

## **APPENDIX Briefs of WFEO, SCJ, JFES and JSCE**

### **1. The World Federation of Engineering Organizations (WFEO)**

Founded in 1968 by a group of regional engineering organizations, under the auspices of the United Nations Educational, Scientific and Cultural Organizations (UNESCO) in Paris, the World Federation of Engineering Organizations (WFEO) is a non governmental international organization that brings together national engineering organizations over 90 nations and represents some 15 millions engineers from around the world.

WFEO is the world wide leader of the engineering profession and cooperates with national and other international professional institutions in developing and applying engineering to the benefit of humanity.

WFEO and UATI (International Union of Technical Associations and Organizations) jointly created in 1994 the International Council for Engineering and Technology (ICET), one of the twelve NGOs formally associated with UNESCO.

WFEO, UATI and FIDIC (International Federation of Consultant Engineers) created in 1992 the World Engineering Partnership for Sustainable Development (WEPSD).

#### **Role**

- WFEO provides information and leadership to the engineering profession on issues of concern to the public or the profession;
- WFEO serves society, and is recognised by national and international organizations and the public, as a respected and valuable source of advice and guidance on the policies, interests and concerns that relate engineering and technology to the human and natural environment;
- WFEO facilitates communication and cooperation among engineering organizations and with other organizations particularly those of the UN system and international non governmental institutions dealing with science, engineering, technology and business;
- WFEO fosters peace and promotes sustainable development on a global basis as well engineering education and training , the exchange and sharing of technology and application of ethics concern and conduct;
- WFEO brings together the developed and the developing nations for mutual benefit;
- WFEO facilitates relationships between governments, business and people by contributing an engineering dimension to discussions on policies and investments;
- WFEO is working on the transferability of engineering qualification.

#### **Activities**

Most of the technical activities of the Federation are carried out by 6 standing committees, which cover particular areas of engineering:

- Committee on Education and Training (CET)

- Committee on Information and Communication (CIC)
- Committee on Technology (ComTech)
- Committee on Capacity Building (CCB)
- Committee on Energy (CE)

Many projects relating to the professional interests of members are undertaken in cooperation with other world bodies: those of the UN system (UNESCO, UNEP, UNIDO, UNDP, UNCSD) as well as the World Bank, the Council of Academies of Engineering and Technological Sciences (CAETS), the Global Environment Facility (GEF), the International Council for Sciences (ICSU), the World Business Council for Sustainable Development (WBCSD)...

### **Membership**

The Federation consists of National, Regional, or Affiliated Members (one engineering organization per country), according to specific circumstances, and International Members (group of national engineering bodies organised on a geographical or other international basis).

Organizations, firms or individuals who wish to interact with the Federation but do not fulfil the membership conditions are incorporated as Associates.

### **Management Structure**

The General Assembly, the supreme governing structure of the Federation, meets biennially. Between meetings, the affairs of the Federation are directed by the Executive Council, urgent business being transacted by the Executive Board.

The Secretariat headed by the Executive Director, conducts the day-to-day business in consultation with the President.

Source: <http://www.wfeo.org/index.php>

For more details please refer to the above website.

## 2. The Science Council of Japan (SCJ)

**The Science Council of Japan** was established in January 1949 as a "special organization" under the jurisdiction of the Prime Minister for the purpose of promoting and enhancing the field of science, and having science reflected in and permeated into administration, industries and people's lives. Following are its two functions:

- To deliberate on important issues concerning science and help solve such issues.
- To make coordination among scientific studies to achieve higher efficiency.



- The SCJ consists of 210 members and some 2,000 associate members officially representing 820 thousand Japanese engineers and scientists.
- The SCJ organization comprises a General Assembly, an Executive Board, three Section Meetings (Humanities and Social Sciences, Life Sciences, and Physical Sciences and Engineering), 30 committees based on fields of specialties, five Administrative Committees for operation, and issue-oriented ad hoc committees.

Source: <http://www.scj.go.jp/en/scj/index.html>

For more details please refer to the above website.

### **3. The Japan Federation of Engineering Societies (JFES)**

**The Japan Federation of Engineering Societies** is the sole incorporated organization in Japan consolidating 102 academic and engineering organizations as its regular member. The number of individual members belonging to these member organizations adds up to about 600,000 with some duplication. JFES covers entire areas of engineering, namely fundamentals (e.g. physics and informatics), metallurgy, mining, mechanical engineering, civil engineering, architectural engineering, electrical and electronics engineering and chemical engineering. JFES' member list is shown in **Appendix 1**.

The object of JFES is to promote by the cooperation of membership organizations the progress of engineering and industries through the following activities:

1. To foster cooperation between membership organizations
2. To participate in the domestic and international activities representing members
3. To submit proposals and petitions to government and public with regard to the welfare of engineering societies and engineers
4. To undertake research and investigations on engineering subjects
5. To sponsor and co-sponsor engineering events
6. To do all others to fulfill the object

JFES has traditionally advocating the importance of capacity building of engineers. One of the recent achievements is the contribution to the establishment of the accreditation system for the engineering education in universities and colleges. It is a co-founder of the Japan Accreditation Board for Engineering Education inaugurated in 1999. Following the engineering education in school, JFES is currently focusing its effort to foster the continuing education of professional engineers. In 2002 it established the PDF (Professional Development of Engineers) Council within itself and has been working on to organize a system to coordinate continuing education programs and engineering licenses for engineers. Other current activities of the common interest of the members include participation in WFEO (See the last paragraph.), sponsoring symposiums and seminars on the subjects common to the members, and promoting information exchange among secretariats of members regarding the operation of academic and engineering societies.

JFES was founded on 18 November, 1897 by the 23 graduates from the Japanese first college of engineering for the purpose of exchange of knowledge and information among each other. The graduates were from seven departments: civil, electrical, mechanical, architectural, chemical, mining and metallurgical engineering. It made an outstanding contribution to the start-up of Japanese modern industry by undertaking the publication of technical magazines, the sponsorship of seminars,

the presentation of rewards to engineering achievements, the research on countermeasures against natural disasters, etc. JFES was awarded the status of corporation by the Japanese government on 31 January, 1901. According the expansion of Japanese industry from late 19<sup>th</sup> century, engineering societies were founded dedicated to specific engineering areas and individual members of JFES left to join such specially focused societies. Hence, in 1922, JFES was reorganized as a federation of the engineering societies and this structure has been followed until today.

In 1971, Prof. OSATAKE, Tonau, then Vice President of JFES, attended the third General Assembly of WFEO as an observer and was invited to join WFEO. After returning Japan he discussed this invitation with the Science Council of Japan (SCJ), an advisory organization for the cabinet regarding scientific issues. The Japanese government granted for SCJ to apply for the WFEO membership and SCJ made an application in conjunction with JFES. This application was admitted by the Executive Council of WFEO in September 1972. JFES interrupted the contribution to WFEO in 2003 because of its financial problem but resumed the activity in May 2005 by organizing the international activity committee. It has been supporting the SCJ's. It is scheduled to be an associate member of WFEO after November 2007.

For more details please refer to: <http://www.jfes.or.jp/>

**Appendix 1****List of JFES Members**

| No | Name   | Website   | No | Name   | Website   |
|----|--|---|----|--|---|
| 1  | Japan Society for Safety Engineering                                     |   | 21 | Catalysis Society of Japan   | <a href="http://www.shokubai.org/">http://www.shokubai.org/</a>                               |
| 2  | The Institute of Television Engineers of Japan                           | <a href="http://www.ite.or.jp/">http://www.ite.or.jp/</a>   | 22 | Japanese Society for Artificial Intelligence                         | <a href="http://www.ai-gakkai.or.jp/jsai/">http://www.ai-gakkai.or.jp/jsai/</a>               |
| 3  | Japan Institute of Electronics Packaging                                 | <a href="http://www.e-jisso.jp/">http://www.e-jisso.jp/</a>   | 23 | The Japan Society for Precision Engineering                          | <a href="http://www.jspe.or.jp/">http://www.jspe.or.jp/</a>                                   |
| 4  | The Japan Society of Applied Physics                                     | <a href="http://www.jsap.or.jp/">http://www.jsap.or.jp/</a>   | 24 | The Japan Petroleum Institute  | <a href="http://wwwsoc.nii.ac.jp/jpi/">http://wwwsoc.nii.ac.jp/jpi/</a>                       |
| 5  | The Society of Chemical Engineers, Japan                                 |   | 25 | The Society of Fiber Science and Technology, Japan                   |   |
| 6  | The Visualization Society of Japan                                       | <a href="http://www.visualization.jp/">http://www.visualization.jp/</a>                               | 26 | Turbomachinery Society of Japan                                      |   |
| 7  | The Institute of Image Electronics Engineering of Japan                  | <a href="http://wwwsoc.nii.ac.jp/iieej/">http://wwwsoc.nii.ac.jp/iieej/</a>                           | 27 | Cryogenic Association of Japan                                       | <a href="http://www.csj.or.jp/jcryo/">http://www.csj.or.jp/jcryo/</a>                         |
| 8  | The Resources Processing Society of Japan                                | <a href="http://www.nacos.com/rpsj/">http://www.nacos.com/rpsj/</a>                                   | 28 | The Electrochemical Society of Japan                                 | <a href="http://www.electrochem.jp/">http://www.electrochem.jp/</a>                           |
| 9  | The Society of Heating, Air-Conditioning and Sanitary Engineers of Japan | <a href="http://www.shasej.org/">http://www.shasej.org/</a>   | 29 | The Institute of Electrical Engineers of Japan                       | <a href="http://www.iee.or.jp/">http://www.iee.or.jp/</a>                                     |
| 10 | The Japan Institute of Light Metals                                      | <a href="http://www.jfes.or.jp/jfes/member/jilm.html">http://www.jfes.or.jp/jfes/member/jilm.html</a> | 30 | Research Group of Electric Furnace Steel                             |   |
| 11 | The Society of Instrument and Control Engineers                          | <a href="http://www.sice.or.jp/index.html">http://www.sice.or.jp/index.html</a>                       | 31 | The Institute of Electrical Installation Engineers of Japan          | <a href="http://www.ieiej.or.jp/">http://www.ieiej.or.jp/</a>                                 |
| 12 | The Society of Polymer Science, Japan                                    | <a href="http://www.spsj.or.jp/">http://www.spsj.or.jp/</a>   | 32 | The Telecommunications Association                                   | <a href="http://www.tta.or.jp/">http://www.tta.or.jp/</a>                                     |
| 13 | Japan Institute of Aggregate Technology                                  |   | 33 | The Institute of Electronics Information and Communication Engineers | <a href="http://www.ieice.org/jpn/index.html">http://www.ieice.org/jpn/index.html</a>         |
| 14 | Japan Society of Colour Material   | <a href="http://www.shikizai.org/">http://www.shikizai.org/</a>                                       | 34 | Japan Society of Civil Engineers                                     | <a href="http://www.jsce.or.jp/index.html">http://www.jsce.or.jp/index.html</a>               |
| 15 | The Mining and Materials Processing Institute of Japan                   | <a href="http://www.mmij.or.jp/">http://www.mmij.or.jp/</a>   | 35 | Society of Grinding Engineers  | <a href="http://www.jsat.or.jp/">http://www.jsat.or.jp/</a>                                   |
| 16 | Institute of Systems, Control and Information Engineers                  | <a href="http://www.iscie.or.jp/">http://www.iscie.or.jp/</a>   | 36 | The Japan Institute of Energy  | <a href="http://www.jie.or.jp/">http://www.jie.or.jp/</a>                                     |
| 17 | Society of Automotive Engineers of Japan, Inc.                           | <a href="http://www.jsae.or.jp/">http://www.jsae.or.jp/</a>   | 37 | The Magnetics Society of Japan                                       | <a href="http://wwwsoc.nii.ac.jp/msj2/index.html">http://wwwsoc.nii.ac.jp/msj2/index.html</a> |
| 18 | The Japanese Geotechnical Society  | <a href="http://www.jiban.or.jp/">http://www.jiban.or.jp/</a>   | 38 | Japan Society of Engineering Geology                                 | <a href="http://wwwsoc.nii.ac.jp/jseg/">http://wwwsoc.nii.ac.jp/jseg/</a>                     |
| 19 | Information Processing Society of Japan                                  | <a href="http://www.ipsj.or.jp/">http://www.ipsj.or.jp/</a>   | 39 | The Operations Research Society of Japan                             | <a href="http://www.orsj.or.jp/">http://www.orsj.or.jp/</a>                                   |
| 20 | The Illuminating Engineering Institute of Japan                          | <a href="http://www.ieij.or.jp/">http://www.ieij.or.jp/</a>   | 40 | Acoustical Society of Japan  | <a href="http://www.asj.gr.jp/">http://www.asj.gr.jp/</a>                                     |

| No | Name  | Website   | No | Name  | Website   |
|----|---|---|----|---|---|
| 41 | The Society of Sea Water Science, Japan                     |   | 61 | The Society of Photographic Science and Technology of Japan                             | <a href="http://www.spstj.org/">http://www.spstj.org/</a>                                   |
| 42 | The Chemical Society of Japan                               | <a href="http://www.csj.jp/index.html">http://www.csj.jp/index.html</a>                           | 62 | Japanese Society of Agricultural, Biological and Environmental Engineers and Scientists | <a href="http://www.soc.nii.ac.jp/seikan/">http://www.soc.nii.ac.jp/seikan/</a>             |
| 43 | Japan Association for Fire Science and Engineering          |   | 63 | The Society for Biotechnology ,Japan  | <a href="http://wwwsoc.nii.ac.jp/sfbj/">http://wwwsoc.nii.ac.jp/sfbj/</a>                   |
| 44 | Gas Turbine Society of Japan                                | <a href="http://wwwsoc.nii.ac.jp/gtsj/">http://wwwsoc.nii.ac.jp/gtsj/</a>                         | 64 | The Adhesion Society of Japan   | <a href="http://www15.ocn.ne.jp/%7Eadhesion/">http://www15.ocn.ne.jp/%7Eadhesion/</a>       |
| 45 | The Japan Society of Mechanical Engineers                   | <a href="http://www.jsme.or.jp/">http://www.jsme.or.jp/</a>                                       | 65 | Society of Plant Engineering Japan  | <a href="http://www.sopej.gr.jp/">http://www.sopej.gr.jp/</a>                               |
| 46 | The Japan Institute of Metals                               | <a href="http://wwwsoc.nii.ac.jp/jim/index-j.shtml">http://wwwsoc.nii.ac.jp/jim/index-j.shtml</a> | 66 | The Ceramic Society of Japan  | <a href="http://www.ceramic.or.jp/welcomej.html">http://www.ceramic.or.jp/welcomej.html</a> |
| 47 | Japan Industrial Management Association                     | <a href="http://www.jimanet.jp/">http://www.jimanet.jp/</a>                                       | 67 | The Society of Naval Architects of Japan  | <a href="http://www.jasnaoe.or.jp/">http://www.jasnaoe.or.jp/</a>                           |
| 48 | The Japan Society for Computational Engineering and Science | <a href="http://www.jsces.org/">http://www.jsces.org/</a>   | 68 | The Society of Materials Engineering for Resources of JAPAN                             |   |
| 49 | Atomic Energy Society of Japan                              | <a href="http://wwwsoc.nii.ac.jp/aesj/">http://wwwsoc.nii.ac.jp/aesj/</a>                         | 69 | The Japan Society for Technology of Plasticity  | <a href="http://www.jstp.jp/">http://www.jstp.jp/</a>                                       |
| 50 | Architectural Institute of Japan                            | <a href="http://www.aij.or.jp/aij/homej.htm">http://www.aij.or.jp/aij/homej.htm</a>               | 70 | Japan Society for Software Science & Technology   | <a href="http://www.jsst.or.jp/">http://www.jsst.or.jp/</a>                                 |
| 51 | The Japanese Society of Electron Microscopy                 |   | 71 | Japanese Foundry Engineering Society  | <a href="http://www.jfs.or.jp/">http://www.jfs.or.jp/</a>                                   |
| 52 | High Pressure Institute of Japan                            | <a href="http://wwwsoc.nii.ac.jp/hpi/">http://wwwsoc.nii.ac.jp/hpi/</a>                           | 72 | Japan Society for Science of Design   | <a href="http://www.jssd.jp/">http://www.jssd.jp/</a>                                       |
| 53 | Japanese Society for Engineering Education                  | <a href="http://wwwsoc.nii.ac.jp/jsee/">http://wwwsoc.nii.ac.jp/jsee/</a>                         | 73 | The Iron & Steel Institute of Japan   | <a href="http://www.isij.or.jp/">http://www.isij.or.jp/</a>                                 |
| 54 | The Japan Society for Aeronautical and Space Sciences       | <a href="http://www.jsass.or.jp/web/index.html">http://www.jsass.or.jp/web/index.html</a>         | 74 | Heat Transfer Society of Japan  | <a href="http://www.htsj.or.jp/index-j.html">http://www.htsj.or.jp/index-j.html</a>         |
| 55 | Japan Aeronautical Engineer's Association                   |   | 75 | Japanese Society of Tribologists  |   |
| 56 | The Society of Rubber Industry. Japan                       | <a href="http://www.srij.or.jp/">http://www.srij.or.jp/</a>                                       | 76 | The Japan Society for Heat Treatment  | <a href="http://wwwsoc.nii.ac.jp/jsht/index.htm">http://wwwsoc.nii.ac.jp/jsht/index.htm</a> |
| 57 | Japan Concrete Institute                                    | <a href="http://www.jci-net.or.jp/">http://www.jci-net.or.jp/</a>                                 | 77 | The Japanese Society for Non-Destructive Inspection                                     | <a href="http://wwwsoc.nii.ac.jp/jsndi/">http://wwwsoc.nii.ac.jp/jsndi/</a>                 |
| 58 | The Japan Society of Multiphase Flow                        |   | 78 | The Japan Fluidpowersystem Society  | <a href="http://www.jfps.jp/">http://www.jfps.jp/</a>                                       |
| 59 | The Society of Materials Science, Japan                     | <a href="http://www.jsms.jp/index.html">http://www.jsms.jp/index.html</a>                         | 79 | The Surface Science Society of Japan  | <a href="http://www.sssj.org/">http://www.sssj.org/</a>                                     |
| 60 | Japan Society for Simulation Technology                     | <a href="http://wwwsoc.nii.ac.jp/jsst/">http://wwwsoc.nii.ac.jp/jsst/</a>                         | 80 | The Japanese Society for Quality Control  | <a href="http://www.jsqc.org/">http://www.jsqc.org/</a>                                     |

| No | Name  | Website   | No  | Name  | Website   |
|----|---|---|-----|---|---|
| 81 | The Japan Society for Composite Materials                   |   | 92  | The Society of Exploration Geophysicists of Japan                               | <a href="http://www.segj.org/">http://www.segj.org/</a>                     |
| 82 | The Physical Society of Japan                               | <a href="http://wwwsoc.nii.ac.jp/jps/index.html">http://wwwsoc.nii.ac.jp/jps/index.html</a> | 93  | Japan Society of Polymer Processing   | <a href="http://www.jspp.or.jp/">http://www.jspp.or.jp/</a>                 |
| 83 | The Japan Society for Analytical Chemistry                  | <a href="http://wwwsoc.nii.ac.jp/jsac/">http://wwwsoc.nii.ac.jp/jsac/</a>                   | 94  | Japan Society of Powder and Powder Metallurgy                                   | <a href="http://www.jspm.or.jp/">http://www.jspm.or.jp/</a>                 |
| 84 | The Marine Engineering Society in Japan                     | <a href="http://www.mesj.or.jp/">http://www.mesj.or.jp/</a>                                 | 95  | The Society of Synthetic Organic Chemistry, Japan                               | <a href="http://wwwsoc.nii.ac.jp/ssocj/">http://wwwsoc.nii.ac.jp/ssocj/</a> |
| 85 | The Japan Welding Engineering Society                       | <a href="http://www.jwes.or.jp/index.html">http://www.jwes.or.jp/index.html</a>             | 96  | Japan Welding Society   | <a href="http://wwwsoc.nii.ac.jp/jws/">http://wwwsoc.nii.ac.jp/jws/</a>     |
| 86 | The Japan Society of Fluid Mechanics                        | <a href="http://www.nagare.or.jp/">http://www.nagare.or.jp/</a>                             | 97  | The Laser Society of Japan  | <a href="http://wwwsoc.nii.ac.jp/laj/">http://wwwsoc.nii.ac.jp/laj/</a>     |
| 87 | Japan Society of Refrierting and Air Conditioning Engineers | <a href="http://www.jsrae.or.jp/">http://www.jsrae.or.jp/</a>                               | 98  | The Society of Environmental Instrumentation Control and Automation             | <a href="http://eica.jp/">http://eica.jp/</a>                               |
| 88 | The Society of Rheology, Japan                              | <a href="http://www.srj.or.jp/">http://www.srj.or.jp/</a>                                   | 99  | NPO: Precision Engineering and Science Network                                  | <a href="http://www.pen.or.jp/">http://www.pen.or.jp/</a>                   |
| 89 | Robotics Society of Japan                                   | <a href="http://www.rsj.or.jp/">http://www.rsj.or.jp/</a>                                   | 100 | Japan Society of Dam Engineers  | <a href="http://www.jsde.jp/">http://www.jsde.jp/</a>                       |
| 90 | The Surface Finishing Society of Japan                      | <a href="http://wwwsoc.nii.ac.jp/sfj/">http://wwwsoc.nii.ac.jp/sfj/</a>                     | 101 | The Imaging Society of Japan  | <a href="http://www.isj.imaging.org/">http://www.isj.imaging.org/</a>       |
| 91 | Japan Society of Corrosion Engineering                      | <a href="http://www.jcorr.or.jp/">http://www.jcorr.or.jp/</a>                               | 102 | NPO: Institute of Environmental Restoration /Creation on Osaka Bay Coastal Zone | <a href="http://www.osakawan.or.jp">http://www.osakawan.or.jp</a>           |

#### **4. Japan Society of Civil Engineers (JSCE)**

**Japan Society of Civil Engineers (JSCE)** was established as an incorporated association in 1914 entrusted with the mission to contribute to the advancement of scientific culture by promoting the field of civil engineering and the expansion of civil engineering activities. Since its establishment, JSCE has endeavored to achieve the above mission, through extensive activities including scientific exchange among members, researchers / promotion of science and technologies relating to the field of civil engineering, social involvement, etc. Over the years, the JSCE membership has increased significantly from the initial 443 members to approximately 39,000 members at present, and is currently engaged in various wide-ranged activities around the world.

With the birth of the 21st century, JSCE has reconfirmed its goals to exert perpetual efforts

- 1) to propose an idea for social infrastructure development in the future from civil engineers perspective,
- 2) to acquire a steadfast relationship of mutual trust with the society,
- 3) to promote scientific and technological researches/studies with a high degree of transparency, and
- 4) to evaluate public works from a neutral standpoint, and to reach a social consensus on those proper standards.

Furthermore, JSCE will implement such new indispensable programs as Civil Engineers' Qualification System, Continuing Professional Development, etc., for the benefit of creating an environment where civil engineers can widely take on an active role in the international community, and where civil engineering technologies may contribute to the amenity of the people both in and outside of Japan.

The above text is excerpts from the article "Remarks upon Publication" published in "Civil Engineering, JSCE" vol.39, 2001.

#### **Works of JSCE**

- Publication of Periodicals for Mutual Communication among Civil Engineers
- Editing of Books and Publications on Civil Engineering
- Open "Place" for Presenting the Results of Studies and Researches
- Presenting Awards to Promote Development and Further Research in Civil Engineering
- Civil Engineering Library
- International and Domestic Communication with Relative Academic Societies and Associations
- Cooperation in the Development of Infrastructure

Source: <http://www.jsce-int.org/introduction.shtml>

For more details please refer to the above website.