

# Activities and Visions of WELNET—Introduction of the Community of the Younger Researchers and Engineers in Japan Welding Society—

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**ABSTRACT:** WELNET is the community for young researchers and engineers of welding and joining technology in Japan. This community is consisted of more than 250 persons and is directed by the voluntary Steering Committee. The WELNET has a history of 15 years and contributes to activate the research and development in younger generation in Japan through various activities. The WELNET is now trying to cultivate human and technology relationships with the other countries in East Asia. This report introduces the profile, the activities and the future vision of the WELNET.

## 1. INTRODUCTION

The younger researchers and engineers community in Japan Welding Society is called as “WELNET”. The WELNET was started by some dedicated young volunteers 15 years ago, and contributes successfully the research and development in younger generation. This report introduces the profile, the activities and the future vision of the WELNET.

## 2. WELNET

WELNET is the nickname and this name implies *WEL*d*ing*-*NET*work or *WEL*-*NET*work. The WELNET has a mission of promoting technical and interpersonal exchanges and has a history of 15 years, because the community was established on December 13 in 1990. The WELNET consists of approximately 270 members, who are the younger members of JWS who are 35 years old or under.

### 2.1 Japan Welding Society

The Japan Welding Society (JWS) is an umbrella organization of WELNET. The JWS is an academic society in Japan like the Korean Welding Society (KWS). The JWS has two missions: one is to promote the development of technology and science of welding and joining, and the other is to assist transferring of the developments to the industries. The JWS was established on May 27 in 1926, therefore the society has a history of almost 80 years. Currently, The JWS has approximately 3,400 members, 230 student

members and 430 supported members, which means company members. In addition to that, the JWS has eight branches, nine nucleus research committees (mechanics, fatigue, metallurgy, processes, physics, beam welds, light structures, micro-bonding, and interface bonding), six activity committees (publication, conference management, education, database, technical term and internationalization) and one planning committee. All activities of the JWS are officially approved by the general assembly and steered by the board of Directors.

In Japan, there is another non-profit organization related welding and joining—The Japan Welding Engineering Society (JWES)—. The main mission of JWES is to address issues related to industries, on the other hand, that one of JWS is to pursue the academic aspect of welding and joining technology. The JWES promotes a variety of activities: research activities by various division and research committees, education, certification and qualification for welders & welding engineers, standardization by instituting specifications, upgrading of welding technique through nationwide welding contests, and international cooperation

### 2.2 Steering Committee of WELNET

The WELNET is directed by the steering committee that consists of 45 persons. The steering committee is under the direct supervision of the president of JWS (Fig.1). According to the statues of WELNET steering committee, there are three missions as follows:

- (1) making the community and facilitate the interaction between younger members
- (2) boosting younger members' consciousness of leaders of next generation

(3) raising the level of science and technology related to welding and joining

The WELNET steering committee has one chair and two vice-chairs. The current chair is the author and the seven past chairs are as follows:

1. Shin Nishimura (National Institute for Fusion Science)
2. Yoshiaki Inoue (Mitsubishi Heavy Industries, Ltd.)
3. Kazuyuki Saida (Osaka University)
4. Shinichi Kuroda (Shimadzu Corporation)
5. Kunio Takahashi (Tokyo Institute of Technology)
6. Yasushi Kitani (JFE Steel Corporation)
7. Hiroaki Mori (Osaka University)

### 3. ACTIVITIES OF WELNET

#### 3.1 General Activities

The number of the WELNET member is approximately 270 persons described above, and the number of the younger members of JWS who are 35 years old or under is approximately 600 persons, which is 18% of all members of JWS (Fig.2). The number of 600 persons does not include the student members. The WELNET designs various activities to bid our community and to facilitate the members interacting.

The main activities of the WELNET are classified into six categories:

- 1) Steering Committee meetings (biannual)
- 2) Evening forum (biannual)
- 3) Seminar for beginners (annual)
- 4) Study sessions (annual)
- 5) Technical tours (annual)
- 6) Others

The events from 2) to 5) are open to all comers, who are not members of WELNET and JWS obviously. The other activities in 6) include editing of the WELNET pages with each issues and the special feature annual in JWS journals, managing WELNET homepage, managing mailing-list and participating of the JWS

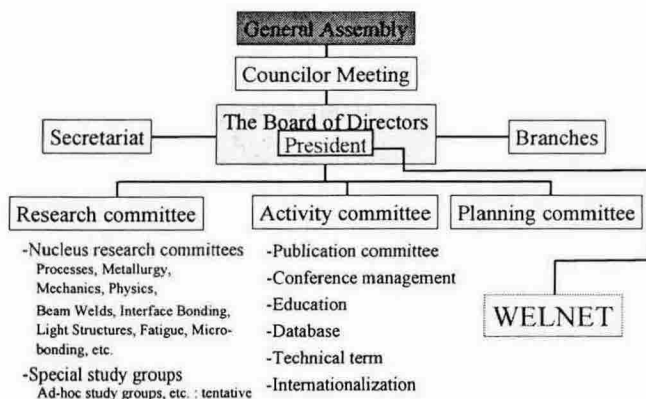


Fig.1 Organization chart of WELNET in JWS

committees. The URL of WELNET is <http://www.soc.nii.ac.jp/jws/welnet/> and the e-mail address of mailing-list is [welnet@iijnet.or.jp](mailto:welnet@iijnet.or.jp). Both of the homepage and mailing-list are now available in Japanese only. The homepage written in English is preparing to release by the end of this year.

#### 3.2 Technical Forum in the East Asia

##### 3.2.1 Asian Welding Federation

At the meeting of Asian Welding Federation (AWF), the WELNET conducts the technical forum for younger researchers and engineers in Asia. The AWF is a non-profit organization devoted to the improvement and promotion of welding technology through the exchange of scientific information and knowledge for the betterment of the welding communities in Asia in terms of economics and technological progress and growth. The AWF is established in July 2004 in Japan to standardize and harmonize welding standards and for training and certification of welders. In first meeting of AWF in Osaka Japan in July 2004, there were delegates from 10 countries participated, those are China, India, Indonesia, Japan, Korea, Malaysia, Philippines, Singapore, Thailand and Vietnam. The delegates from each country comprised of the representatives of the Societies/Institutes/Associations from welding and related fields. The 2nd meeting was organized in Manila Philippines in October 2004, the 3rd meeting in Kuala Lumpur Malaysia in March 2005 and the 4th meeting, this time, in Seoul Korea in June 2005.

##### 3.2.2 Technical Seminar and Forum

The technical seminar and forum of WELNET conducted in 2nd AWF meeting in Philippine and 3rd in Malaysia. Five or six members from the WELNET lecture on the basis of the welding and joining technology and have presentations on their latest research more than half a day. Fortunately these attempts are well received in those countries.

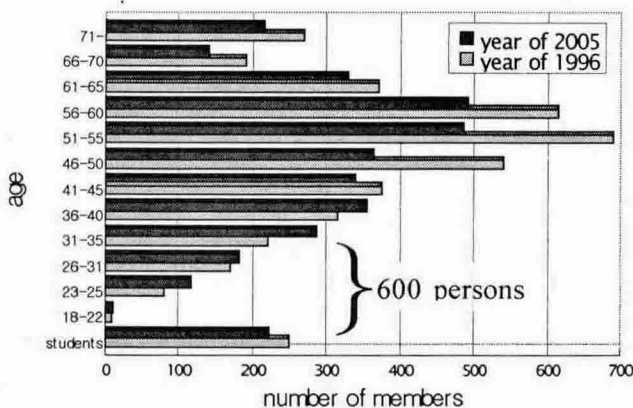


Fig.2 Distribution of members in JWS

These seminar and forum are originally based on the special project in JWS, and the two young professors, Professor Mori in Osaka University and Professor Takahashi in Tokyo Institute of Technology, greatly contribute to this project. Both of them are the former chairs of the WELNET steering committee.

#### 4. FUTURE VISIONS

The welding technology is matured in Japan, and the practical applications are therefore increasing. On the contrary, the researches and the basic development are declined, and the number of the young researchers and engineers in welding and joining technology are decreasing. The young researchers and engineers in welding and joining in Japan have dimming prospects in the future. The WELNET have to encourage them and make them recognize that they lead the next generation of the welding and joining technology.

One of WELNET's visions is to establish a "global network of young researchers and engineers in welding and joining technology" worldwide (Fig.3). The seminars and forms described in 3.2.2 are the first step to make our network especially in East Asia. We are trying to make the human network in the East Asia, and we want to build bridge between many countries in technology. In the near future, the technology network in welding and joining will go beyond the border of countries and expand worldwide.

#### 5. CONCLUSIONS

This paper introduces the profile, the activities and visions of WELNET. One important vision of WELNET is to establish a human network of young researchers and engineers in welding and joining technology in East Asia. This 1st Joint Symposium of Young Researchers in KWS (Korean Welding Society) and JWS (Japan Welding Society) at the 2005 Spring

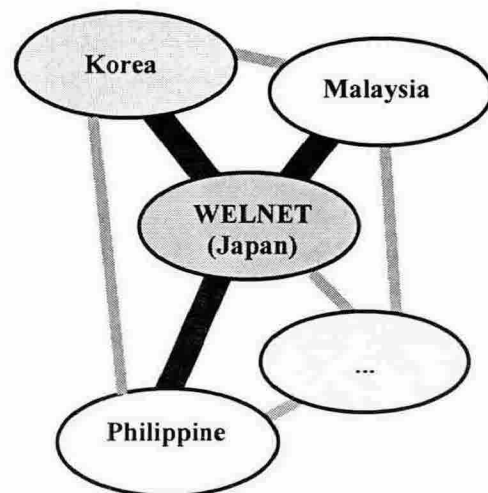


Fig.3 Vision of WELNET  
—Global Network in Welding and Joining Technology—

Annual Meeting of KWS is a golden opportunity for us WELNET. We are looking forward to attend this Joint Symposium and activate research and development in the both of their youth generation.

#### ACKNOWLEDGEMENT

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#### Reference

1. <http://wwwsoc.nii.ac.jp/jws/> (in Japanese)
2. [http://www.jwes.or.jp/eng/about\\_jwes/about\\_jwes.html](http://www.jwes.or.jp/eng/about_jwes/about_jwes.html)
3. [http://www.sws.org.sg/what\\_is\\_awf.htm](http://www.sws.org.sg/what_is_awf.htm)