

4th International Symposium
“Technological Innovations in Japan
– Research on the History of Technology by Engineers –”

Hosted by: National Museum of Nature and Science / Steering Team of Grant-in-Aid Supported by Ministry of Education, Culture, Sports, Science, and Technology (MEXT) for Scientific Research priority Areas “Technological Innovations in Japan - Collection Experiences and Establishing Knowledge Foundation -”

In collaboration with: The Japanese Society for the History of Chemistry / Information Processing Society of Japan / The Institute of Electrical Engineers of Japan / Japan Society of Civil Engineers / The Chemical Society of Japan / The Japan Society of Mechanical Engineers / Architectural Institute of Japan

Dates: December 10, 2008 (Wednesday): Symposium and Banquet (applicants only)
December 11 (Thursday): Presentation of research papers

Site: National Museum of Nature and Science (Ueno); Japan Gallery, 2nd Floor Lecture Hall and 4th Floor Large Meeting Room

Participation fee: Free (3,000 yen for persons attending the Banquet)

Outline

As the core agency in the Ministry of Education, Culture, Sports, Science, and Technology (MEXT) Grant-in-Aid for Scientific Research, on priority areas : “Japanese Technological Innovations - Accumulating Experience and Establishing a Knowledge Base,” the National Museum of Nature and Science has been promoting research surveys in this field. The goal of this field is to gather and systemize “Experiences in Japanese technological innovations of the 20th century,” which have rarely been investigated up to now despite the wealth of experiential knowledge that supports future technological innovations, and to develop this as an academic field.

In recent years, there has been a rapidly growing trend among academic societies in the field of engineering to conduct research on the history of technology; for example, in an attempt to learn from such studies the directions in which future technological innovations should be heading. A number of influential engineering societies have also been actively honoring Japanese individuals, products, and works in recognition of achievements of our predecessors, and of the global contributions made by Japanese science and technology. Based on the background described above, this Symposium is being held to examine the ideal form of research on the history of engineering technologies by engineers. Specifically, by introducing the research surveys conducted by these engineering societies and the awards they have offered, we hope to deepen mutual understanding, and to encourage dialog through panel discussions regarding the results achieved and issues for the future.

A variety of factors affecting future technological innovations are gradually coming to light, including global environmental problems. Young people are drifting away from the sciences, and we are facing a number of other issues, such as how experiences of technological innovations can be tied into the next generation. We hope that this Symposium will provide a venue for discussions transcending the boundaries of engineering fields, to help determine how we can learn from the history of technology, and put this knowledge to use in the future.

■ **December 10 (Wed): Symposium**

Site: National Museum of Nature and Science (Ueno); Japan Gallery, 2nd Floor Lecture Hall

Reception: from 9:00 am on Wednesday, December 10, Japan Gallery, 2nd Floor Lecture Hall

Chairman (A.M.): Seizo Uchida (Professor, Saitama University)

Chairman (P.M.): Tetsuya Kameyama (Coordinator, Industry-Academia Collaborations; Nagoya Urban Industries Promotion Corporation)

- 9:30-9:40 Opening Message: Masamine Sasaki (Director General, National Museum of Nature and Science)
- 9:40-10:00 Explanation of Intent: Keiichi Shimizu (Secretary, Center of History of Japanese Industrial Technology, National Museum of Nature and Science)
- 10:00-11:00 Keynote Speech: Hiroyuki Yoshikawa (President, National Institute of Advanced Industrial Science and Technology (AIST))
- 11:00-12:00 Keynote Speech: Steven Usselman (Professor, Georgia Institute of Technology)
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- 13:30-15:30 Part 1: Introduction of activities at engineering societies
- Theme: “Thinking about the history of technologies at Engineering Societies”
- Coordinator: Yoshiki Mikami (Professor; Nagaoka University of Technology)
- The Japanese Society for the History of Chemistry / The Chemical Society of Japan; Sakae Uemura (Professor, Okayama University of Science)
 - Information Processing Society of Japan; Hiroshi Hatta (Director, Oki Electric Industry Co.)
 - The Institute of Electrical Engineers of Japan; Hiroshi Suzuki (Chief Engineer, GE Energy Japan, Ltd.)
 - Japan Society of Civil Engineers; Hiroshi Isohata (Professor, Nihon University)
 - The Japan Society of Mechanical Engineers; Ichiro Tsutsumi (Researcher, Polytechnic University)
 - Architectural Institute of Japan; Tsunehiro Manabe (Professor, Tokyo University of Science)
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- 15:50-17:20 Part 2; Panel Discussion
- Coordinator: Tomonari Yashiro (Professor; University of Tokyo)
- Panelists: Sakae Uemura, Hiroshi Hatta, Hiroshi Suzuki, Hiroshi Isohata, Ichiro Tsutsumi, Tsunehiro Manabe
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- 17:20-17:30 Symposium Summary: Kakugyo Chiku (Professor, Kanazawa Institute of Technology)
- 17:30-17:40 On the Future: Keiichi Shimizu
- 18:00-19:30 Banquet (Site: National Museum of Nature and Science; Global Gallery, 4th Floor Large Meeting Room)

■ December 11 (Thu): Presentation of research papers

Site: National Museum of Nature and Science (Ueno); Japan Gallery, 2nd Floor Lecture Hall and
4th Floor Large Meeting Room

Reception: from 9:30 am on Thursday, December 11, Japan Gallery, 2nd Floor Lecture Hall

Presentation time: 15 min. per presentation; Q&A: 15 min. per session

Site: 2nd Floor Lecture Hall

● Structure of Technological Innovations 1 [Time: 10:00 to 11:00]

Chairman: YARIME Masaru

- Analysis of R&D system of cosmetic companies based on patent information / IINO Yurie
- Innovation and Value Creation in Service Industries / TAKENAKA Takeshi
- Study of the process of technology development related construction with integrated Japanese organizational configuration / YOSHIDA Satoshi
- Characteristics of innovation induced by large scale projects in Japan / YASHIRO Tomonari

● Structure of Technological Innovations 2 [Time: 11:15 to 12:15]

Chairman: YOSHIDA Satoshi

- The success and failure in implementing new materials of technical innovation - The case of the tea manufacturing machines in Taiwan - / NIMURA Satoru
- Typifying Traditional Craft Industry from the Aspect of Technological Innovation / YAMASHITA Yukihiko
- International Comparative Analysis of Innovation Systems for Sustainability / YARIME Masaru

● Technological Innovations & Society 1 [Time: 13:15 to 14:15]

Chairman: FUJIYA Youetsu

- An Architectural Study on Sumoto Mills of Kanegafuchi Spinning / HIRAI Naoki
- Strategy to keep effectively using Existing Non-Conformity Buildings case construction as stock -The high rise construction of N headquarters as a case- / MOUGI Shunsuke
- Incremental Technological Innovation Supported by Workers' Skill -Japan's Dam Construction Technology in the 1950's- / MABUCHI Koichi

● Technological Innovations & Society 2 [Time: 15:00 to 16:00]

Chairman: KON Naoyuki

- The development of electric fan in Taisho and Showa early days / HIRANO Kiyoshi
- The trend of the development for gas bath before the World War II / WADA Nahoko
- The Change of Family Kitchen Looking from Catalogues / TOMURA Masaaki

● Technological Innovations & Society 3 [Time: 16:15 to 17:30]

Chairman: HIRANO Kiyoshi

- A Study on development process of one diaphragm model sink / YANAGIDA Nobuyuki
- A study on the kitchen sink and equipment at the beginning of the Showa era kitchen sink seen from an architectural magazine and a European style house. – Architectural magazine Shinken-chiku and Mackenzie residence as a case – / YANAGIDA Nobuyuki
- The changes in the height of kitchen sink from Meiji to Showa era in authorized textbooks on home economics / SUZAKI Fumiyo
- In Regard to the development of Fukuroku Coal Stoves / UDA Tetsuo

- **Internal Development of Technological Innovations 1** [Time: 10:00 to 11:00] Chairman: MATSUOKA Keisuke
 - Regional Bias in Japan in Introduction of Coal Kiln / MIYACHI Hidetoshi
 - Technological Innovation in Ceramics: Silicon Nitride for Automotive Technology / OKADA Akira
 - Technology Trend in Energy and Environment -History of Coal Liquefaction Technology- / KINJO Noriyuki

- **Internal Development of Technological Innovations 2** [Time: 11:15 to 12:15] Chairman: KINJO Noriyuki
 - Systematic Studies of Computers based on Computer Architecture / YAMADA Akihiko
 - Innovation in Helical coil of Compact Helical System / MATSUOKA Keisuke
 - Technological Innovations of Iron and Steel in post-war Japan
 - Innovations in production of high performance steel sheets for autobody- / KURODA Kotaro

- **Establishing Knowledge Foundation of Technological Innovations 1** [Time: 13:15 to 14:15] Chairman: NAKAZAWA Yasumoto
 - Museum that helped Technological Innovation in Modern Japan-A Case Study of the Osaka Commercial Museum- / MIYAKE Takuya
 - A Knowledge Representation Tool for Technology History / ABIKO Kazutoshi
 - Language of thesis in early days of engineering education in Japan / TAKAHASHI Tomoe

- **Establishing Knowledge Foundation of Technological Innovations 2** [Time: 15:00 to 16:15] Chairman: KUBOTA Toshio
 - Labor-saving machine for Washi (Japanese paper) / INABA Masamitsu
 - Research for the Dyeing Technique at early 20th century about textile fragments and their material of a coming-of age ceremony costume for Prince Chichibu (AN.2517), the collections of Kyoto Institute of Technology, Museum and Archives / SASAKI Yoshiko
 - Biographies of Engineers as a Role Model in Engineering Education / NAKAHIRA Katsuko

- **Establishing Knowledge Foundation of Technological Innovations 3** [Time: 16:30 to 17:45] Chairman: SUZUKI Hiroshi
 - History of Fiber Development and Technological Innovation of textile industry / NAKAZAWA Yasumoto
 - About the present conditions of Research of Historical Materials Relating to Industrial Technology / KUBOTA Toshio
 - Status Quo of Oral Histories in Electricity Related Technological Field and Some Knowledge Obtained from Them / NAGATA Takayuki
 - On collecting the postwar noteworthy technologies related with electricity and sending out them on the internet / YAMAMOTO Takaya

* Please note that the Program may be subject to minor changes on the day of the Symposium.

URL:http://sts.kahaku.go.jp/tokutei/symposium_08.php