEA EC meeting in Taipei, Taiwan. From left: Jose Orlando Gomes, Wendy Macdonald, Margo Fraser, Christina Jonsson, Barbara Silverstein, Andrew Imada, Christine Marks, Eric Min-yang Wang, Yushi Fujita, and Wei Zhang.



↑ 2014-06-23 IEA Council meeting in Grand Hotel prior to HEPS 2014 in Taipei, Taiwan.



↑ 2014-09-24 Eric, Yushi, and Jose Orlando with members of SOPERGO (Peruvian Ergonomics Society) and ULAERGO after the SOPERGO Congress in Lima, Peru.



↑ 2014-11-06 Jan Dul (2nd from the left), Eric Wang, Luz Mercedes Sáenz (CES Secretary), and Emilio Cadavid (CES President) with dancers in culture event after annual conference of Colombian Ergonomics Society in Medellín, Colombia.



↑ 2015-05-08 Eric Wang gave a brief introduction on Ergonomics Checkpoints in Human Care Work to professionals in Xiang Ya Hospital in Changsha, Hunan Province, China.



International Ergonomics Association

IEA Triennial Report 2012-2015

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