

THE JAPAN SCIENTISTS' ASSOCIATION

Chasu Bldg. 9F, 1-9-15 Yushima, Bunkyo-ku, Tokyo 113-0034, JAPAN

Fax: +81-3-3813-2363 <http://www.jsa.gr.jp/>

No.147

January 25, 2017

Scientists' Forum of 2016 World Conference against A&H-Bombs in Yokosuka

The forum was held on August 1 and 2 at Kanazawa City. On the first day 95 participants including 44 nonmembers attended to exchange their experiences, and a tour to visit Yokosuka military port was organized on the second day. Reports presented in the forum were as follows.

Prof. Ikeuchi (Committee of Seven to Appeal for World Peace, Pro. Emeritus of Nagoya Univ.) delivered a keynote speech on the recent status of movement against military-science cooperation and the resistance movement of scientific community as a way to nuclear elimination. Mr. Hayashida (grad student) stimulated the significance of civil voices to the society reviewing his group's action to support opposition party coalition in the Upper House election.

From the venue, Yokosuka City, Mr. Sawazono (Society of citizens thinking of Yokosuka nuclear aircraft carrier home port problem) reported the reality of port call of aircraft carrier, and disaster prevention countermeasures in Yokosuka with visual images. He pointed out serious flaws in the disaster measures when meltdown occurred.

From England Ms. Turner (Campaign for Nuclear Disarmament) presented a report on energetic movement of Britain such as tackle to oppose revision of Trident (submarine-launched nuclear ballistic missile), and cooperation of anti-austerity movement and peace movement.

In his report "Hidden Great Earthquake Disaster", Dr. Kanie (rep. Geo-Kanagawa) explained that several natural disasters occurred in Yokosuka had not been informed as security lists. We again recognized that military affair and unrevealing are two sides of the same coin.

Dr. Kameyama (JSA research committee for peace question) presented a report under the title "Realignment of Japan-US alliance under the war legislation – Okinawa and Yokosuka" concerning unification of American Troops and Japanese Self-Defense Forces. Mr. Doro (ex-Self-Defense Official) presented details that Japanese missile defense system does not work at all for defense.

Ms. Kishi (Yokosuka Article 9 Society) reported about 20 million signature campaign a broad range of citizens in Yokosuka carried on, stressing the significance of the convening of this scientists' forum in Yokosuka, a city a lot of inhabitants are working for military base.

In the discussion participants had voices from many groups acting in Yokosuka, and became aware of thick layer of civil movements.

Liaison Conference for studying peace and democracy held a lecture meeting

The conference of which JSA is a member on July 23 held a lecture meeting with the title “A new prospect for peace and democracy” inviting Prof. Igarashi (Emeritus Prof. Hosei Univ.) in Tokyo as a lecturer.

Prof. Igarashi says this election of Upper House became a divide of history, pointed out that parties to advocate constitutional amendment won seats necessary for revision of the Constitution, which means the constitutional amendment has reached to the risk level. He also stimulates we have got a ray of hope, that is, in one-seat constituencies opposing parties got this time 11 wins to 21 losses though previously 2 wins 29 losses. More concretely speaking, opposing parties fought bravely to have won out over incumbent ministers in Fukushima and Okinawa constituencies, getting more seats in district than in proportional-representation constituencies, and the Democratic Party secured 32 seats and Japanese Communist Party doubled seats despite paying a price for joint struggle with other opposing parties. The joint struggle of opposing parties established by civil movements’ encouragement should build and develop a fully-fledged base for new administration, namely (a) a proactive power, a multiple confidential relationship with citizens and opposing parties, (b) appealing measures, posing a vision after Abe administration and a bright outlook and a future aspect, (c) a single point joint struggle with grass-roots movements for the laying of the groundwork for coalition government, and (d) to abolish the war legislation by blocking the invoking and block the constitutional amendment criticizing the amendment and promoting the learning of the Constitution, he claims.

In the discussion the participants exchanged their opinions about what thought the Democratic Party has concerning the united front, and the harmful effect question of single-seat districting system.

ACTIVITIES OF RESEARCH COMMITTEES AND GROUPS

The JSA headquarters organizes a number of research committees and groups undertaken on a nationwide scale, which are encouraging the members across the country

1) 21ST COMPREHENSIVE SCIENTIFIC STUDY CONVENTION HELD IN KYOTO

The national conference was held in Kyoto on September 2-4 at Fukakusa Campus, Ryukoku University with the basic theme “Tense relationship between science and society – social responsibility of scientists required in contemporary society”. Around 400 participants including nonmembers have attended this time, and more than 20 of them enjoyed an excursion to view of documents on An Jun-Geun (Korean assassinated Ito Hirobumi, Prime Minister of Japan in 1910)).

On the first day five speakers posed problems with the following themes: a) the Constitution and peace, b) nuclear weapons and nuclear power plants, c) energy and global environments, d) military-academia joint research, and e) globalization versus civil life, and an evening lecture for citizens was organized where Prof. Takayama (Kyoto Univ.) delivered a lecture “Why are we opposing law legislation – focusing on scholar’s conscience and struggle tackled in Kyoto University”.

On the second day we had 30 sessions and totally 164 reports, and on last day Prof. Ihara (JSA secretary general) coordinated the plenary session, where JSA members and other participants discussed restoration of JSA using outcome of debates at JSA executive council meetings as reference.

2) REGULAR MEETING “STUDY OF SOCIAL DROPOUT AND PRESENT PRACTICE”

On September 4, 2016 the research committee of the human right protection for aged and disabled persons held a gathering to hear the talk of Dr. Urushiba (psychiatrist, Bukkyo Univ.) concerning his experience in about 100 cases of social dropouts, who is the author of the feature article appeared in Journal of Japanese Scientists (Nihon no Kagakusha) vol.6, 2016. He says, in case of social dropouts also suffering from obsessive-compulsive disorder we need to take particular care on the patient. As all of them are not patient of mental disease, practical care needs to be taken with relation to developmental disorder. To exclude them from society must be avoided. He ended his words by suggesting to build supporting network.

3) REVIEW OF STATUS OF SCIENCE AND TECHNOLOGY – ISSUES RELATED TO SOUND PROGRESS OF SCIENCE AND TECHNOLOGY; DISCUSSIONS ON NUCLEAR POWER PLANTS, FALSE FUEL DATA, AND CYBER SECURITY (THE COMMITTEE OF PROBLEMS OF ENGINEERS AND RESEARCHERS OF PRIVATE FIRMS)

We have held a committee meeting and mini-symposium on July 24th (Sun). The committee has been setting up a session of “Review of Status of Science and Technology” at every biannual Comprehensive Science Study Convention (CSSC). The mini-symposium was meant as a preliminary discussion for the 21st CSSC, with reports by 5 members who talked about summary and background of their presentations.

Joji YAMAMOTO has spoken about importance of citizens’ learning about science and technology; “citizens’ movement to study,” and introduced his activities at “association of citizens to abolish nuclear power plant” in Ibaragi city.

Toshihiro KUSHIMOTO, who has been dealing with air pollution issues at “association to eliminate pollution throughout Osaka,” has introduced study of pollution and countermeasures, and the roles of scientists in the activities. He accused the issue of false fuel data of Volkswagen.

Yoshihiro OSADA has picked up the issue of cyber security as a follow up of the mini-symposium of March. The US is considering use of military force as counter attack to cyber-attacks and has been requesting Japanese government to build cooperative scheme (with the US) under collaboration of industry/ academia/ government. The Japanese government has responded with enactments of Cyber Security Basic Law, national security laws, the Act on the Protection of Specially Designated Secrets, and revision of wiretap law. We cannot protect peace, freedom, and

democracy without dealing with this issue. OSADA has organized a study committee in JSA and proposed to commence counterattack.

Hideo YAHAGI, who has been looking closely into the wiretap issue, has presented on the revision of wiretap law (wide extension of application) and the actual circumstances in the US. He has appealed movement to protect 'privacy of communications' stipulated by the article 21 of Constitution.

I have pointed out the following issues: full-time monitoring of systems with the pretext of criminal investigation, regulation on saving browsing histories, expansion of technologies of IoT and AI.

During free discussions, there were many opinions expressed such as “cyber spaces are built under initiative of military in the case of the US, while it is led by private sectors because we have the article 9; the difference is important.” We would like to utilize the discussions of the mini-symposium to promote discussion and movement among people.

(Shiroh SAKAI)

DISTRICTS' AND BRANCHES' ACTIVITIES

The JSA consists of 47 branches which are grouped into 9 districts, and they are independently and/or cooperatively carrying out their activities in addition to the headquarters' ones

1) “WILL SMALL-SCALE PHOTOVOLTAIC POWER GENERATION BE A SAVIOR OF GLOBAL ENVIRONMENT AND ENERGY PROBLEMS?” HELD IN MIYAGI

The Miyagi branch held the above titled lecture meeting on July 2, 2016. The sum of lecture is as follows.

In the past 20 years, the "Citizen / Regional Joint Power Station Movement" has built solar power plants with an average equipment capacity of 20.14 kW at 415 locations. The total steady state power generation is 1003 kW.

1000 times this amount of electricity becomes the power of one standard nuclear power plant. The construction period to cover this electricity with photovoltaic power plants is about 20000 years at the current construction pace. However the efforts in current 20 years for the global environment/energy problem is important, therefore 20000years is too long.

There are two ways to solve the problem. The first is to raise the construction speed by several orders of magnitude. The second is to increase the average equipment capacity. The second strategy is to promote the construction of mega solar power generation.

The site area required for constructing a photovoltaic power plant capable of constantly supplying all the necessary energy in Japan is about 20,000 km². It is difficult to secure this area by examining the land use situation. In fact, the Ministry of Economy, Trade and Industry and the Ministry of the Environment are supposed to be 500 km² and 2000 km², respectively. We could obtain steady-state power of 9 million kW and 36 million kW with this area, respectively.

In order to create a system that does not emit CO₂ at all by combining solar power generation and fuel cell power generation, it is necessary to construct an offshore solar power station. The water carried by tankers is electrolyzed using the electricity generated on the sea. The generated oxygen is released into the atmosphere, and hydrogen is liquefied and sent to the land with the tankers. This hydrogen is supplied to the fuel power plant to make electricity and water. The generated water is carried in the tankers and used again for electrolysis. When this process is repeated, electricity can be continuously generated without emission of CO₂. No nuclear power plant and CO₂ free society would be realized.

2) 'VISUALIZATION OF ENGLISH' – THE 1ST SCIENCE FORUM IN KAGOSHIMA

We have held the first 'Science Forum' on the 13th July (Wed) in the seminar room of Kagoshima University Fisheries Library. The theme was <'Visualization of English' as a practical solution for English education> presented by Takao ITAKURA (professor emeritus, designated professor, Kagoshima University), with 13 participants. "Practical solution" means practical answer for ordinary Japanese people to acquire skill of understanding English. "Visualization of English" is to visualize (i.e. make easy to understand) construction and system of English sentences by providing marks. I have understood the above from the lecture.

ITAKURA started his presentation by pointing out that Japanese university students do not understand English and he spoke about a student of Fisheries faculty who developed understanding of English owing to the "visualization of English."

Next, he explained that English and Japanese are very different and emphasized understandings of construction and parts of speech are indispensable. Especially the following two points are the most important.

One is the construction of noun + adjective. Another is the structure of transitive verb + object. Easy examples are "an apple on the table" for the former and "I kick a ball" for the latter.

In the latter part of the presentation, a list of marks for "visualization of English" and an iPad were distributed to every participant. We did practice of understanding English sentences by adding marks in accordance to the construction of the sentences. The texts were from *The Emperor's New Clothes* and *The Preamble to Japanese Constitution*.

The distributed documents were very easy to understand. *The Emperor's New Clothes* was interesting. *The Preamble to Japanese Constitution* is composed of very long sentences; there were difficult parts but it seemed to be a good example to understand construction of English.

(Yasuhiro TAJIMA)

3) "ISSUES ON MINE POLLUTION CONTROL AT KAMIOKA MINE" IN TOYAMA

The Toyama branch opened the above titled meeting. In each of the four major pollution sites, pollution museums were built by each municipality to convey the lessons after judicial trial.

In the case of Itai-Itai disease, Kamioka Mining Company still continues refining work of lead and zinc, and the surveillance of the victim groups, lawyers and scientists into mining sites has continued even after the trial.

Due to efforts of the residents and the company and due to the installation of numerous mine pollution prevention facilities and strengthening of the monitoring system, the amount of cadmium in the wastewater and the smoke has reduced to about one tenth of the initial value and approached the natural level. Regarding kidney disease, which is the preliminary stage of Itai-Itai disease, in 2013 the victim organization and Kamioka Mining Company agreed to pay lump sum payment.

The entry survey has been switched from the system that relies on scientists and lawyers to resident-based investigation. Residents measure electrical conductivity and pH at the time of entry. They publish the results of the data analysis at the study meeting and supply to the company them. Independence of the residents is seen much more than before, and it is expected to continue further.

The company also operates with the environmental safety first and patrols the operation halt points including the sedimentary site, and strives to prevent the leakage of harmful substances by tree planting. However, the mine is huge and it is imperative to watch the measures for unpredictable earthquakes and torrential rains.

Furthermore, since this area is optimal as a neutrino observation site, a huge observation facility is being built. Monitoring of groundwater contamination accompanying its construction has also become important. The issue is too large for residents' groups and some scientists to deal with. The participation of many scientists including the agencies of the national government and municipalities is undoubtedly important.

4) 2ND SCIENCE AGORA HELD IN KAGOSHIMA

The Kagoshima branch held the 2nd Science Agora at Kagoshima University on September 29. Prof. Hanada (Kagoshima Univ.) gave a lecture titled "How far has the space uncovered – dark nebula and dark matter: similar mastermind of the universe?" There were 33 participants, including JSA members, citizens and students.

He explained the structure of the universe in plain terms. The key words relating to the two remarkably advanced fields in recent years are *dark nebula* and *dark matter*.

Both are similar words, but they represent totally different things. The dark nebula is a cloud gathering of gas and dust floating in the universe, shielding visible light so the celestial body behind the cloud is hidden and appears as a black shadow. Since the dark nebula emits infrared rays and radio waves, we can observe it. The research on its actual state is proceeding and it has become clear that stars and planets are made from dark nebulae.

On the other hand, the theoretically expected total mass in the universe is larger than the total mass observed currently including the dark nebula. Dark matter, therefore, was invented to compensate for the shortfall. Since direct observation of the dark matter has not been done yet, various explanations are proposed for its identity.

Beautiful pictures of the universe were shown in the lecture and a scaling was shown to imagine the size of the universe. The diameters of the sun and the earth are 7 cm and 0.7 mm at the scale of 1 / 20billion, respectively. The diameter of the solar system is also to be several hundred meters.

5) KANSAI COLLOQUIUM FOR SCIENTIFIC WORKERS IN PRIVATE ENTERPRISES (KANSAI COLLOQUIUM) — A GATHERING OF ENGINEERS AND SCIENTISTS WORKING FOR PRIVATE FIRMS

Kansai Colloquium for Scientific Workers in Private Enterprises(Kansai Colloquium) is a group of engineers and researchers working for private corporations in or residing in Kansai region, namely, Osaka, Hyogo, Kyoto, Nara and adjacent areas.

As the majority of the members are now past retirement age, the subjects of interest have shifted from the onetime main themes, such as the human right and rights of engineers and scientists in the workplace into the issues of nuclear power plant, energy and environment problems and also variety of issues of democracy the constitution, politics, economics peace, local autonomy and revitalization of local communities, in addition to health problems.

The activities of the group include monthly regular meeting and two-day summer camp at Lake Biwa for study and social gathering. There we joined last year a united action against Abe's military legislation, when some local residents, moved by our youths' message, gifted us with a bottle of sake.

At the monthly meeting whose style is now well-established, participants from various fields talk about their activities, researches and things of interest. Each member is allocated a subject to be worked out and reported for free discussion in the several months to come. The after-party with beer has been regularized and fully enjoyed too.

In order to play rightful roles as a scientist, each member, at the home town or in the mother organization as occasion offers, participates in concrete actions such as campaign against the "Osaka Metropolitan Plan", constant appeal for zero-nuclear plant policy and also measurement and verification in issues of pollution and prefectural border dispute and others.

In another activity named 'science-fest' whose theme is 'Finding myself: Let's talk in the first person', we talk about each other's way of life. This year we also have had exchange with undergraduate and graduate students. The room has always been fully packed thanks to the notification of regular meeting made public. We also accepted some new members. Reports of all meetings are published in the monthly newsletters of Osaka and Kyoto Branches of JSA.

(Yamaguchi Shinji)

6) "TODAY'S STUDY OF SOCIAL DROPOUT" IN KAGOSHIMA

The Kagoshima branch held the 2nd meeting for jointly reviewing on September 8, 2016 at Kagoshima University. This time articles "Support from the field of education" and "Is social dropout a phenomenon endemic to Japan?" were reviewed by Prof. Sekiyama (Kagoshima Univ.) and Prof. Kiyohara (director, Kagoshima Research Institute for Mental Support) respectively.

In the first review, after outlining the article, Prof. Sekiyama analyzed the cause of school refusal from the viewpoint of stress theory, and pointed out that for supporting it is necessary to carry out it from various viewpoints as well as through multilayered cause since stress response comes out from a number of root causes.

Prof. Kiyohara indicated that social withdrawal roots in Japanese way of life and culture referring to papers of Fujimoto, Serizawa, and Zielenziger.

In the discussion participants voiced their opinions as: (a) Spirit of mutual aid diminished in Japan, which caused school refusal and social withdrawal; (b) In old days, there were occasions to anneal the ability to build human relationship from a child, while not today; (c) It is thought that a child stays at home without getting job nor married is by nature different from social dropout; (d) Despite during adolescence one needs a moratorium, which cannot be allowed during long years of schooling today. That is thought to cause social withdrawal in adult.